JOURNAL OF EUROMARKETING

EDITOR-IN-CHIEF

ERDENER KAYNAK
Pennsylvania State University at Harrisburg

ASSOCIATE EDITOR	TECHNOLOGY AND E-COMMERCE EDITOR	BOOK REVIEW EDITOR	PRODUCTION EDITOR
ABU N. M. WAHEEDUZZAMAN *Texas A&M University-Corpus Christi*	**KIP BECKER** *Boston University*	**CLAUDE CELLICH** *International University Geneva*	**TALHA HARCAR** *Pennsylvania State University at Beaver*

EDITORIAL REVIEW BOARD MEMBERS

J. SCOTT ARMSTRONG
University of Pennsylvania
SØREN ASKEGAARD
The University of Southern Denmark, Denmark
GEORGE BALABANIS
City University, United Kingdom
J. ENRIQUE BIGNE ALCANIZ
University of Valencia, Spain
DAVID J. CARSON
University of Ulster at Jordanstown, Northern Ireland
F. JAVIER RONDAN CATALUNA
University of Seville, Spain
CHISLAINE CESTRE
University of Lausanne, Switzerland
LEO PAUL DANA
University of Canterbury, New Zealand
SRINIVAS DURVASULA
Marquette University
YVONNE VAN EVERDINGEN
RSM Erasmus University, Netherlands
PERVEZ N. GHAURI
King's College, United Kingdom
KJELL GRONHAUG
Norwegian School of Economics and Business Administration, Norway
KLAUS GRUNERT
Aarhus University, Denmark
NEIL HERNDON
South China University of Technology, China
KARIN HOLSTIUS
Turku School of Economics and Business Administration, Finland
HARTMUT H. HOLZMUELLER
University of Dortmund, Germany
FREDERIC JALLAT
Paris Graduate School of Business (ESCP-EAP), France
MILAN JURSE
University of Maribor, Slovenia
JORMA LARIMO
University of Vaasa, Finland
TOMMI LAUKKANEN
University of Eastern Finland, Finland
STEVEN LYSONSKI
Marquette University
MARIN MARINOV
University of Gloucestershire, United Kingdom
RITA MARTENSON
University of Gothenburg, Sweden
LUIZ MOUTINHO
University of Glasgow, United Kingdom
DAVID MCHARDY REID
Seattle University
DOMINIQUE ROUZIES
Groupe HEC, France
ARNOLD SCHUH
Vienna University of Economics and Business Administration, Austria
BRUNO SERGI
University of Messina, Italy
D. DEO SHARMA
Stockholm School of Economics, Sweden
KENNETH SIMMONDS
London Business School, United Kingdom
NITISH SINGH
Saint Louis University
GREGORY SULLIVAN
Advanced Marketing Systems

Indexed and/or Abstracted in: EBSCOhost Products; Emerald Management Reviews; Gale Cengage; Business ASAP, Cabell's Directory, The Standard Periodicals Directory, Australian Business Deans Council (ABDC)
Journal of Euromarketing (ISSN:1049-6483) is published quarterly by IMDA Press, 548 Springbrook Drive, Palmyra, PA 17078, USA.
US Postmaster: Please send address changes to Journal of Euromarketing, c/o IMDA Press, 548 Spring Brook Drive, Palmyra, PA 17078, USA.
Annual Subscription, Volume 29, 2020
Print ISSN: 1049-6483, Online ISSN: 1528-6967
Institutional subscribers: $600, Personal subscribers: $125. Institutional and individual subscriptions include access to the online version of the journal.
Production and Advertising Office: 548 Springbrook Drive, Palmyra, PA, 17078, USA. Tel: 717-566-6586, Fax: 717-566-1191.
Subscription Office: IMDA Press, 548 Springbrook Drive, Palmyra, PA 17078, USA. Tel: 717-566-6586, Fax: 717-566-1191.
For a complete guide to IMDA Press' journal and book publishing programs, visit our Web site: http:// http://imda-usa.org

Copyright © 2020 IMDA Press. All rights reserved. No part of this publication may be reproduced, stored, transmitted, or disseminated in any form or by any means without prior permission from IMDA Press. IMDA Press grants authorization for individuals to photocopy copyright material for private research use on the sole basis that requests for such use are referred directly to the requester's local Reproduction Rights Organization (RRO), such as the Copyright Clearance Center (www.copyright.com) in the USA or the Copyright Licensing Agency (www.cla.co.uk) in the United Kingdom This authorization does not extend to any other kind of copying by any means, in any form, and for any purpose other than private research use. The publisher assumes no responsibility for any statements of fact or opinion expressed in the published papers. The appearance of advertising in this journal does not constitute an endorsement or approval by the publisher, the editor-in-chief, or the editorial board of the quality or value of the product/service advertised or of the claims made for it by its manufacturer.**Permissions:** For further information, please visit http://journals.sfu.ca/je/index.php/euromarketing/index

December 2020

JOURNAL OF EUROMARKETING

Volume 29, Numbers 3-4, 2020

CONTENTS

Journal of Euromarketing, 29: 77- 80, 2020
Copyright © IMDA Press
ISSN: 1049-6483 print / 1528-6967 online

IMDA Press

EDITORIAL

When it comes to finding the most effective marketing technique, the conundrum about subliminal advertising has always been in the forefront. Subliminal advertising is the process of advertising subliminal images and messages below one's conscious awareness and is supposed to influence and persuade people into buying certain products. As 90% of the information is processed subconsciously by the brain, there is a good chance that the subliminal stimulus, which is intended for the subconscious brain and not filtered out by the conscious or rational brain, can influence the decision process.

The research by Zacharia et al. is aimed to understand the influence of different static subliminal images and words embedded in different consumer good packages using a phenomenographical approach of neuroscience techniques. The objective of this research is also to investigate whether subliminal advertising embed influence can cause any cognitive or behavior changes in the consumers and whether the depth of these influences differed with gender. A total of 46 healthy participants were separated into two groups with one group shown image packages with static subliminal stimulus, while the other group was shown image packages without any subliminal stimulus.

Using Neuromarketing research, this study was able to reveal reality better than traditional methods of research, such as self-reports, in capturing low-order emotions and reducing the probability of cognitive bias occurrence, social desirability constraints, or the fear of answering the questions correctly. The different neuromarketing techniques used for capturing autonomic responses of the participants were electroencephalography (EEG), Biometrics, Facial Coding, Eye Tracking, and Galvanic Skin Response. Data was also collected using questionnaires. These techniques helped to understand and analyze the participants' cognitive and biometric changes with a time resolution of milliseconds with respect to the stimulus. Since different techniques were used for data collection, a mixed methods research paradigm was used that involved a combination of both qualitative and quantitative methods.

This research is able to contribute to the existing literature on the relationship between subliminal advertising and emotions by being based on the advertising model- AIDA (Awareness, Interest, Desire, Action) and on the widely accepted theory on decision-making, the Somatic Marker Hypothesis. This study was also able to analyze the cognitive responses of the participants using Frontal Alpha Asymmetric (FAA) calculation based on the approach/withdrawal motivational model of emotion developed by Davidson (1983), to have a deeper understanding of whether the participant developed a like or dislike towards the picture or advertisement viewed. This study is able to conclude that the subliminal embeds are able to emotionally influence the males more than the females but are only able to influence the behavioral intentions of the male group to a small extent.

For business executives, forbearance, commonly called Ren among Chinese, has a unique meaning in Chinese culture. It is a principal value widely practiced by the Chinese, whether it is related to personal cultivation, getting along with other people, maintaining a network with others, developing Guanxi in a business relationship, or handling chaotic problems such as the escalating pandemic. However, Ren has seldom been systemically studied by

academic researchers and incorporated in theories or models that explain Chinese behaviors. With Ren in mind, the article by Lee and Yau aims to provide a comprehensive overview of contemporary models in Chinese cultural values and highlight Ren's Chinese values in business academia. First, this article describes and critiques the six contemporary cultural value models: the Value Orientation Model of Kluckhohn and Strodtbeck (Kluckhohn & Strodtbeck, 1961; Watkins & Gnoth, 2011), Hofstede's Cultural Dimensions (Hofstede, 1980), Rokeach Value Survey (Rokeach, 1973), Chinese Value Survey (Bond,1988), Schwartz Value Survey (Schwarz, 1992), Buda & Zhang (2000) and the Chinese Cultural Value Scale (Yau, 1994). Then, the authors discuss how the missing Chinese value of Ren can fill the existing research gap.

This empirical study offers several policy suggestions. For Western managers, the authors suggest the following managerial implications:

First, in Chinese society, Ren is a value that has been highly internalized and practiced daily (Yang, 1992; Man, 1988; Leung, 1982). If foreign managers want to do business successfully with Chinese people, they should respect Ren's value. Chinese people aim to achieve a harmonious business relationship through the practice of Ren. Without a deeper understanding of Ren, foreign managers are doomed to fail to grasp the business opportunities in the long run.

Second, Ren is an essential value at an individual level. Ren is a value categorized under the personal activity orientation but has not been explicitly expressed (Yau, 1994). Therefore, Western managers need to be more patient and observant, as Chinese people are very subtle in expressing their disagreement with business partners.

Third, although Ren has some similarities with forbearance, it has different meanings from forbearance, as it is richer and more rooted in the Chinese context (Hartz, 2009). However, Ren has not been empirically researched in the Western academic world. That is why foreign managers need to understand Ren's practice by Chinese people in different contexts, i.e., traditional customs or festivities. Chinese people care more about mutual respect and seeking win-win rather than the value of "winners get it all."

Fourth, Western managers need to observe the three managerial strategies adopted by their Chinese counterparts in interaction: moving forward, remaining status quo, and moving backward. To a great extent, business success depends very much on how accurately they anticipate which strategy was activated according to previous involvements.

The world is at a social, environmental, and economic tipping point. Subdued growth, rising inequalities, and accelerating climate change provide the context for a backlash against capitalism, globalization, technology, and elites. There is gridlock in the international governance system, and escalating trade and geopolitical tensions are fueling uncertainty. This holds back investment and increases the risk of supply shocks: disruptions to global supply chains, sudden price spikes or interruptions in the availability of key resources. Inadvertently, such severe tensions only damage the progress of economies, especially economies that are using their capabilities and positioning themselves on the technological ladder.

According to Zeriouh et al., economic development in the current fourth industrial revolution is about the growth of each country's economy mostly influenced by the assets based on physical or non-physical grounds. These invisible assets are, as explained and supported by various studies in the literature, one of the most important driving forces in the country's economy to accelerate growth. However, there is still a need for a more detailed research regarding the emergence and the impetus of the subject of "nation branding." Behind this new economic drive, there are several important ob-

servations: Markets are dynamic; the competition area is global, the organization competes as a network; and more importantly, the definition of value has changed. Classical economy defines "value" in relation with scarcity, whereas "value" is now associated with numbers of users in the new economy. In today's world, the dissemination of goods and their introduction to the masses of consumers have changed and increased the importance of a nation's image concept. For survival in a complex and highly capitalist business world, economic, political, and military strengths are defined as vital differentiators of competitive advantage.

In recent years, the alteration in the growth and stability of national economies refer to a progressive perspective involving new dimensions like the significance of intangible assets for the growth of economies. Just as with building brands, creating and sustaining competitive economic progress calls for high involvement of all stakeholders (public and private), and for considerable investment in technology, innovation and research. Achieving competitiveness is more than just increasing export growth or gaining market share. It involves achieving competitiveness enhancement not through the "low road" of cutting wages, devaluing exchange rates, and disregarding labor and environment regulations—all incompatible with sustained growth—but through following the "high road" of competitiveness, the road of productivity enhancement. The high road consists of building the capabilities to acquire and use new technologies to efficiently produce and trade diversified products in the quantity and quality high enough to support higher wages and national income. While acknowledging the role of image as a key phenomenon in the well-being of an economy, "nation branding" within the economic field as a key instrument to maximize value-added and better marketization. Many economies, in particular developing countries and economies in transition, face challenges such as lack of budget and resources, as well as insufficient skills and knowledge, innovation and technologies, to benefit from the image perspective to access new markets and establish their niches within existing value chains and markets, inclusive of attracting foreign direct investments.

Erdener Kaynak
Editor-in-Chief

REFERENCES

Bond, M. H. (1988). Finding universal dimensions of individual variation in multicultural studies of values: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology*, *55*(6), 1009-1115.

Buda, R. & Zhang, Y (2000). Consumer product evaluation: The interactive effect of message framing, presentation order and source credibility, Journal of Product and Brand Management, 9(4), 229-242.

Davidson, R. J. (1983). Hemispheric specialization for cognition and affect. In A. Gale & J. Edwards (Eds.), *Physiological correlates of human behavior*. London: Academic Press.

Hartz, P. (2009), *Daoism*, New York: Infobase Publishing.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values.* London: Sage Publications.

Man, C. Y. (1988). Talking about Chinese nationality from value orientation. In L. Yiyuan & Y. Guoshu (Eds.), *The Chinese character*. Taipei: Guiguan Books.

Schwartz, S. H. (1992), Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology, Vol. 25*. New York: Academic Press, pp. 1-65.

Yang, M. M. (1992). *Gifts, favors, banquets:*

The art of social relationships in China. Ithaca, NY: Cornell University Press.

Yau, O. H. M. (1994). *Consumer behavior in China: Customer satisfaction and cultural values*. London and New York: Routledge.

Journal of Euromarketing, 29: 81-104, 2020
Copyright © IMDA Press
ISSN: 1049-6483 print / 1528-6967 online

IMDA Press

ARTICLES

A Neuro Analysis of Static Subliminal Advertising in Packaging

Anish Babu Zacharia
Nicolas Hamelin
Talha Harcar
Peter Rodgers

ABSTRACT. The conundrum about subliminal advertising existed for a long time. Through this research using a phenomenographical approach of neuroscience techniques, we try to understand the influence of different static subliminal images and words embedded in different packages. We tried to understand whether subliminal advertising embed influence can cause any cognitive or behaviour changes in the participants and whether the depth of these influences differed with gender. A total of 46 healthy participants were separated into two groups, with one group shown image packages with static subliminal stimuli while the other group was shown image packages without any subliminal stimuli. In addition to questionnaires, data were collected using neuromarketing techniques like electroencephalography, biometrics, facial coding and galvanic skin response measures to understand how consumers respond and feel when presented with subliminal images shown as stimuli. This research was able to prove that the subliminal embeds were able to emotionally influence the males more than the females but were only able to influence the behavioural intentions of the male group only to a small extent.

KEYWORDS. Neuromarketing, Subliminal advertising, Static subliminal stimulus, Subliminal words, Subliminal images, attention, conscious processing, Biometrics,

INTRODUCTION

An average American Supermarket holds more than 20,000 products , and within a typical 30 minute shopping session, all these 20,000 products compete each other for the attention of the consumer (Cahyorini & Rusfian, 2012). With companies trying to maximize the returns on the shelf space in stores, packaging and advertising have become the main tools for this, as they influence consumer emotions and decision making process (Poels & Dewitte, 2006). Advertising can be persuasive in nature because it can alter consumers' tastes, craft product differentiation and brand loyalty, thus creating demand for the product (Bagwell, 2007). Advertising is considered informative because it is a low cost method through which

Anish Babu Zacharia and Nicolas Hamelin, Ph.D. are affiliated with SP Jain School of Global Business, Sydney, Australia; Peter Rodgers is at the College of North Atlantic, Qatar, and Talha Harcar, Ph.D., Professor of Marketing at Pennsylvania State University at Beaver, Monaca, USA

Address correspondence to Dr. Talha Harcar, Pennsylvania State University at Beaver, 100 University Drive, Monaca, PA, 15061, USA. E-mail: tdh13@psu.edu

consumers can be informed about different products, product prices, and new products in the market (Bagwell, 2007). But advertising can only bring a potential customer to the product shelf in the store; it is the product packaging itself that is considered the final and significant factor that contributes to the consumer decision process because it communicates to consumers at the actual time of the final decision in the store purchases (Silayoi & Speece, 2007). Packages can be become a silent salesman at the point of purchase (Vazquez et al., 2003). As nearly 73% of purchase decisions are made at the point of sale (Frontiers: Planning for Consumer Change, cited in Connolly & Davison, 1996; Rettie & Brewer, 2000), the packaging impact is an important factor to be considered (Wells & Armstrong, 2007). Consumers draw different expectations about the product they want to purchase using the graphics, color, design, and communication elements in the package, and this influences their choice, which is considered as a success in product marketing strategies (Silayoi & Speece, 2007). Color of the packages (Smets & Overbeeke, 1995; Deliza & MacFie, 2001) and materials used for the food packages Schifferstein (2009) can influence the way a food product is experienced. Packaging design that can provide aesthetic and emotional appeal can influence the success of a product. Especially, evoking nostalgic thoughts through the design can create positive emotions, which enhance consumer satisfaction successfully (Chen, 2014).

This study aims to understand the influence of different static subliminal images and words embedded in different consumer good packages using a phenomenographical approach of neuroscience techniques. The objective of this research is also to investigate whether subliminal advertising embed influence can cause any cognitive or behavior changes in the consumers and whether the depth of these influences differed with gender.

THEORETICAL CONCEPTS

Emotions function as a basic mechanism for making decisions without resorting to labors of reason or considering facts, outcomes, options or rules of logic (Damasio, 1998, p. 4). Emotions can influence our decisions, as they can influence our attitudes and judgments (Gutnik et al., 2006). Consumer behavior can be influenced by emotions, by being persuasive in nature (Lewinski el al. 2014). Poels & Dewitte (2006) highlighted the influence of emotion on various emotion measuring variables like a direct effect on Attitude towards the advertisement (Cacioppo & Petty, 1985; Batra & Ray, 1986; Derbaix, 1995; Pieters & de Klerk-Warmerdam, 1996), an indirect impact towards the Brand (Batra & Ray, 1986; Edell & Burke, 1987), an indirect impact on Purchase Intention (Batra & Ray, 1986), and emotional reactions combined with attitude towards the advertisement can contribute to the formation of attitude towards the brand (Mitchell & Olson, 1981; Holbrook & Batra, 1987).

Subliminal stimuli can evoke emotional responses in the body similar to a normal supraliminal stimulus (Frank & et al; 2013; Karremans et al., 2006; North, Hargreaves, & McKendrick, 1997; Groenland & Schoormans, 1994; Kotzé & Möller, 1990). A stimulus which is subliminal for one person might not be subliminal for another person. Thresholds can vary from person to person and even within moments of time for the same person (Klass, 1958). Information present in people's minds without its conscious consideration is referred to as subliminal (Sur, 2015). Subliminal advertising is the process of advertising subliminal images and messages below one's conscious awareness and is supposed to influence and persuade people into buying certain products. As 90% of the information is processed subconsciously by the brain (Zurawicki, 2010; Agarwal & Dutta, 2015), there is a good chance that the subliminal stimulus, which is intended for the subconscious brain and not filtered out

by the conscious or rational brain, can influence the decision process.

Subliminal perception represents a person's behavior at the edge of their conscious will (Moore, 1982) and is described as a perception of a chain of processes that starts with a stimulus input by which the person might be influenced but not consciously aware of it, in addition to the perception from the sense organs and terminates subjectively with a conscious recognition of an object or event. All input stimuli do not undergo the same mental processing sequence as they are selectively filtered, transformed, and attended to according to a variety of factors like attention, expectations, memory, affect, and other variables that are independent of the particular input (Moore, 1982). This conscious recognition might not be the endpoint for many inputs, but rather a new starting point by initiating a new mental activity of one sort or another, without being available to conscious reflection or report, that might be used in future (Moore, 1982). Subliminal perception, or subliminal stimulus, can range anywhere from any text, image, sound, word, suggestive phrase, or suggestive scene that is not perceived in the normal range of consciousness (Broyles, 2006; Smarandescu & Shimp, 2015).

The validity of using self-reports in studying emotional responses have been questioned, as they cannot capture low-order emotions, and they increase the probability of cognitive bias occurrence or social desirability constraints (Poels & Dewitte, 2006) or the fear of answering the questions correctly (Lewinski et al., 2014; Hamelin et al., 2017). To overcome all this, autonomic measures that do not rely on subjective answers like neuromarketing techniques, such as electroencephalography (EEG), Biometrics, Facial Coding, Eye Tracking, and Galvanic Skin Response, can be used (Lewinski el al, 2014; Hamelin et al, 2017; Ohme et al., 2009; Langleben et al., 2009; Cook et al., 2011; Wedel & Pieters, 2000; 2004; Ramsøy et al., 2012). Neuromarketing is a technique used to understand how the brain reacts to an external stimulus like advertisement, pictures, etc., using medical equipments like EEG, fMRI, etc. Neuromarketing differs from subliminal messaging because subliminal messaging might be used to sway a consumer's opinion, but neuromarketing tries to understand what a consumer thinks and market towards those thoughts and preferences (Glaenzer, 2016). Neuromarketing helps us to understand what happens in the conscious and subconscious parts of a consumer's brain when subject to stimuli under study. Neuromarketing, by understanding what consumers think or feel, aims to control consumers' brains in what they intend to do or what they want, through consumer micro-targeting at the subconscious level (Andrejevic, 2012). Neuromarketing studies reveal reality better than traditional methods of research (Falk et al., 2012). This has helped market researchers determine if any responses linked to positive emotions are stimulated in the brain when exposed to their advertisements or products (Kolter et al., 2013).

Neuromarketing using different neuroscientific techniques has gained importance in various marketing applications and contributed to a greater understanding of human behavior. (dos Santos et al., 2015). Neuromarketing is used to understand consumer behavior, especially cognitive and emotional changes during purchase decision processes (Glimcher et al., 2009; Vashishta & Balaji, 2012). Neuromarketing can be an alternate replacement for effective market research that can be more efficient in identifying what the customer truly needs (Ariely & Berns, 2010). Neuromarketing is used to assess the effectiveness of different advertisements and find ways to achieve higher consumer attention (Reimann et al., 2011). Neuroscience methods can help understand consumer decisions in terms of pricing, choice strategy, context, experience, and memory, thereby generalizing behavior models and helping marketing researchers to segment their target markets (Venkatraman et al., 2012).

Replacing conventional marketing methods with neuromarketing will either provide a complete view of how neuromarketing is improving the marketing field while gathering useful consumer data or producing inaccurate data that is unbeneficial to the marketing field (Glaenzer, 2016).

However, much like subliminal messaging, the concept of neuromarketing is opposed very much because of the fear that the consumer is being manipulated (Glaenzer, 2016). Most of these ethical fears are widespread and are unrealistic. Moreover, they are not just characteristics of Neuromarketing but the same that have been the focus of criticism against traditional marketing techniques (Nill & Schibrowsky, 2007; Stanton et al., 2017). It is argued that successful neuromarketing robs consumers of control and makes the marketed goods irresistible (Stanton et al., 2017). Thus, our future purchases could be controlled by the sellers without our knowledge or awareness. But advocates of neuromarketing argue that these ethical concerns are far from truth as consumers do not have their brains scanned or biometrics taken every time while they shop and make decisions (Stanton et al., 2017). Predicting consumers' behavior using neuromarketing is much different from coercing them against their will, so one's dignity or rationality cannot be undermined by this prediction (Stanton et al., 2017).

Electroencephalographic (EEG)

Electroencephalographic (EEG) is a neuromarketing tool used to identify areas in the brain that are related to the cognitive processes such as attention, fatigue, emotional arousal, drowsiness, motivation, mental workload, wakeful relaxation, and approach or avoidance. EEG is considered an exceptional tool for analyzing the neurocognitive process underlying human behavior because of its high time resolution, mobility, and its ability to pick up even small peripheral signals (Cohen, 2011). EEG has a high time resolution, so within a single second timeframe, it can take hundreds to thousands of snapshots of electrical activity across multiple sensors associated with emotional, perceptual, cognitive, linguistic, and motor processes that are very fast, occurring within tens to hundreds of milliseconds (Sauvage, 2013). EEG can capture cognitive changes when triggered by stimulus at the same time frame when the stimulus is applied and is also suitable for the study of behavioral cognitive and emotional processing in precise time-course. EEG is capable of picking up even small signals which are generated in the different peripheral areas of the brain as a result of different neural activities in the respective areas of the brain. An EEG reading is a non-invasive technique that can be applied frequently to humans with virtually no risks or limitations (Teplan, 2002). EEG is based on the Approach/Withdrawal Motivational Model of Emotion (Davidson, 1983). According to this model, left frontal activity, either as a state or a trait, indicates a tendency to approach or engage a stimulus when experiencing positive emotions such as happiness, interest, and joy, while relatively greater right frontal activity indicates a tendency to withdraw or disengage from a stimulus when experiencing negative emotions such as sadness, disgust, and fear.

Frontal EEG asymmetry may be a biological marker of emotional predispositions or traits (Tomarken et al., 1992) like depression risk and can predict emotional reaction and negative affect hours to years later (Allen & Reznik, 2015). Frontal cortical asymmetry is calculated by comparing activation levels between comparable areas on the right and left sides of the frontal cortex (Price & Harmon-Jones, 2010). Frontal cortical asymmetry calculation using Alpha waves is referred to as Frontal alpha asymmetry (FAA). Frontal asymmetry calculation is based on the approach and withdrawal theory developed by Davidson which is the relative measure of the difference in EEG power readings between the right and left frontal regions of the brain. In

studies using the asymmetric index, often asymmetric activation in right versus left frontal cortical areas recorded by EEG is considered as a dependent variable (Price & Harmon-Jones, 2010). FAA is used in neuromarketing studies as a measurement scale for human-machine interaction and provides a valuable index of pleasantness or liking in terms of emotional strength (Coan & Allen, 2003). FAA has high internal consistency reliability and good test-retest reliability over intervals from weeks to months (Towers & Allen, 2009). Alpha band activity variations play a significant role in perception and attention (Magosso et al; 2019). The power of alpha oscillations is inversely related to brain activity (Goldman et al., 2002). That is, alpha waves are suppressed during cognitive activity and have higher amplitude during rest periods. Therefore a brain with an alpha predominance in the left hemisphere is said to be relative asymmetric to the right. Alpha-band activity is the only frequency domain other than slow beta, which responds to a task or stimulus with either a increase or decrease in amplitude, termed event-related desynchronization (ERD) and event-related synchronization (ERS) respectively (Klimesch, 2012). The alpha wave is the dominant oscillation in the whole realm of brain activity (Ambekar & Achrekar, 2014). Other frequencies delta, theta, and gamma respond with an event-related synchronization (Klimesch, 2012). In the visual domain, alpha suppression is related to externally directed attention while an alpha increase is related to internal processing such as mental arithmetic, but the relation between alpha activity and different cognitive tasks, such as external stimuli processing, internal manipulation, and task demand, needs further study (Magosso et al., 2019).

The Facial Action Coding System (FACS)

The Facial Action Coding System (FACS) is an important Neuromarketing technique that is noninvasive for data collection from facial expressions. Spontaneous facial expressions provide precise information about more explicit characteristics of subjective emotional experience than just the "pleasant versus unpleasant" characteristics (Ekman et al., 1980). Facial expressions of emotion carry vital social signals in every day communication (Yan et al., 2016). Faces should be considered much more than just keys to individual identity as they play a important part in daily communication and interaction that makes machine understanding, perception and modelling of human expression a significant problem in computer vision (Essa & Pentland, 1997).

FACS is a system that analyzes a set of facial muscle movements to suggest a corresponding displayed emotion. FACS is used for studying facial expressions with regard to underlying facial muscle activity that plays an important role for research and assessment in neurology, psychiatry, and experimental psychology (Bartlett et al., 1996) and has technological applications in consumer-friendly user interfaces, interactive video, and entertainment rating (Ekman & Friesen, 1978). FACS is the most widely used, comprehensive, and psychometrically rigorous system used for studying facial expressions (Cohn et al., 2007; Essa & Pentland, 1997). The FACS is used to describe all visually noticeable facial movements based on the enumeration of all 46 action units (AUs) of a face that account for changes in facial expression (Essa & Pentland, 1997). Action units are described as the smallest visually discriminable facial movements (Cohn et al., 2007). Combinations of these action units can result into a larger set of possible facial expressions (Essa & Pentland, 1997). FACS has become more automated and standardized, and now emotional facial expression can be analyzed in real time and without interference or biases from the investigator (Wolf, 2015). FACS is a non-intrusive system used to assess emotional reactions but can only measure the presence of an emotion (valence) and not the intensity of that emotion (arousal).

Galvanic Skin Response (GSR)

Another neuromarketing method is the Galvanic Skin Response (GSR) or Electrodermal activity (EDA) which analysis the change in skin conductance (SC) in response to skin secretion in very small amounts caused when the autonomic nervous system (ANS) is activated. These changes in SC can be used as a direct measure of emotional arousal, as an increase in the activation of the ANS is an indicator of emotional arousal (Critchley, 2002; Ravaja, 2004; Anders et al., 2004; Boucsein, 2012). The most commonly used method for collecting GSR data is by applying a low, undetectable, and constant voltage to the skin and then measuring how the skin conductance varies (Benedek & Kaernbach, 2010; Fowles et al., 1981). Galvanic skin response measurement is a commonly used, robust, well-established, and relatively inexpensive procedure of studying the peripheral bodily signals related with decisions, emotions and, eventually, behaviours (Christopoulos & et al., 2019). Such studies are based on the fact that the skin's moisture level can influence changes in the electrical conductance of the skin (Labarbera & Tucciarone, 1995). In most of the research, SC measurement has been used as a second tool to validate the emotional measurement findings (Aaker et al., 1986; Bolls et al., 2001; LaBarbera & Tucciarone, 1995). The major limitation of SC is that it cannot establish the valence or the direction of an emotional reaction (Shimp, 2003). It can only indicate the degree of arousal, be it either negative or positive in valence: Large SC responses can be evoked both by very pleasurable and very repellent advertising stimuli (Hopkins & Fletcher, 1994).

RESEARCH METHODOLOGY

This research was conducted to study the effects of subliminal stimuli embed in different packaging boxes using different neuromarketing technique and questionnaire. A research area was identified after analyzing past relevant literature and methods. Then suitable hypothesis statements were formulated, and an experimental design was designed accordingly. The right materials were developed and selected for the research such that the stimulus was subliminal to the participants. This study was conducted using a Mixed Methods Research Paradigm that uses a combination of both Qualitative and Quantitative methods. A semi-structured questionnaire was used to collect information from the respondents that would give a perception of the advertisement from the participants' conscious part of the brain. A Phenomenography approach was taken to study the cognitive perceptions of the participants using neuroscience, which would enlighten us with a perception of the advertisement from the participants' subconscious part of the brain also. Using neuroscience techniques like EEG, SC, FCA, and heart beat rates, data was analyzed to see whether there were any significant differences in the frontal cortex, arousal level, facial muscle activity, and heart beat patterns when each advertisement was shown to the participant as a stimulus. Statistical analysis was conducted on the data collected to check the significance of the results, and accordingly conclusions were formulated.

Research Hypothesis

H_1: There is a difference in Emotions experienced (detected by the Biometric or Cognitive readings) when subjected to subliminal images than when not exposed to any subliminal images.

H_2: There is a difference in human behavioral intentions experienced (inferred through the questionnaire data) when subjected to subliminal images than when not exposed to any subliminal images.

H_3: There is a clear influence of subliminal images in inducing a like or a dislike in the participant, towards the package where the subliminal image is imbedded.

Experimental Design

The True Experimental Design method with a Post Test Only Design was used for this study (Gribbons & Herman, 1996). The full experiment was divided into seven similar experiments in which participants were asked to look at packages with or without subliminal words and images embedded in the packages. The participants were assigned to two groups. One group was shown packages with subliminal images and subliminal words, while the other group was shown packages without subliminal images and subliminal words. Using neuroscience techniques like EEG, SC, Facial Coding Analysis and heart beat rates, any significant differences in the frontal cortex, arousal level, facial muscle activity, and heart beat patterns were analyzed when participants were subjected to packages with and without subliminal images and subliminal words. Test results were taken separately for males and females.

The study was approved by the ethics committee, and all participants gave written consent before the beginning of the experiment. All data were analyzed and reported anonymously.

Participants

Forty-six healthy participants aged 22-50 years, consisting of mainly graduate and postgraduate students, teaching staff, and non-teaching staff from SP Jain Sydney Campus and friends volunteered for this study. Out of this, fourteen male volunteers aged 23-46 years (Avg Age, Median Age ± std = 31.4, 28 ± 7.1 years) and eleven female volunteers aged 22-50 years (Avg Age, Median Age ± std = 28.1, 25 ± 8.3 years) were part of the group that was exposed to subliminal images during the experiment. Eleven male volunteers aged 23-47 years (Avg Age, Median Age ± std = 27.2, 26 ± 6.9 years) and six female volunteers aged 22-34 years (Avg Age, Median Age ± std = 26.5, 26 ± 4.3 years) were part of the group that was exposed to images without any subliminal images in them during the experiment. A pilot study was conducted with four participants before the main experiment.

Materials

From the empirical literature, it was evident that images of pleasant scenes, unpleasant scenes (Fridlund et al., 1984; Schwartz et al., 1980), and pictures depicting angry, fearful, and happy faces (Dimberg, 1981, 1986) gave rise to emotional responses and valences (Lane et al., 1999; Cacioppo et al., 1986). A picture's quality usually lies in its representational or symbolic meaning (Lang et al., 1993). Words were also found to evoke emotional valence and arousal (Kensinger & Schacter, 2006). Keeping this in mind, the stimulus pictures considered for this research were pictures of facial expressions, pleasant and unpleasant scenes, and words. Perfume packages with seven different designs was created. One group of participants were shown packages with subliminal stimuli, and the other group was shown the same packages without any subliminal stimuli. The subliminal stimulus (word or image) was different for each of the seven packages.

The first package "COOL" (Figure 1) had subliminal images of a woman in a sexual pose which was supposed to act as sexual stimuli. The second package "KING" (Figure 2) had a subliminal image of a fish embedded in the package design. The third package "LOVE" (Figure 3) had a subliminal positive image of a hugging couple embedded in the package design. The fourth package "ROYAL" (Figure 4) had a subliminal positive image of a smiling cute baby imbedded in the package design. The fifth package "SAGAR" (Figure 5) had a subliminal word "SEX" with a calligraphy type font embedded in the package design. The sixth package "SIX" (Figure 6) had a subliminal word "SEX" with a simple readable font embedded in the package design.

The subliminal word "SEX" was supposed to act as sexual stimuli. The last package "KING" (Figure 7) had a subliminal negative image of a scary man's face imbedded in the package design.

Figure 1. Image of COOL Package with an Image of a Woman Hidden in the Design

Figure 2. Image of KING Package with an Image of a Fish Hidden in the Design

Figure 3. Image of LOVE Package with an Image of a Hugging Couple Hidden in the Design

Figure 4. Image of ROYAL Package with an Image of a Baby Hidden in the Design

Figure 5. Image of SAGAR Package with an Image of the Word SEX Hidden in the Design

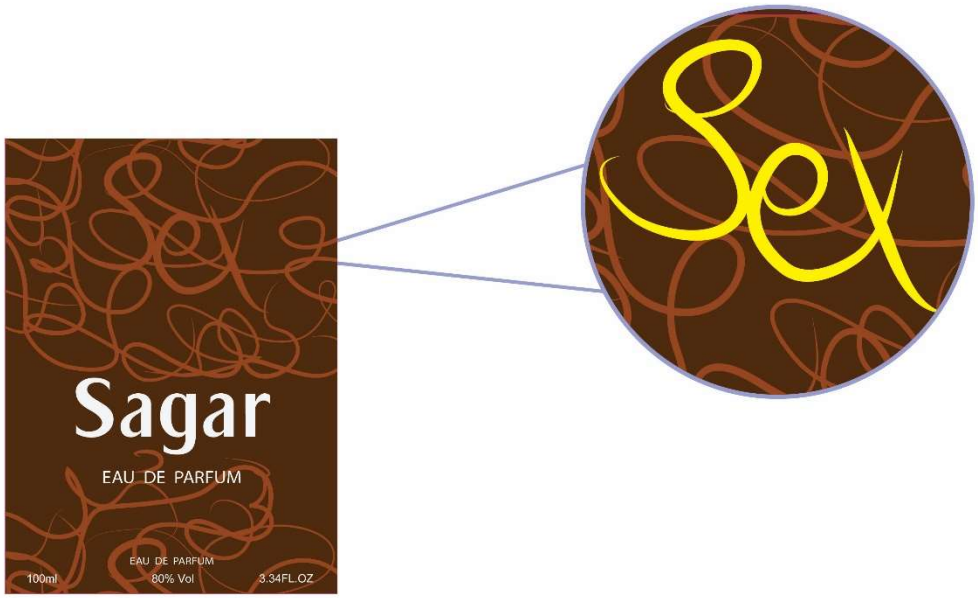


Figure 6. Image of SIX Package with an Image of the Word SEX Hidden in the Design

Figure 7. Image of UNIVERS Package with an Image of a Scary Face Hidden in the Design

Procedure

This study was conducted in the SP Jain Neuroscience Lab, Sydney Campus. Each participant was comfortably seated facing a computer monitor at about 50-60 cm from the computer screen. At the start of the experiment, the participants were asked to look at fixation points that appeared on the screen to calibrate the eye movements of the participants. Before the start of each task, participants were positioned in front of the screen-based high-resolution eye-tracker camera and were positioned in such a way that the participant's eye movements are always in the required boundary range as highlighted by the Widget Box in the iMotions software. The EEG headset was positioned on the participant's head in the most suitable position to get optimized EEG data readings as indicated in the iMotions software. Then before each task, each participant was instructed to look at a fixation point as it appeared on the screen and a default calibration was run in the Imotions software.

An initial pilot study was conducted to check the proper working of the data collection sensors like Shimmer, EEG headset, Eye Trackers, and Facial camera. An average distance was calculated for the participants to be seated away from the facial camera so that the participant's eye movements are always in the required boundary range as highlighted by the Widget Box in the iMotions software and calibrate the eye movements of the participants to the maximum.

The main objective of the pilot study was to check whether the subliminal images were consciously visible to the participants. Four participants participated in this pilot study to make sure that the gadgets were optimized to provide sensor data with high signal strengths.

Data Collection

In this study we used iMotions software (a biometric research platform) which was integrated with a shimmer to collect GSR and heart beat rate, a Facial Camera to study facial expressions, and an EEG headset to record EEG data.

Shimmer. A Shimmer integrated to the iMotions Electrodermal Activity/Galvanic Skin Response Module was connected to the two fingers on the left hand of the participant.

The Shimmer monitors the heartbeat rates and the skin conductivity (GSR) between two reusable electrodes attached to the two fingers and passes these data to the computer through a Bluetooth connection.

EEG Headset. An Emotive Epoc+ EEG headset which is 14-channel (AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, AF4) wireless EEG headset that records high-resolution EEG data was used in this study. The advantage of this headset was that no sticky gels were required for the sensors but only saline solution to be put on the sensor material for better conductivity. The headset was positioned on each participant's head as instructed in the manual and the electrodes were checked to have good impedance as indicated in the widget box.

Facial Camera. A Facial Camera was used to collect and analyze involuntary (corrugator and orbicularis) and voluntary (zygomaticus) facial muscle movements, which may reflect the subconscious and conscious emotional expressions, respectively (Dimberg et al., 2000; Larsen et al., 2003). During advertisements, facial responses are strongly associated to emotion-congruent events (Ohme et al., 2009).

Using EEG, SC and facial expressions, the cognitive responses of the participants was studied when they are shown the different packaging boxes as stimuli. This data were collected through the Shimmer, Facial Camera, and EEG headset were analyzed in detail for underlying trends and findings. Next, the participants were given a semi-structured questionnaire to get the behavioral responses of the different printed packaging boxes shown to them.

DATA ANALYSIS

Sensor Data Analysis

Data collected from the different biometric devices helped to analyze the different emotions the participants experienced. The Facial Camera helped to study and analyze the participant's facial expressions and emotions like Engagement, Smile, Valence, Contempt, Anger, Fear, Joy, Disgust, Surprise, Sadness, and Attention. The EEG headset recorded the raw and FAA EEG data from F7/F8 nodes and helped to study and analyze the participant's cognitive Interest, Relaxation, Engagement, Stress, and Excitement towards the shown package picture. The Shimmer collected the GSR data and also heart rate of the participant; and analyzed the valance of the emotions.

Data collected from the seven experiments were analyzed separately. Also, the data for the female and male group was analyzed separately.

Test for Normality of Distribution for Sensor Data

Normality tests were applied to all data collected for both male and female groups. The relevant assumptions for the pooled variance 2-sample t-test are that the random data samples must be from two different normally distributed populations with the same variance. The cases of non-normality do not rise much in cases of large sample sizes, as usually they form a normally distributed curve. But in the cases of small sample sizes, the test of normality plays an important part in statistical analysis. Since the sample $n<50$, the Shapiro-Wilk test was conducted to check whether the data was parametric or nonparametric.

The normality test using the Shapiro-Wilk test revealed that most of the variable data for the male group were nonparametric except for variable Heart Beat while viewing the packages King, Sagar, and Six.

Normality test using the Shapiro-Wilk test revealed that most of the variable data for the female group were nonparametric except for few variables Attention while viewing the package Cool, variable Disgust while viewing King, and variable Attention while viewing the package Royal.

Statistical Analysis of Sensor Data (Facial, EEG, GSR and Heartbeat)

The Mann-Whitney test was selected in this experiment, as this is used in experiments in which there are two conditions and different subjects have been used in each condition, but the assumptions of parametric tests are not tenable (Field, 2000)

Mann-Whitney Test for Male Group

Package Picture Cool. A Mann Whitney test indicated that the emotion "Contempt" experienced, was higher in the male group who viewed the package Cool with the subliminal images of a woman (Mdn= 0.1953) than the male group who viewed the package Cool without any subliminal images (Mdn=0.1925), U= 40.0, p= 0.044. While the emotional "Engagement (Epoc)" experienced, was lesser in the male group who viewed the package Cool with the subliminal images (Mdn=0.5522) than the male group who viewed the package Cool without any subliminal images (Mdn= 0.6385), U=6.0, p= 0.048. Mann Whitney test for the other Emotional Variables while viewing the package Cool revealed that the two groups, one who was exposed to subliminal images and the other who were not exposed to any subliminal images, did not differ significantly. But the significance in the difference between the two groups in terms of emotional Engagement and Contempt revealed by the Mann Whitney test helps to reject the first null hypothesis and accept the first alternate hypothesis.

Package Picture King. A Mann Whitney test indicated that the emotional "Anger" experienced, was lower in the male group who viewed the package KING with the subliminal images (Mdn= 0.0026) than the male group who viewed the package KING without any subliminal images (Mdn=0.0083), U= 37.0, p= 0.029. While the emotional "Fear" experienced, was lower in the male group who viewed the package KING with the subliminal images (Mdn=0.0047) than the male group who viewed the package KING without any subliminal images (Mdn= 0.0229), U=32.0, p= 0.013. Mann Whitney test for the other Emotional Variables while viewing the package King revealed that the two groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. The significance in the difference between the two groups in terms of emotional Anger and Fear revealed by the Mann Whitney test helps to reject the first null hypothesis and accept the first alternate hypothesis.

Package Picture Love. A Mann Whitney test indicated that the emotional "Surprise" experienced, was lower in the male group who viewed the package LOVE with the subliminal images (Mdn= 0.1974) than the male group who viewed the package LOVE without any subliminal images (Mdn=0.2765), U= 30.0, p = 0.009. The Mann Whitney test for the other Emotional Variables while viewing the package Love revealed that the two groups, one who were exposed to subliminal images and the other who were not exposed to any subliminal images, did not differ significantly. The significance in the difference between the two groups in terms of emotional Surprise revealed by the Mann Whitney test helps to reject the first null hypothesis and accept the first alternate hypothesis.

Package Picture Royal. A Mann Whitney test indicated that the emotional "Excitement" experienced, was lower in the male group who viewed the package ROYAL with the subliminal images (Mdn= 0.1093) than the male group who viewed the package ROYAL without any subliminal images (Mdn=0.7295), U= 2.0, p = 0.024. Mann Whitney test for the other Emotional Variables while viewing the package Royal revealed that the two groups one who was exposed to subliminal images and the other who was not exposed to any subliminal images did not differ significantly. The significance in the difference between the two groups in terms of emotional Excitement revealed by the Mann

Whitney test helps to reject the first null hypothesis and accept the first alternate hypothesis.

Package Picture Sagar. A Mann Whitney test indicated that the emotional "Engagement" experienced, was lower in the male group who viewed the package SAGAR with the subliminal images (Mdn= 0.5522) than the male group who viewed the package SAGAR without any subliminal images (Mdn=26.8900), U=1.0, p= 0.024. While the emotional "Relaxation" experienced was lower in the male group who viewed the package SAGAR with the subliminal images (Mdn=0.2649) than the male group who viewed the package SAGAR without any subliminal images (Mdn= 11.0503), U=0, p= 0.012. Mann Whitney test for the other Emotional Variables while viewing the package Sagar revealed that the two groups one who was exposed to subliminal images and the other who was not exposed to any subliminal images did not differ significantly. The significance in the difference between the two groups in terms of emotional Engagement and Relaxation revealed by the Mann Whitney test helps to reject the first null hypothesis and accept the first alternate hypothesis.

Package Picture Six. A Mann Whitney test for the Emotional Variables while viewing the package SIX revealed that the two groups one who were exposed to subliminal images and the other who were not exposed to any subliminal images did not differ significantly. Since there was no significance in the difference between the two groups in terms of emotions revealed by the Mann Whitney we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture Univers. A Mann Whitney test for the Emotional Variables while viewing the package UNIVERS revealed that the two groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. Since there was no significance in the difference between the two groups in terms of emotions revealed by the Mann Whitney test we accept the first null hypothesis and reject the first alternate hypothesis.

Mann-Whitney test for Female Group

Package Picture Cool. A Mann Whitney test for the Emotional Variables while viewing the package COOL revealed that the two female groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. Since there was no significance in difference between the two groups in terms of emotions revealed by the Mann Whitney test we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture King. A Mann Whitney test for the Emotional Variables while viewing the package KING revealed that the two female groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. Since there was no significance in the difference between the two groups in terms of emotions revealed by the Mann Whitney test, we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture Love. A Mann Whitney test for the Emotional Variables while viewing the package LOVE revealed that the two female groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. Since there was no significance in the difference between the two groups in terms of emotions revealed by the Mann Whitney test, we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture Royal. Mann Whitney test for the Emotional Variables while viewing the package ROYAL revealed that the two female groups one who were exposed to subliminal images and the other who weren't exposed to any subliminal images did not differ significantly. Since there was no significance in the

difference between the two groups in terms of emotions revealed by the Mann Whitney we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture Sagar. A Mann Whitney test for the Emotional Variables while viewing the package SAGAR revealed that the two female groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. Since there was no significance in the difference between the two groups in terms of emotions revealed by the Mann Whitney test, we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture Six. A Mann Whitney test for the Emotional Variables while viewing the package SIX revealed that the two female groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. Since there was no significance in the difference between the two groups in terms of emotions revealed by the Mann Whitney test, we accept the first null hypothesis and reject the first alternate hypothesis.

Package Picture Univers. A Mann Whitney test indicated that the emotional "Smile" experienced, was higher in the female group who viewed the package UNIVERS with the subliminal images (Mdn= 0.0659, N=11) than the female group who viewed the package UNIVERS without any subliminal images (Mdn=0.0014, N=6), U=13.0, p= 0.048. A Mann Whitney test for the other Emotional Variables while viewing the package UNIVERS revealed that the two groups, one who was exposed to subliminal images and the other who was not exposed to any subliminal images, did not differ significantly. The significance in the difference between the two groups in terms of emotional Smile revealed by the Mann Whitney test helps to reject the first null hypothesis and accept the first alternate hypothesis.

Results of Mann-Whitney Test for Facial, EEG, GSR and Heart Beat

There was a significant difference ($p<0.05$) in at least one emotional variable between the two male groups, of which one was exposed to subliminal images and the other not exposed to any subliminal images while viewing five different packages. But there was no significant difference of any emotion variable between the two male groups while viewing packages SIX and UNIVERS.

Except for female groups viewing package UNIVERS, there was no significant difference ($p>0.05$) in at least one emotional variable between the two female groups of which one was exposed to subliminal images and the other not exposed to any subliminal images while viewing the different packages.

Therefore, the emotional influence of subliminal images is experienced differently by female and male groups, with the influence of being emotionally experienced more by males than females.

CONCLUSIONS

The statistical analysis of Facial data, EEG, GSR, and Heart Beat showed that the static subliminal images were efficient in bringing about a higher emotional variance in males than females who viewed the same static subliminal images. This reveals that the emotional influence of subliminal images is experienced differently by female and male groups. Males are more emotionally influenced by the static subliminal images than females.

The statistical analysis of questionnaire data revealed that the static subliminal images were only able to influence the behavioral intentions of males to a small extent but did not influence females at all. So the static subliminal images cannot influence the behavioral intentions of females in any way but can influence behavioral intentions of males to a small extent. By wiping out the fear of subliminal in-

fluence on immediate consumer behavioral intentions, the ethical concerns regarding static subliminal advertising can also be cleared to a small extent.

The Frontal Asymmetric Alpha value calculation was not able to identify any difference in the males or females when exposed to the static subliminal images. These results reveal that the static subliminal images in the different packages were not able to influence or persuade the participants to either like or dislike the packages viewed. FAA data supports the questionnaire data in concluding that subliminal embeds cannot bring about any sudden or immediate changes in the behavioral intentions of the participants viewing the subliminal embeds.

From this study, static subliminal images do not influence people into changing their behavioral intentions or persuade them to do something without their awareness as feared earlier. In summary, the findings of this research show that subliminal advertising has trivial influence on consumers and cannot be used as 100% successful technique by modern marketer.

Contribution to advertising and packaging Practices

The main contributions of this research towards advertising and packaging practices are as follows:

1. The gap in the empirical literature regarding the influence of subliminal embeds in packaging was cleared to a certain extent.

2. Static subliminal images do not influence people into changing their behavior nor persuade them to do something without their awareness. Thus, spending money on designing packages with subliminal images to instantly persuade or change consumer behavior intentions will not be successful.

3. Static subliminal images in the packages were able to create a higher emotional variance in males than females who viewed the same static subliminal images. So targeting male customers with packages designed with the right images might bring about an emotional influence that could influence their decisionmaking process.

Methodological Contribution

Firstly, by using Neuromarketing in this study, we were able to fill in the gaps left by traditional marketing methods by being able to bypass the conscious thinking process and directly get unbiased and accurate results from the subconscious brain through automatic responses, which tend to be universal among human beings (Bercea, 2013). Neuromarketing research reveals reality better than traditional methods of research, which are based on collecting data using questionnaires and self reports (Falk et al., 2012; Lewinski et al., 2014). Secondly, as the unbiased data readings are directly taken from the human body and the human brain mechanism being similar, these findings can be generalized (Bercea, 2013). Thus, comparing to a traditional marketing research, neuromarketing studies require a smaller number of participants (Bercea, 2013). Thirdly, using neuromarketing, cognitive, and biometric changes in the body of the participant could be studied or analyzed in detail with a time resolution of milliseconds with respect to specific parts or time of the advertisement, message, or picture when viewed by the participant. Fourthly, by using neuromarketing techniques, we could analyze what features of the advertisement or image triggered cognitive and biometric changes in the participant. Overall, using Neuromarketing techniques, a deeper understanding of the participant's cognitive and physiological behavioral responses were understood. Lastly, in this study we carefully selected the media or the stimulus such that it should in no way influence the participant in regards to a previously known brand or a known product or a product that can create hunger or thirst in the participant. This was done to overcome the pre-existing habits, thirst factor, hunger factor, brand choice, desire, and goal relevant factor, as highlighted in studies

by Hawkins (1970), Trappey (1996), Cooper & Cooper (2002), and Karremans et al. (2006).

Since different neuromarketing techniques were used for this research, we used a mixed methods research paradigm that involves a combination of both qualitative and quantitative methods. This neuromarketing research used a step by step procedure as defined by Bercea (2013) of defining a problem through a qualitative approach, defining and testing a hypothesis through a quantitative approach, and exploring the results in-depth through a qualitative approach.

Theoretical Contributions and Perspectives

This research was able to contribute to the existing literature on subliminal advertising from a cognitive and behavioural angle using neuromarketing techniques. This research was able to contribute to the existing literature on the relationship between subliminal advertising and emotions by being based on the advertising model AIDA (Awareness, Interest, Desire, Action) and on the widely accepted theory of decision-making the Somatic Marker Hypothesis, which provides a system-level neuroanatomical and cognitive framework for decision-making and the emotional influence on it (Bechara et al., 2000; Damasio, 1994, 1996). Neuroscientific studies have also shown that decision-making depends on prior accurate emotional processing (Bechara & Damasio, 2005). Advertisements that are able to generate a higher emotional state in the viewer are able to influence the viewer to a greater extent. This study showed that static subliminal advertising can evoke or induce emotional responses in the body but cannot bring about any sudden or immediate changes to the behavioural intentions of participants who view subliminal embeds for the first time. However, according to Somatic Market Hypothesis, this could act as later secondary inducer that can elicit a somatic response generated by memory recall or thought, e.g., evoking an emotion from a memory or thought about an earlier emotional experience to have a greater effect on decision-making (Bechara, 2003; Damasio, 1995). But the emotions experienced when viewing the subliminal embeds were higher for the males than the females. Thus, subliminal advertising has a stronger influence on males than females, as females exhibit lesser emotional experience that males

This research was also able to analyse the cognitive responses of the participant using Frontal Alpha Asymmetric (FAA) calculation based on the approach/withdrawal motivational model of emotion developed by Davidson (1983), to have a deeper understanding of whether the participant developed a like or dislike towards the picture or advertisement viewed. Through this research, we were able to demonstrate that the static subliminal images in the different packages were unable to influence or persuade the participants to either like or dislike the packages viewed.

SCOPE FOR FUTURE RESEARCH AND LIMITATIONS

The static subliminal images had greater influence and were seen more by the males than the females. It would be interesting to study whether the problem-solving advantage of males (Johnson, 1984) over females helped the male group to identify the static subliminal images and get influenced to a larger extent.

In this study, we analyzed the influence of static subliminal images on people who were exposed to the same image for the first time. But there would be an added advantage to existing marketing knowledge if the same study could be done to analyze the influence of static subliminal images on people who were exposed to the same stimulus earlier and to new people who are informed that they are viewing packages with subliminal images. If this future study shows that people are going to spend more time viewing this packages with subliminal images, then this can be used as a marketing technique to get people (who are informed

about the subliminal images) to pay more attention to a particular product package, which is the primary objective of any marketing strategy

For this research, we were able to get only 46 participants. If the number of participants could have increased, we could have gotten better, more robust data. No considerations were given to the ethnicity or cultural perspectives of the participants. Brand related stimulus was avoided as brands have been known to evoke emotions. No consideration was given for the color or designs or placing of the subliminal images on the package which could have influenced the participants' readings. Even though the study was conducted in a closed environment, there could have been other factors which might have influenced the experiment, and interaction with these factors or variables were not considered when data was processed. This study could have been more robust if fMRI could have been used to get a better cognitive data.

REFERENCES

Aaker, D. A., Stayman, D. M., & Hagerty, M. R. (1986). Warmth in advertising: Measurement, impact, and sequence effects. *Journal of consumer research, 12*(4), 365-381.

Agarwal, S., & Dutta, T. (2015). Neuromarketing and consumer neuroscience: Current understanding and the way forward. *Decision, 42*(4), 457-462.

Allen, J. J., & Reznik, S. J. (2015). Frontal EEG asymmetry as a promising marker of depression vulnerability: Summary and methodological considerations. *Current Opinion in Psychology, 4*, 93–97. https://doi:10.1016/j.copsyc.2014.12.017

Ambekar, A., & Achrekar, V. (2014). Real-time EEG measurement. *Delta, 1*(5), 20–200.

Anders, S., Lotze, M., Erb, M., Grodd, W., & Birbaumer, N. (2004). Brain activity underlying emotional valence and arousal: A response-related fMRI study. *Human Brain Mapping, 23*(4), 200–209.

Andrejevic, M. (2012). Brain whisperers: Cutting through the clutter with neuromarketing. *Somatechnics, 2*(2), 198–215.

Ariely, D., & Berns, G. S. (2010). Neuromarketing: the hope and hype of neuroimaging in business. *Nature Reviews Neuroscience, 11*(4), 284–292.

Bagwell, K. (2007). The economic analysis of advertising. *Handbook of industrial organization, 3*, 1701-1844.

Bartlett, M. S., Viola, P. A., Sejnowski, T. J., Golomb, B. A., Larsen, J., Hager, J. C., & Ekman, P. (1996). Classifying facial action. In D. Touretzky et al. (Eds.), *Advances in neural information processing systems* (p. 8). Cambridge, MA: MIT Press.

Batra, R., & Ray, M. L. (1986). Affective responses mediating acceptance of advertising. *Journal of Consumer Research, 13*(2), 234-249.

Bechara, A. (2003). Risky business: Emotion, decision-making, and addiction. *Journal of Gambling Studies, 19*(1), 23–51.

Bechara, A., & Damasio, A. R. (2005). The somatic marker hypothesis: A neural theory of economic decision. *Games and Economic Behavior, 52*(2), 336–372.

Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex, 10*(3), 295–307

Belch, G. E., & Belch, M. A. (2003). *Advertising and promotion: An integrated marketing communications perspective*. The McGraw−Hill.

Benedek, M., & Kaernbach, C. (2010). A continuous measure of phasic electrodermal activity. *Journal of Neuroscience Methods, 190*(1), 80–91. https://doi:10.1016/j.jneumeth.2010.04.028

Bercea, M. D. (2013). Quantitative versus qualitative in neuromarketing research. *Munich Personal RePEc Archive, 44134*,1-12

Bolls, P. D., Lang, A., & Potter, R. F. (2001). The effects of message valence and listener arousal on attention, memory, and facial muscular responses to radio advertisements. *Communication research, 28*(5), 627-651.

Boucsein, W. (2012). *Electrodermal activity*. Springer Science & Business Media.

Broyles, S. J. (2006). Subliminal advertising and the perpetual popularity of playing to people's paranoia. *Journal of Consumer Affairs, 40*(2), 392-406. https://doi.org/10.1111/j.1745-6606.2006.00063.x

Cacioppo, J. T., & Petty, R. E. (1985). Central and peripheral routes to persuasion: The role of message repetition. *Psychological processes and advertising effects, 911*.

Cacioppo, J. T., Petty, R. E., Losch, M. B., & Kim, H. S. (1986). Electromyographic activity over facial muscle regions can differentiate the valence and intensity of affective reactions. *Journal of Personality and Social Psychology, 50*, 260–268.

Cahyorini, A., & Rusfian, E. Z. (2012). The effect of packaging design on impulsive buying. *Bisnis & Birokrasi Journal, 18*(1).

Chen, J. C. C. (2014). The impact of nostalgic emotions on consumer satisfaction with packaging design. *Journal of Business and Retail Management Research, 8*(2), 71-79.

Chen, J. C. C. (2014). The impact of nostalgic emotions on consumer satisfaction with packaging design. *Journal of Business and Retail Management Research, 8*(2).

Cholewa-Wójcik, A., & Kawecka, A. (2015). The influence of effectiveness of packaging elements on the consumers' preferences with the use of marketing eye-tracking technique. *Modern Management Review, 20*, 49-61.

Christopoulos, G. I., Uy, M. A., & Yap, W. J. (2019). The body and the brain: Measuring skin conductance responses to understand the emotional experience. *Organizational Research Methods, 22*(1), 394-420

Coan, J. A., & Allen, J. J. (2003). State and trait of frontal EEG asymmetry in emotion. In K. Hugdahl & R. J. Davidson (Eds.), *The asymmetrical brain* (pp. 565-615). Cambridge, MA: MIT Press.

Cohen, M. X. (2011). It's about time. *Frontiers in Human Neuroscience, 5*, 2.

Cohn, J. F., Ambadar, Z., & Ekman, P. (2007). Observer-based measurement of facial expression with the Facial Action Coding System. In J. A. Coan & J. J. B. Allen (Eds.), *The handbook of emotion elicitation and assessment*. Oxford University Press Series in Affective Science (pp. 203-221). New York, NY: Oxford University.

Connolly, A., & Davison, L. (1996). How does design affect decision at point of sale? *Journal of Brand Management, 4*, 100-107.

Cooper, J., & Cooper, G. (2002). Subliminal motivation: A story revisited. *Journal of Applied Social Psychology, 32*(11), 2213–2227

Critchley, H. (2002). Review: Electrodermal responses: What happens in the brain. *The Neuroscientist, 8*(2), 132–142.

Davidson, R. J. (1983). Hemispheric specialization for cognition and affect. In A. Gale & J. Edwards (Eds.), *Physiological correlates of human behaviour*. London: Academic Press.

Deliza, R., & MacFie, H. (2001). Product packaging and branding. In *Food, people and society* (pp. 55-72). Berlin, Heidelberg: Springer.

Derbaix, C. M. (1995). The impact of affective reactions on attitudes toward the advertisement and the brand: A step toward ecological validity. *Journal of marketing research, 32*(4), 470-479.

Dimberg, U. (1981). Facial reactions to facial expressions. *Psychophysiology, 19*(6), 643-647.

Dimberg, U. (1986). Facial reactions to fear-relevant and fear-irrelevant stimuli. *Biological Psychology, 23*, 153–161.

Dimberg, U., Thunberg, M., & Elmehed, K. (2000). Unconscious facial reactions to emotional facial expressions. *Psychological science, 11*(1), 86-89.

dos Santos, R. D. O. J., de Oliveira, J. H. C., Rocha, J. B., & Giraldi, J. D. M. E. (2015). Eye tracking in neuromarketing: A research agenda for marketing studies. *International Journal of Psychological Studies, 7*(1), 32.

Edell, J. A., & Burke, M. C. (1987). The power of feelings in understanding advertising effects. *Journal of Consumer research, 14*(3), 421-433.

Ekman, P., & Friesen, W. V. (1978). *Facial action coding system: A technique for the measurement of facial movement.* Palo Alto: Consulting psychologists press.

Ekman, P., Freisen, W. V., & Ancoli, S. (1980). Facial signs of emotional experience. *Journal of Personality and Social Psychology, 39*(6), 1125.

Essa, I. A., & Pentland, A. P. (1997). Coding, analysis, interpretation, and recognition of facial expressions. *IEEE Transactions on Pattern Analysis and Machine Intelligence, 19*(7), 757–763.

Falk, E. B., Berkman, E. T., & Lieberman, M. D. (2012). From neural responses to population behavior: Neural focus group predicts population-level media effects. *Psychological Science, 23*(5), 439–445.

Fowles, D. C., Christie, M. J., Edelberg, R., Grings, W. W., Lykken, D. T., & Venables, P. H. (1981). Publication recommendations for electrodermal measurements. *Psychophysiology, 18*(3), 232–239.

Frank, M., Hwu, T., Jain, S., Knight, R., Martinovic, I., Mittal, P., ... & Song, D. (2013). *Subliminal probing for private information via EEG-based BCI devices*. arXiv preprint arXiv:1312.6052.

Fridlund, A. J., Schwartz, G. E., & Fowler, S. C. (1984). Pattern recognition of self-reported emotional state from multiple-site facial EMG activity during affective imagery. *Psychophysiology, 21*, 622–637.

Frontiers: Planning for Consumer Change in Europe 1996/1997 (1996), Henley Centre. Cited in Connolly & Davison (1996) op.cit, pp. 100-101.

Glaenzer, E. (2016). Are the Brain and the Mind One? Neuromarketing and How Consumers Make Decisions. Sci , Technol Soc Honor Thesis. 2016:53. http://digitalcommons.colby.edu/cgi/ viewcontent. cgi?article=1831andcontext=honorstheses

Glimcher, P. W., Camerer, C. F., Fehr, E., & Poldrack, R. A. (2009). Introduction: a brief history of neuroeconomics. In P. W. Glimcher, C. F. Camerer, E. Fehr, R. A. Poldrack (Eds.), *Neuroeconomics: decision making and the brain* (pp. 1-12). Amsterdam: Academic.

Goldman, R. I., Stern, J. M., Engel, J., Jr, & Cohen, M. S. (2002). Simultaneous EEG and fMRI of the alpha rhythm. *Neuroreport, 13*(18), 2487–2492. https://doi:10.1097/01.wnr.0000047685.08940.d0

Gribbons, B., & Herman, J. (1996). True and quasi-experimental designs. *Practical assessment, research, and evaluation, 5*(1), 14.

Groenland, E. A., & Schoormans, J. P. (1994). Comparing mood? Induction and affective conditioning as mechanisms influencing product evaluation and product choice. *Psychology & Marketing, 11*(2), 183-197.

Gutnik, L. A., Hakimzada, A. F., Yoskowitz, N. A., & Patel, V. L. (2006). The role of emotion in decision-making: A cognitive neuroeconomic approach towards understanding sexual risk behavior. *Journal of Biomedical Informatics, 39*(6), 720-736.

Holbrook, M. B., & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of consumer research, 14*(3), 404-420.

Hopkins, R., & Fletcher, J. E. (1994). Particularly effective for forecasting message influence on sales appeal. In A. Lang (Ed.), *Measuring psychological responses to media messages* (pp. 113–132). Mahwah, NJ: Erlbaum.

Johnson, E. S. (1984). Sex differences in problem solving. *Journal of Educational Psychology, 76*(6), 1359.

Karremans, J. C., Stroebe, W., & Claus, J. (2006). Beyond Vicary's fantasies: The impact of subliminal priming and brand choice. *Journal of Experimental Social Psychology, 42*(6), 792-798.

Kensinger, E. A., & Schacter, D. L. (2006). Processing emotional pictures and words: Effects of valence and arousal. *Cognitive, Affective, & Behavioral Neuroscience, 6*(2), 110–126.

Kerr, G., Schultz, D., Patti, C., & Kim, I. (2008). An inside-out approach to integrated marketing communication: An international analysis. *International Journal of Advertising, 27*(4), 511-548.

Klass, B. (1958). The ghost of subliminal advertising. *Journal of Marketing, 23*(2), 146-150.

Klimesch, W. (2012). Alpha-band oscillations, attention, and controlled access to stored information. *Trends in Cognitive Sciences, 16*(12), 606–617.

Kotler, P., Burton, S., Deans, K., Brown, L., & Armstrong, G. (2013). *Marketing* (9th ed.). Pearson.

Kotze, H. F. and Moller, A. T. 1990. Effect of auditory subliminal stimulation on GSR. *Psychological Reports, 67*, 931-934.

LaBarbera, P. A., & Tucciarone, J. D. (1995). GSR reconsidered: A behavior-based approach to evaluating and improving the sales potency of advertising. *Journal of Advertising Research, 35*(5), 33–54.

Lane, R. D., Chua, P. M., & Dolan, R. J. (1999). Common effects of emotional valence, arousal and attention on neural activation during visual processing of pictures. *Neuropsychologia, 37*(9), 989–997.

Lang, P. J., Greenwald, M. K., Bradley, M. M., & Hamm, A. O. (1993). Looking at pictures: Affective, facial, visceral, and behavioral reactions. *Psychophysiology, 30*(3), 261–273.

Langleben, D. D., Loughead, J. W., Ruparel, K., Hakun, J. G., Busch-Winokur, S., Holloway, M. B., ... Lerman, C. (2009). Reduced prefrontal and temporal processing and recall of high 'Sensation Value' ads. *Neuroimage, 46*(1), 219–225

Larsen, J. T., Norris, C. J., & Cacioppo, J. T. (2003). Effects of positive and negative affect on electromyographic activity over zygomaticus major and corrugator supercilii. *Psychophysiology, 40*(5), 776-785.

Lewinski, P., Fransen, M. L., & Tan, E. S. (2014). Predicting advertising effectiveness by facial expressions in response to amusing persuasive stimuli. *Journal of Neuroscience, Psychology, and Economics, 7*(1), 1-14.

Magosso, E., De Crescenzio, F., Ricci, G., Piastra, S., & Ursino, M. (2019). EEG alpha power is modulated by attentional changes during cognitive tasks and virtual reality immersion. *Computational Intelligence and Neuroscience, 33*, 34.

Mehta, A., & Purvis, S. C. (2006). Reconsidering recall and emotion in advertising. *Journal of Advertising research, 46*(1), 49-56.

Mitchell, A. A., & Olson, J. C. (1981). Are product attribute beliefs the only mediator of advertising effects on brand attitude?. Journal of marketing research, 18(3), 318-332.

Moore, T. E. (1982). Subliminal advertising: What you see is what you get. *Journal of Marketing, 46*(2), 36-47.

Nill, A., & Schibrowsky, J. A. (2007). Research on marketing ethics: A systematic

review of the literature. *Journal of Macromarketing, 27*, 256–273.

North, A. C., Hargreaves, D. J., & McKendrick, J. (1997). In-store music affects product choice. *Nature, 390*(6656), 132-132.

Ohme, R., Reykowska, D., Wiener, D., & Choromanska, A. (2009). Analysis of neurophysiological reactions to advertising stimuli by means of EEG and galvanic skin response measures. *Journal of Neuroscience, Psychology, and Economics, 2*(1), 21.

Pieters, R. G., & de Klerk-Warmerdam, M. (1996). Ad-evoked feelings: Structure and impact on Aad and recall. *Journal of Business Research, 37*(2), 105-114.

Pieters, R., & Wedel, M. (2004). Attention capture and transfer in advertising: Brand, pictorial, and text-size effects. *Journal of Marketing, 68*(2), 36–50.

Poels, K., & Dewitte, S. (2006). How to capture the heart? Reviewing 20 years of emotion measurement in advertising. *Journal of Advertising Research, 46*(1), 18-37.

Price, T. F., & Harmon-Jones, E. (2010). The effect of embodied emotive states on cognitive categorization. *Emotion, 10*(6), 934.

Ramsøy, T. Z., & Overgaard, M. (2004). Introspection and subliminal perception. *Phenomenology and the Cognitive Sciences, 3*(1), 1–23.

Ravaja, N. (2004). Contributions of psychophysiology to media research: Review and recommendations. *Media Psychology, 6*(2), 193–235.

Reimann, M., Schilke, O., Weber, B., Neuhaus, C., & Zaichkowsky, J. (2011). Functional magnetic resonance imaging in consumer research: A review and application. *Psychology & Marketing, 28*(6), 608–637.

Rettie, R. and Brewer, C. (2000). The verbal and visual components of package design. *Journal of Product & Brand Management, 9*(1), 56-70.

Sauvage, M. C. (2013). *Is neuromarketing the future of politics? A look into an emerging field that shows promise for those who are trying to find out how people think, what they care about, and what makes them vote*. https://scholarspace.library.gwu.edu/concern/gw_etds/7s75dc39s?locale=zh

Schifferstein, H. N. (2009). The drinking experience: Cup or content?. *Food Quality and Preference, 20*(3), 268-276.

Schwartz, G., Brown, S., & Ahem, G. (1980). Facial muscle patterning and subjective experience during affective imagery: Sex differences. *Psychophysiology, 17*, 75-82.

Shimp, T. (2003). *Advertising, promotion and supplemental aspects of integrated marketing communications*. Thomson Learning.

Silayoi, P., & Speece, M. (2007). The importance of packaging attributes: A conjoint analysis approach. *European Journal of Marketing, 41*, 1495-1517.

Smarandescu, L., & Shimp, T. A. (2015). Drink coca-cola, eat popcorn, and choose powerade: Testing the limits of subliminal persuasion. *Marketing Letters, 26*(4), 715–726. https://doi.org/10.1007/s11002-014-9294-1

Smets, G. J., & Overbeeke, C. J. (1995). Expressing tastes in packages. Design studies, 16(3), 349-365.

Stanton, S. J., Sinnott-Armstrong, W., & Huettel, S. A. (2017). Neuromarketing: Ethical implications of its use and potential misuse. *Journal of Business Ethics, 144*(4), 799–811.

Sur, R. (2015). *Impact of subliminal messages on consumer behavior: A fresh look into the future.*

Teplan, M. (2002). Fundamentals of EEG measurement. *Measurement Science Review, 2*(2), 1–11.

Tomarken, A. J., Davidson, R. J., Wheeler, R. E., & Kinney, L. (1992). Psychometric properties of resting anterior EEG asymmetry: Temporal stability and internal consistency. *Psychophysiology, 29*(5), 576–592.

Towers, D. N., & Allen, J. J. (2009). A better estimate of the internal consistency reliability of frontal EEG asymmetry scores. *Psychophysiology, 46*(1), 132–142.

Trappey, C. (1996). A meta-analysis of consumer choice and subliminal advertising. *Psychology & Marketing, 13*(5), 517–530.

Vashishta, D. S., & Balaji, B. (2012). Social cognitive neuroscience, marketing persuasion and customer relations. *Procedia-Social and Behavioral Sciences, 65*, 1033–1039.

Vazquez, D., Bruce, M. and Studd, R. (2003). A case study exploring the packaging design management process within a UK food retailer. *British Food Journal, 105*(9) 20-31.

Venkatraman, V., Clithero, J. A., Fitzsimons, G. J., & Huettel, S. A. (2012). New scanner data for brand marketers: How neuroscience can help better understand difference in brand preferences. *Journal of Consumer Psychology, 22*, 143-153.

Wedel, M., & Pieters, R. (2000). Eye fixations on advertisements and memory for brands: A model and findings. *Marketing Science, 19*(4), 297–312.

Wells, L. E., Farley, H., & Armstrong, G. A. (2007). The importance of packaging design for own-label food brands. *International Journal of Retail & Distribution Management, 35*(9), 677-690.

Wolf, K. (2015). Measuring facial expression of emotion. *Dialogues in Clinical Neuroscience, 17*(4), 457.

Yan, X., Andrews, T. J., & Young, A. W. (2016). Cultural similarities and differences in perceiving and recognizing facial expressions of basic emotions. *Journal of Experimental Psychology: Human Perception and Performance, 42*(3), 423.

Zurawicki, L. (2010). *Neuromarketing: Exploring the brain of the consumer.* Boston, MA: Springer.

Journal of Euromarketing, 29: 104-115, 2020
Copyright © IMDA Press
ISSN: 1049-6483 print / 1528-6967 online

IMDA Press

Where has the Forbearance Gone? A Critique of the Contemporary Chinese Cultural Values Models

Bernard Lee
Oliver H. M. Yau

ABSTRACT. Forbearance, commonly called Ren among Chinese, has a unique meaning in Chinese culture. It is a principal value that is commonly practiced by the Chinese, whether it is related to personal cultivation, getting along with other people, maintaining network with others, developing Guanxi in a business relationship, or handling chaotic problems such as the escalating pandemic. However, Ren has seldom been systemically studied by academic researchers and incorporated in theories or models that explain Chinese behaviors. With Ren in mind, this paper aims to provide a comprehensive overview of contemporary models on Chinese cultural values and highlight the importance of the Chinese value, Ren, in the business academia. First, this paper will describe and critique the six contemporary cultural value models: the Value Orientation Model of Kluckhohn and Strodtbeck (Kluckhohn & Strodtbeck, 1961; Watkins & Gnoth, 2011), Hofstede's Cultural Dimensions (Hofstede, 1980), Rokeach Value Survey (Rokeach, 1973), Chinese Value Survey (Bond,1988), Schwartz Value Survey (Schwarz, 1992) and the Chinese Cultural Value Scale (Yau, 1994). Then, we discuss how the missing Chinese value of Ren can fill the gap.

KEYWORDS. Forbearance, Ren, Chinese Cultural Values, Business Relationship.

INTRODUCTION

During the past decades, scholars have addressed the significant impact of cultural values on business practice, particularly on the business relationship (Hofstede, 1980; Evans et al., 1987; Shane, 1994; Newman & Nollen, 1996; Kessapidou & Varsakelis, 2002). Cultural values affect the conduct of different kinds of businesses, regardless of firm types, such as business-to-business (B2B) or business-to-customer (B2C). Therefore, intercultural understanding is essential. Nonetheless, culture is sophisticated and challenging to analyze and predict, but we need a greater understanding to comprehend the role played by cultural values. This phenomenon is more apparent in Chinese cultures that provide the scale and pace of the economic development of China (Sin, Tse, Yau, Chow, & Lee, 2005).

Bernard Lee, Ph.D. is a Visiting Assistant Professor of Marketing, School of Management and Economics, The Chinese University of Hong Kong, Shenzhen, Shenzhen, the PRC and Oliver H. M. Yau, Ph.D. Distinguished and Honorary Professor of Marketing at the Open University of Hong Kong, Hong Kong SAR.

Address correspondence to Dr. Bernard Lee, School of Management and Economics, The Chinese University of Hong Kong, Shenzhen, Shenzhen, the PRC, E-mail: bernardlee2007@gmail.com

Aspects of Chinese culture have a significant impact on business relationships. According to Confucianism, human beings are socially connected, and in this sense, we should establish good relationships in business, which serve as an essential social investment in the community (Yau et al., 2000). In the Chinese community, personal influence is sometimes more vital than legislative influence. Good business relationships can even resolve bureaucracy in the private and public sectors. Chinese people are good at using their relationships to ask influential people for favors. For Chinese people, a business relationship can add value to the goods and services in the business transaction (Luk et al., 2008; Chow & Yau, 2005). The typical Chinese network of business and personal relationships, which is known as Guanxi, can safeguard people's interests in the Chinese business context (Luo et al., 2012; Park & Luo, 2001; Lovett et al., 1999; Bedford, 2011).

AN OVERVIEW OF THE CONTEMPORARY CHINESE VALUE MODELS

During the last three decades, we have found six most extensively quoted models of cultural values in academia as follows.

1. Kluckhohn and Strodtbeck Value Orientations (Kluckhohn & Strodtbeck, 1961; Watkins & Gnoth, 2011),
2. Rokeach Value Survey (RVS; Rokeach, 1973),
3. Hofstede's Cultural Dimensions (Hofstede, 1980),
4. Chinese Value Survey (CVS; Bond,1988),
5. Schwartz Value Survey (SVS; Schwarz, 1992).
6. Chinese Cultural Value Scale (CCVS; Yau, 1994)

We will elaborate on each model in the following sections.

Kluckhohn and Strodtbeck Cultural Values

Based on the value orientation model of Kluckhohn and Strodtbeck (Kluckhohn & Strodtbeck, 1961; Watkins & Gnoth, 2011), there are five orientations. These orientations are man-nature, man-himself, relational, time, and personal-activity. Man-nature orientation refers to the relationship between people and nature. Man-himself orientation refers to the relation of a person to himself or herself. Relational orientation refers to the relationship of a human being to others, while time orientation means the time preference of people among past, present, or future time. Finally, personal-activity orientation relates to the motivation for behavior.

Kluckhohn and Strodtbeck (1961) forwarded five fundamental problems by which to understand further cultural values:

A. Man-nature orientation: What is the relationship between human beings and their natural landscape—harmony, domination, or obedience?
B. Man-himself orientation: What is the original nature of human beings—evil, good, or a combination of both?
C. Relational orientation: How should people get along with others—based on their individuality, in the pecking order, or as the same?
D. Time orientation: On what orientation of time should a society primarily aim at—future, present, or past?
E. Personal-activity orientation: What is the principal motive for our behavior—to convey one's existence, to develop, or to accomplish?

Yau (1994) further elaborated the model into 12 sub-dimensions, which we will explain later.

Rokeach Value Survey

Rokeach (1973) classified the value system into two dimensions of values, namely, terminal and instrumental, in the Rokeach Value Survey (RVS; Rokeach 1973). Terminal values refer to ideal end-states of presence, which are goals people could attain throughout their lifespan. For instance, these goals could include mature love, true friendship, happiness, and self-respect. Importantly, we should note that terminal values are culture specific.

Meanwhile, instrumental values refer to desirable actions for attaining terminal values. These values include ambition, cheerfulness, cleanliness, self-control, and love. Each dimension of values has 18 terminal and 18 instrumental value items. Ren may belong to self-control under the instrumental value items. Although Rokeach's scale can be adopted to relate to the Chinese culture, Rokeach did not consider Ren explicitly. Many cultural values mentioned in the above dimensions

are primarily western-oriented, and therefore, establishing a genuine Chinese cultural values system based on Chinese perspectives is needed (Chan & Rossiter, 1998).

Hofstede's Cultural Dimensions

The Hofstede cultural model is one of the most frequently quoted cultural models in the literature. The original Hofstede Cultural Dimensions (Hofstede, 1980) included four cultural dimensions, namely, power distance, uncertainty avoidance, masculinity versus femininity, and individualism versus collectivism. Subsequently, Hofstede and Bond (1988) considered the fifth dimension as Confucian dynamism, which is known as long-term versus short-term orientation. With the help of Minkov's work, another study (Hofstede, Hofstede, & Minkov, 2010) ascertained the sixth dimension: indulgence versus restraint. Although the Hofstede model has been commonly quoted as one of the most inclusive value frameworks, the model has several severe drawbacks, as below.

- Sample bias was inevitable, and survey results may be doubtful given that data of the original Hofstede Cultural Dimensions were exclusively collected from IBM employees in the 1960s and 1970s.
- Hofstede's (1980, 1994) dimension of individualism versus collectivism is a polar scale. Hofstede (1980) did not mention that Ren is one of the fundamental Chinese cultural values in the Hofstede Cultural Value dimension scale. However, Hofstede's scale is only a general description of cultural attributes without clearly explaining Ren, which is one of the essential Chinese cultural values. Yang (1992) did not agree that the Chinese are collectivistic. Instead, he argued that Chinese people are social-oriented, which he referred to as the interaction between the authority and the subordinate, and Chinese reliance on relationships (Yang, 1992).
- Most cultural values mentioned in the Hofstede Cultural Dimensions seem to be primarily western-based, and thus, adapting them to a Chinese value system would be extremely challenging (Fang, 2003).
- Some Hofstede Cultural Dimensions are overlapping with each other. Theoretically, the Confucian dynamism embraces numerous Confucian values other than long-term orientation. Interestingly, collectivism may be classified as a Confucian value, though not exact, leading to lacking discriminant validity.
- The number of dimensions in the Hofstede Cultural Dimensions is still growing, indicating that the scale is lacking content and construct validities.
- The scale of Hofstede's four dimensions is not wide enough to depict the genuine Chinese culture as compared with Rokeach's terminal and instrumental values, which comprise 36 value items.

Chinese Value Survey

The Chinese Value Survey (CVS) is a scale established by Bond (1988). He divides the scale into four subscales, namely, CVS1 to CVS4. The survey consists of 39 value statements, which are based on Chinese culture. CVS1 relates to integrity and tolerance, CVS2 measures Confucian ethos, CVS3 characterizes loyalty to ideals and humanity, and CVS4 embodies moderation and moral discipline. CVS1 has 17, CVS2 has 10, CVS3 has 9, and CVS4 has three value statements. Similar to the Chinese Cultural Value Scale (Yau 1994), this is one of the few cultural value scales that emerged in the 1980s to explain Chinese behaviors. However, Bond's scale suffers from the following weaknesses.

- Some of the attributes in the CVS scale overlap with each other. For example, Bond mentions tolerance in the dimension of integrity and tolerance, but we do not find both tolerance and Confucian ethos represented in CVS, respectively.
- Although tolerance has a similar meaning as Ren, it is only signified in the first dimension of the CVS. However, in CVS2, the dimension Confucian ethos does not include Ren even if Confucianism places much emphasis on Ren.
- Given that CVS does not seem to be driven by theory, some of the Chinese culture values may be either over-represented or lost (Chan & Rossiter, 1998).

Schwartz Value Survey

In the Schwartz Value Survey (SVS, 1992), Schwartz theorized eleven types of primary motivational values, namely, power, self-direction, universalism, hedonism, stimulation, tradition, conformity, benevolence, achievement, spirituality, and security. Similarly, Ren is not even mentioned, even though SVS claims to be a universal value system

(Schwarz, 1992). Arguably, there are a few apparent weaknesses with the Schwartz Value Survey.

First, the comprehensiveness of the values is in doubt, such as forbearance, also known as Ren, is missing in the value content (Lee & Yau, 2018).

Second, we were not informed of how these 11 types of value were found. No sound qualitative analysis leading to this "grounded theory" was mentioned, nor a borrowed theory on which these 11 value types were based.

Third, the equivalence of meaning seems to be a significant issue (Chow & Yau, 2007). For instance, harmony is an essential Chinese value which is not mentioned in the Schwartz Value list. Though unity with nature under the value of universalism may share some of the meaning of harmony, the true meaning of harmony nonetheless includes internal peace within a person's mind, and the relationship between people (Chow & Yau, 2007; Lee & Tsui, 2018; Au, Chow, & Yau, 2010).

Fourth, the sample frame was biased, as it only included 200 teachers in grade 4 to grade 10 of each researched country (Vauclair, Hanke, Fischer & Fontaine, 2011, Schwarz, 1992). We argue that Schwartz's narrow way of defining the sample significantly curtailed the representation of his survey.

Fifth, Schwarz's work suffers severely from a technical perspective. Cronbach alpha coefficients of various dimensions were found lower than the threshold of 0.7, indicating that some dimensions were not reliable. For validity, we are not able to find how dimensions of values were developed. Multidimensional scaling technique was not employed together with cluster analysis to elucidate the operationalization of 11 types of value. Further, three essential forms of validity, discriminant, convergent, and nomological validity, were not assessed.

Chinese Cultural Value Scale

According to the Chinese Cultural Value Scale (CCVS) (Yau, 1994, 1988, 1986), Yau (1994) presented 40 statements and 12 dimensions of Chinese cultural values, which he developed from the five dimensions of the value orientation model of Kluckhohn and Strodtbeck (1961). As such, CCVS receives a secure theoretical backup. To operationalize the dimensions of Chinese values, Yau gathered 100 Chinese proverbs and then invited a panel of Chinese experts in Hong Kong to screen out the final values from 66 items to 40 items (Yau, 1986). Therefore, the face and content validity of the CCVS was ensured. Using a representative sample of Hong Kong, the survey successfully reflected the development of a scale for genuinely Chinese values. However, the CCVS still suffers from some drawbacks.

First, Yau (1986) did not attempt to make a separate construct for the concept of Ren in the CCVS, although Lee and Yau's (2018) later considered Chung Yung as a dimension of Ren in their study.

Second, although the reliability of CCVS was found reliable, the assessment of its various forms of validity: discriminant, convergent, and nomological, was still lacking.

Of the above six models, only two are Chinese-culture specific. Although Kluckhohn and Strodtbeck's model has nothing to do with Chinese values, it became the foundation of CCVS when Yau adopted and painted it with 12 Chinese values dimensions. Hence, it seems appropriate to examine CCVS again to check if there are research gaps from the Ren perspective. In the following, we will first elaborate on the value orientation model of Kluckhohn and Strodtbeck, as depicted in Figure 1. Then we conduct a literature review on each dimension from which we can identify research gaps that needed fulfilling.

Man-nature Orientation

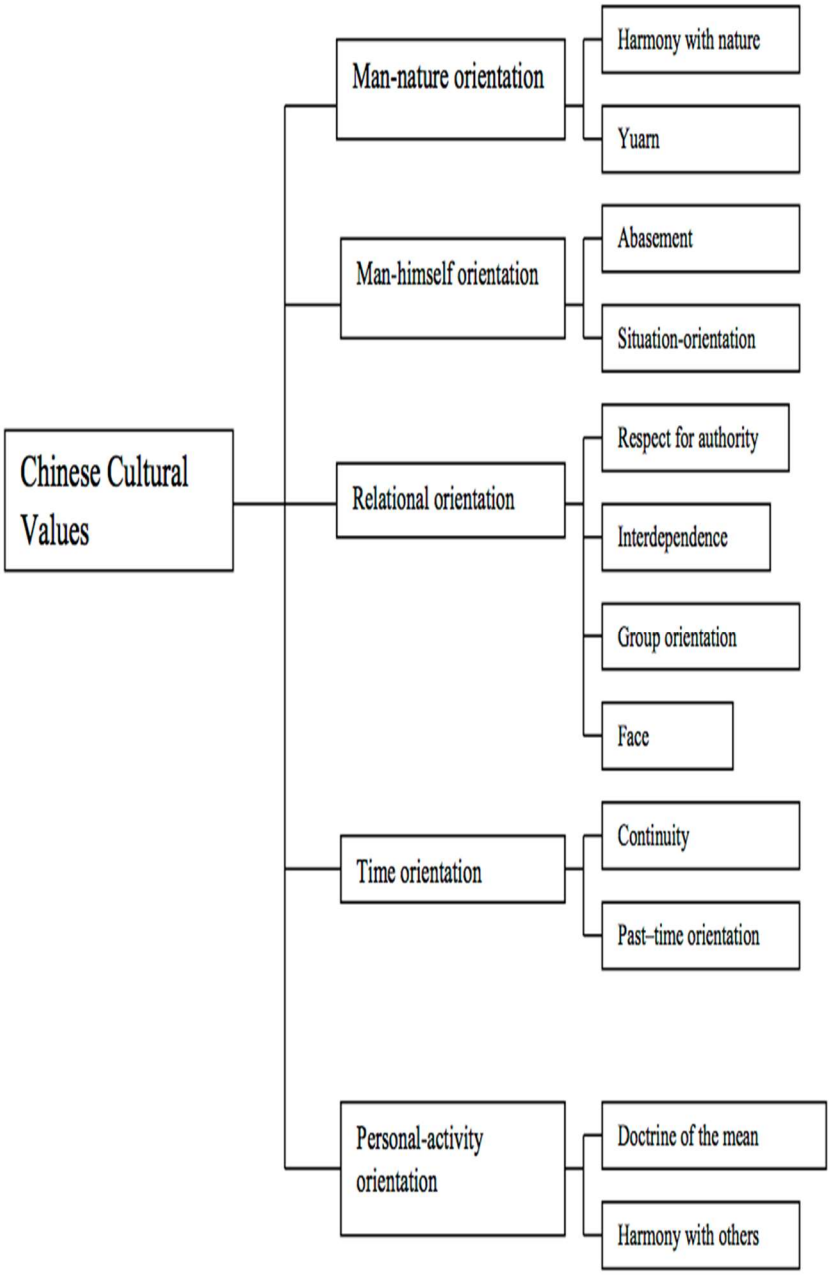
Man-nature orientation includes two sub-dimensions: Harmony with nature (Chow & Yau, 2005) and "yuarn." Man and nature can be described as a "unified system of cosmology with all sorts of analogies between the natural and human worlds" (Rubin, 1982). Interaction between man and nature exists. Contrary to Western philosophy, Chinese philosophy suggests that man needs to adjust to nature, but not conquer it (Yau, 1994). Besides, Confucius explains, "Man reveals the Tao, but the Tao does not reveal the man" (Analects 15.29, trans. Muller, 2020). Harmony is another essential Chinese cultural value that has a close relationship with Ren, which has been widely researched before (Chow & Yau, 2005; Fang, 2000; Ching, 1995; Tang, 1996).

The second important element of man-nature orientation is yuarn, which refers to the causes of two things happening at the same time (Cheng & Yau, 2006). Yuarn is similar to karma, which is an essential belief in Buddhism. In Chinese culture, people believe that even though thousands of miles

separate two persons, they can still meet with each other if they have yuarn. Of course, this idea might be supernatural, but this belief is an integral part of Chinese culture.

.

Figure 1. Classification of Chinese Cultural Values



Adopted from Yau (1994, p.68)

Man-himself Orientation

Man-himself orientation relates to abasement and situation orientation (Yau, 1994). Abasement

refers to the humbleness of a person. Chinese people believe that both self-effacement and modesty are essential virtues that are cultivated when children are young. Situation orientation explains that human beings respond differently under different circumstances (Hsu, 1963). Chinese people are pragmatic rather than idealistic when dealing with reality (Hsu, 1963), and compromise is commonly applied in different social contexts. Many areas in the man-himself orientation have not yet been fully developed, and therefore, this research will focus on this orientation.

Relational Orientation

In general, Guanxi refers to relationship orientation in Chinese culture. In Chinese society, Guanxi is a specific interpersonal bond that builds expectations and responsibilities to ease the exchange of individual resources (Lovett, Simmons, & Kali, 1999). Guanxi can enhance business performance (Luk et al., 2008; Su & Littlefield, 2001; Lee et al., 2001; Park & Luo, 2001; Xin & Pearce 1996; Yeung & Tung, 1996), making it a distinctive characteristic of the Chinese community (Lovett, Simmons, & Kali, 1999). The Guanxi network qualifies business firms to access resources via collaborations and exchanges (Tsang, 1998; Lee, Pae, & Wong, 2001; Park & Luo, 2001; Wang, 2007; Li, Poppo, & Zhou, 2008). Guanxi is also a unique way to bond business partners cohesively through reciprocity (Tsang, 1998; Luo, 1997; Yang, 1994).

Relational orientation comprises four elements, namely, respect for authority (Foo & Kazantzis, 2007), interdependence (Lovett, Simmons, & Kali, 1999; Tsang, 1998; Luo, 1997; Yang, 1994), group orientation (Chang, 2011; Tsang, 1998; Lee, Pae, & Wong, 2001; Park & Luo, 2001; Wang, 2007; Li, Poppo & Zhou, 2008), and Face (Ji, 2000; Hu, 1944; Kwek & Lee, 2010). Respect for authority refers to the Chinese tendency to have a strong respect for authority, e.g., parents and teachers. Moreover, Chinese people much rely on or trust authority. This Chinese tradition can be justified by the Confucian five cardinal relationships. Interdependence refers to the Chinese norm of "doing favors." Chinese people are very conscious about honoring each other using giving gifts or red packet money. In the business world, Chinese people believe that doing favors can facilitate or ease transactions. The group orientation is similar to Hofstede's collectivistic trait of Chinese people. In this sense, the priority of Chinese people is to safeguard their kinship. A Chinese saying, "People who carry the same surname are far more intimate than other people who carry different surnames," can genuinely reflect this rule-of-thumb, close kinship relationship. In other words, a more similar ground prevails between two parties, and it is more likely that these groups have tight Guanxi (Jacobs, 1979). The third element of relational orientation is Face, which includes "lien" and "mien-tsu" (Hu, 1944). Lien refers to the social judgment on individual morality, and if the person loses one's integrity, one will find difficulty in pursuing a norm in society (Hu, 1944). Meanwhile, mien-tsu represents the prestige or reputation acquired from accomplishments and showiness (Hu, 1944). When comparing lien and mien-tsu, the former is more vital than the latter as the latter can be redeemed more straightforwardly when a person misses it (Kwek & Lee, 2010). Although relational orientation has been well developed since Yau (1994), mien-tsu needs further empirical investigation in the marketing context.

Time orientation

Time orientation discusses past-time orientation and continuity. Traditionally, Chinese people prefer more past-time orientation (Yau, 1994) and respect for their culture and thousands of years of Chinese history (Van Oort, 1970). Typical examples include the worship of ancestors and strong family traditions. Continuity signifies that Chinese people appreciate or believe that the connections with objects and other people last for a lifetime. For example, Chinese people may say, "Once you are my teacher, I will consider you like my father forever."

Personal-activity Orientation

Personal-activity orientation includes the Doctrine of the Mean (trans. Legge 1969) and harmony with others (Chow & Yau, 2005). The Doctrine of the Mean translates to "without leaning against one side" (Legge, 1969). According to Confucianism, a person should follow and not disobey proper rules (Legge, 1969). Harmony with others refers to the relationship between a person and other people (Fang, 2000), and is considered an essential element among Chinese. Confucius mentions, "Harmony is the value of performing the rites" (Analects 1.2, trans. Muller, 2020) (Fang, 2000; Ching, 1995).

Tang (1996) found that self-cultivation is a means to enhance interpersonal relationships among Chinese people. In other words, maintaining harmonious relationships with others is the goal. As mentioned, harmony is another essential Chinese cultural value.

RESEARCH GAPS IN THE CLASSIFICATION OF CHINESE CULTURAL VALUES

As discussed previously, for the Classification of Chinese Cultural Values (CCCV), Yau (1994) suggested 12 dimensions of Chinese cultural values developed from the five dimensions of the Value Orientation Model of Kluckhohn and Strodtbeck (1961). Ren is highly related to Yau's CCCV, as research gaps can be found in CCCV. However, Ren has not explicitly been mentioned nor researched before in CCCV. Scholars have extensively studied some of the dimensions. The results and research gaps are listed in Table 1.

Among all the values in the Value Orientation Model, relational orientation has been frequently researched and is easily understood as the concept that is related to the enhancement of business (Barnes, Yen, & Zhou, 2011; Wang, 2007; Sin et al., 2005; Yau et al., 1999). For man-nature orientation, harmony (Barnes et al., 2011; Chow, 2004; Hofstede, 1980) and yuarn (Cheng & Yau, 2006) have also been studied by researchers. However, man-nature orientation is not the primary focus of this paper. Nonetheless, harmony is a significant Chinese cultural value.

Table 1. Twelve Dimensions of the Classification of Chinese Cultural Values Developed by Yau (1994)

12 Dimensions of Chinese Cultural Values	Studies that Cover the Dimensions	Research Gaps
Man-nature Orientation		
1. Harmony with nature	Hofstede, 1980; Chow, 2004; Barnes et al., 2011	*Has been researched before*
2. Yuarn	Cheng and Yau, 2006	*Has been researched before*
Man-himself Orientation		
3. Abasement	Hsu, 1963; Yau, 1994	*Has been researched before*
4. Situation-orientation	*Missing*	*Gap: Ren has not explicitly been mentioned nor researched before*
Relational Orientation	Luk et al., 2008; Su and Littlefield, 2001; Lee et al., 2001; Park and Luo, 2001; Xin and Pearce 1996; Lee et al., 2001; Yeung and Tung, 1996; Lovett, Simmons and Kali, 1999	
5. Respect for authority	Foo and Kazantzis, 2007	*Has been well developed*
6. Interdependence	Lovett, Simmons, and Kali, 1999; Tsang, 1998; Luo, 1997; Yang, 1994	*Has been well developed*
7. Group orientation	Chang, 2011; Tsang, 1998; Lee, Pae and Wong, 2001; Park and Luo, 2001; Wang,	*Has been well developed*

	2007; Li, Poppo and Zhou, 2008	
8. Face	Ji, 2000; Hu, 1944; Kwek and Lee, 2010	*Has been well developed*
Time Orientation		
9. Continuity	Van Oort, 1970	*Seldom been examined in the past*
10. Past time orientation	Yau, 1994	*Seldom been examined in the past*
Personal Activity Orientation		
11. The Doctrine of the Mean	Legge, 1960; Chow, 2003	*Gap: Seldom been examined in the past; Ren adopts the Doctrine of the Mean*
12. Harmony with others	Chow, 2003; Fang, 2000; Ching, 1995; Tang,1996;	*Has been researched before*

Relational orientation is called Guanxi in Chinese culture. Scholars have extensively studied all four elements of relational orientation, namely, respect for authority, interdependence, group orientation, and Face (Luk et al., 2008; Su & Littlefield, 2001; Lee et al., 2001; Park & Luo, 2001; Xin & Pearce 1996; Lee et al., 2001; Yeung & Tung, 1996; Lovett, Simmons, & Kali,1999). Therefore, relational orientation is not the focus of this paper. Given that many scholars have researched the concept of Guanxi, this paper augments such studies by examining the impact of the essential Chinese cultural value, Ren, on a business-to-customer relationship and business practice, which are more important than just studying Guanxi.

WHERE HAS THE REN GONE?

In the Value Orientation Model, the Chinese culture of Ren seems to emerge as *a substantial gap* for further investigation based on the following reasons. The research gap is not about a new model for cultural values, but about the research gaps in our understanding of the identified Chinese cultural value of Ren, which affects business practice.

First, Ren has yet to be investigated according to the Chinese literature in the marketing and management context. Ren is a typical Chinese value of man-to-himself, but the concept is rarely mentioned in the Value Orientation Model. Ren is the construct that fits into the situation orientation dimension under man-himself orientation, and this is because Ren demands self-awareness, self-discipline, and Forbearance (Hartz, 2009). Besides, Ren is an essential subject in the daily life of Chinese people. From the parents' viewpoint, the concept of education is essentially a one-way indoctrination, in which the children are trained to practice Ren under different situations. In fact, in the Children's Guide, Zhu Xi comprehensively explains the rules and regulations for children. For example, children are joyful to speak in gentle tones and to express themselves softly and slowly (Zhu, Yen, & Liu, 2002). Thus, the Chinese value of Ren seems to come forth as a substantial gap for further investigation.

Second, in Chinese society, Ren is a value that has been highly internalized and practiced daily (Yang, 1992; Man, 1988; Leung, 1982). The daily practice of Ren in Chinese culture enhances one's determination, energy, happiness, and self-respect (Yang, 1992). Without a deeper understanding of Ren, using modern research methodology to explore the Chinese literature seems incomplete.

Third, Ren is an essential value on an individual level. Ren is a value categorized under the personal activity orientation but has not been explicitly expressed (Yau, 1994). The Doctrine of the Mean (trans. Legge, 1969) is highly related to and is reflected by Ren.

Fourth, Ren has some similarities with the meaning of forbearance, but the meaning of Ren is

more rooted in the Chinese context (Hartz, 2009). However, Ren has not been empirically researched in the Western academic world. Even a few decades after the establishment of the Value Orientation Model (Kluckhohn & Strodtbeck, 1961), this gap has not yet been filled. Therefore, this research study places significant emphasis on the importance of the Chinese value of Ren.

Fifth, various studies on Ren based on major Chinese philosophies are missing. As explained by Yang (1994), the Chinese culture stresses quality and the value of a group or social orientation, and in this sense, Ren is not a stand-alone value. Ren and related constructs are necessary to build a model of Ren in the business context.

Finally, given that no one has measured Ren before, a scale for Customer Ren Orientation should be constructed. This scale measures the relationship between Ren and other constructs or elements, i.e., the relationship between Ren and service quality can be empirically studied in greater depth.

Having discussed the research gaps of this research area and the justification of the significance of the study, the author is more interested in the conceptualization and development of Ren as a scale for Customer Ren Orientation, i.e., the measurement of the propensity of Ren.

DISCUSSION

In this paper, we argue that the six contemporary cultural value models, i.e., the Value Orientation Model of Kluckhohn and Strodtbeck (Kluckhohn & Strodtbeck, 1961; Watkins & Gnoth, 2011), Hofstede's Cultural Dimensions (Hofstede, 1980), Rokeach Value Survey (Rokeach, 1973), Chinese Value Survey (Bond,1988), Schwartz Value Survey (Schwarz, 1992) and the Chinese Cultural Value Scale (Yau, 1994) have been falling short of including the essential Chinese value of Ren. Also, we have justified the importance of the Chinese value of Ren based on relevant scholarly literature. The authors would suggest the future research can characterize Chinese and Western cultures as they relate to the concept of Ren, such as the perspective of Confucianism about Ren in the Chinese culture. Besides, Ren has not yet been studied in empirical research. Therefore, one area for future research should be about operationalizing Customer Ren in the business context. Exciting and practical aspects or issues that we can explore in future studies are quite a few. The first issue can be the application of Ren in Marketing or Business Education. Second, the conceptualization of Ren with possible dimensions. Third, we may treat Ren as an antecedent of a significant Chinese value of harmony, which can be an antecedent of the business relationship. Fourth, Ren may be a consequence of some situational factors.

REFERENCES

Abubakr, S., Amna, Y., & Jaithen, A., (2017). Family and state ownership, internationalization and corporate board-gender diversity: Evidence from China and India. *Cross Cultural & Strategic Management, 24*(2), 251-270.

Au, A. K. M., Chow, R. P., & Yau, O. H. (2010). Harmony and cooperation: Their effects on IJV performance in China. *Cross-Cultural Management: An International Journal, 17*(3), 312-326.

Barnes, B. R., Yen, D. & Zhou, L. (2011). Investigating guanxi dimensions and relationship outcomes: Insights from Sino-Anglo business relationships. *Industrial Marketing Management, 40*(4), 510-521.

Bedford, O. (2011). Guanxi-building in the workplace: A dynamic process model of working and backdoor Guanxi. *Journal of Business Ethics, 104*(1), 149-158.

Bond, M. H. (1988). Finding universal dimensions of individual variation in multicultural studies of values: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology*, *55*(6), 1009-1115.

Bond, M. H. (1993). *The psychology of Chinese people*. Hong Kong: Oxford.

Bond, M. H. (1998). Unity in diversity: Orientations and strategies for building a harmonious, multicultural society. *Trames, 2*, 234-263.

Bond, M. H., Wan, K. C., Leung, K. & Giacalone, R. (1985). How are responses to verbal insults related to cultural collectivism and power distance? *Journal of Cross-Cultural Psychology, 16*, 111-127.

Chan, A. M., & Rossiter, J. R. (1998). Construction of a Chineseness values scale and a Chineseness ethnicity scale. *Asia Pacific Advances in Consumer Research, 3*, 61-67.

Cheng, C. L. S. (2008). *A Study of Intention of Elderly Institutionalization: The Impact of Chinese Values – Hsiao and Bao*. Unpublished Ph.D. Thesis, City University of Hong Kong, Hong Kong.

Cheng, C. L. S. & Yau, O. H. M. (2006). Yuan: The case of Chinese pop songs. *Special Issue: Culture and Management, Asia Pacific Management Review*, *11*(5), 331-340.

Ching, J. (1998). Human rights: A valid Chinese concept? In W. T. de Bary & T. Weiming (Eds.), *Confucianism and Human Rights* (pp. 67-82). New York: Columbia University Press.

Chow, R. P. M. (2004), *The development of a harmony orientation scale: using Chinese-foreign joint ventures in China as an example*, Unpublished Ph.D. Thesis, City University of Hong Kong, Hong Kong.

Chow, R. M., Lowery, B. S., & Knowles, E. D. (2008). The two faces of dominance: The differential effect of ingroup superiority and outgroup inferiority on dominant-group identity and group esteem. *Journal of Experimental Social Psychology, 44*(4), 1073-1081.

Chow, R. P. M., & Yau, O. H. M. (2005). In search of harmony. *Asia Pacific Management Review, 10*(3), 187-195.

Chow, R. P., & Yau, O. H. (2007). In search of harmony. In *Harmony versus Conflict in Asian Business* (pp. 11-30). Palgrave Macmillan, London.

Fang, L. (2000). Being a human: Humanism in traditional Chinese culture. Available from: www.utrim.it/doc_umanesimo/Fang.doc.pdf, Accessed on 1 March 2014.

Fang, T. (2003). A critique of Hofstede's fifth national culture dimension. *International Journal of Cross-cultural Management, 3*(3), 347-368.

Foo, K. H., Kazantzis, N. (2007). Integrating homework assignments based on culture: Working with Chinese patients. *Cognitive and Behavioral Practice, 14*(3), 333-340.

Hartz, P. (2009). *Daoism*. New York: Infobase Publishing.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values.* London: Sage Publications.

Hofstede, G. (1994). Preface to Kim, U., Triandis, H.C., Kagitcibasi, C., Choi, S., and Yoon, G. (Eds.), *Individualism and collectivism: Theory, method, and applications* (pp. 19-40). Thousand Oaks, CA: Sage.

Hofstede, G. & Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. *Organizational Dynamics*, *16*(4), 5-21.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures et organizations: Nos programmations mentales*. Pearson Education, France.

Hsu, F. L. K. (1963). *Clan, caste, and club*. Princeton, NJ: Van Nostrand.

Hsu, J. (1983). Asian family interaction patterns and their therapeutic implications. *International Journal of Family Psychiatry, 4*, 307-320.

Hu, H.C. (1944). The Chinese concept of face. *American Anthropologist, 46*, 45-64.

Ji, S. (2000). "Face" and polite verbal behaviors in Chinese culture. *Journal of Pragmatics, 32*(7), 1059-1062.

Kwek, A. & Lee, Y. S. (2010). Chinese tourists and Confucianism. *Asia Pacific Journal of Tourism Research, 15*(2), 129-141.

Kluckhohn, F. R., & Strodtbeck, F. L. (1961). *Variations in value orientations*. New York: Row, Peterson, and Company.

Le, P. B., & Lei, H. (2018). The effects of innovation speed and quality on differentiation and low-cost competitive advantage. *Chinese Management Studies, 12*(2), 305-322.

Lee, J., Lee, J., & Feick, F. (2001). The impact of the switching costs on the customer satisfaction-loyalty link: Mobile phone service in France. *Journal of Services Marketing, 15*(1), 35-48.

Lee, D. J., Pae, J. H., & Wong, Y. H. (2001). A model of close business relationships in China (guanxi). *European Journal of Marketing, 35*(1/2), 51-69.

Lee, J., & Soutar, G. (2010). Is Schwartz's Value Survey an interval scale, and does it really matter? *Journal of Cross-Cultural Psychology, 41*(1), 76-86.

Lee, B., & Tsui, A. (2018), The Influence of the traditional Chinese value of harmony on an international Chinese I. T. organization. *Journal of China Marketing, 6*(2), 67.

Lee, B. & Yau, O. H. M. (2018). Forbearance in the Chinese business setting. *Journal of Euromarketing, 27*, 3-4.

Legge, J. (1960). *The Confucian classics, five volumes.* Hong Kong: Hong Kong University Press.

Le Guin, U. K. (2009), *Lao Tzu: Tao Te Ching: A book about the way and the power of the way.* Boston: Shambhala Publications Inc.

Leung, K. (1997). Negotiation and reward allocations across cultures. In P. C. Earley & M. Erez (Eds.), *New perspectives on international industrial organizational psychology* (pp. 640-675). San Francisco: Jossey-Bass.

Leung, K. (2008). Chinese culture, modernization, and international business. *International Business Review, 17*(2), 184-187.

Leung, P. P., & Chan, C. L. (2010). Utilizing Eastern spirituality in clinical practice: A qualitative study of Chinese women with breast cancer. *Smith College Studies in Social Work, 80*(2-3), 159-183.

Leung, S. M. (1982). *The essentials of Chinese culture*. Taipei: Liren Bookstore.

Li, G. (1995). *The third part of Taoist philosophy and guidance in the Han Dynasty*. Beijing: Bashu Book Club.

Li, J. J., Poppo, L., & Zhou, K. Z. (2008). Do managerial ties in China always produce value? Competition, uncertainty, and domestic vs. foreign firms. *Strategic Management Journal, 29*(4), 383-400.

Lovett, S., Simmons, L. C., & Kali, R. (1999). Guanxi versus the Market: Ethics and efficiency. *Journal of International Business Studies, 30*(2), 231-248.

Luk, C. L., Yau, O. H., Sin, L. Y., Tse, A. C., Chow, R. P., & Lee, J. S. (2008). The effects of social capital and organizational innovativeness in different institutional contexts. *Journal of International Business Studies, 39*(4), 589-612.

Luo, Y. (1997). Partner selection and venturing success: The case of joint ventures with firms in the People's Republic of China. *Organization Science*, *8*(6), 648-662.

Luo, Y., Huang, Y., & Wang, S. L. (2012). Guanxi and organizational performance: A meta-analysis. *Management and Organization Review, 8*(1), 139-172.

Man, C. Y. (1988). Talking about Chinese Nationality from Value Orientation. In L. Yiyuan & Y. Guoshu (Eds.), *The Chinese character*. Taipei: Guiguan Books.

Mann, C. J. (2003). Observational research methods. Research design II: Cohort, cross-sectional, and case-control studies. *Emergency Medical Journal, 20*, 54-60.

Mencius [Menzi] (1960). *The Chinese classics* (J. Legge, Trans.), Vol. II. Hong Kong: Hong Kong University Press.

Muller, C. (2020). *Daode Jing* (Charles Muller, Trans.), Available from: http://www.acmuller.net/con-dao/daodejing.html, Accessed on 7 June 2020.

Muller, C. (2020). *Five Chinese Classics* (Charles Muller, Trans.), Available from http://www.acmuller.net/con-dao/analects.html, Accessed on 7 June 2020.

Newman, K. L., & Nollen, S. D. (1996). Culture and congruence: The fit between management practices and national culture. *Journal of International Business Studies, 27*(4), 753-79.

Park. S. H., & Luo, Y. D. (2001). Guanxi and organizational dynamics: Networking in Chinese firms. *Strategic Marketing Journal, 22*(5), 455-477.

Rokeach, M. (1973). *The nature of human values*. New York: Free Press.

Rubin, V.A. (1982). The concepts of Wu-Hsing and Yin-Yang. *Journal of Chinese Philosophy*, *9*, 131-157.

Rubin, J. Z., & Brown, B.R. (1975). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, *42*(1), 35-67.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology, Vol. 25* (pp. 1-65), New York: Academic Press.

Shane, St. (1994). The effect of national culture on the choice between licensing and direct foreign investment. *Strategic Management Journal, 15*, 627-42.

Sin, L. Y., Alan, C. B., Yau, O. H. M, Chow, R. P., Lee, J. S., & Lau, L. B. (2005). Relationship marketing orientation: Scale development and cross-cultural validation. *Journal of Business Research*, *58*(2), 185-194.

Sin, L. Y., Tse, A. C., Yau, O. H., Chow, R. P., & Lee, J. S. (2005). Market orientation, relationship marketing orientation, and business performance: The moderating effects of economic

ideology and industry type. *Journal of International Marketing, 13*(1), 36-57.

Sin, L. Y. M., Tse, A. C. B., Yau, O. H. M., Lee, J. S. Y., & Chow, R. P. M. (2002). The effect of relationship marketing orientation on business performance in a service-oriented economy. *Journal of Services Marketing, 16*(7), 656-676.

Swartz, T. A., Bowen, D. E. & Brown, S. W. (1992). Fifteen years after breaking free: Services then, now and beyond. *Advances in Services Marketing and Management, 1*, 1-21.

Tang, C. (1996). Collaborative learning: The latent dimension in Chinese students learning. In D. A. Watkins & J. B. Biggs (Eds.), *The Chinese learner: Cultural, psychological and contextual influences* (183-204). Hong Kong: Hong Kong University Press.

Tang, Y. J. (1996). *Tang Yijie's essay on academic culture*. Beijing: China Youth Press.

The Book of Song (J. Legge, Trans., 1967). In *The sacred books of China*. New York: Paragon Book Reprint Corporation.

The book of Zhuangzi (W. Rongpei, Trans., 1999). Beijing: Foreign Languages Press.

Van Oort, H. A. (1970). Chinese culture values past and present. *Chinese Culture*, *Taipei: The China Academy, 11*(1), 1-10.

Wang, C. L. (2007). Guanxi vs. relationship marketing: Exploring underlying differences. *Industrial Marketing Management, 36*(1), 81-86.

Wang, Z., Rao, C. P., Angela, D. A., & Vorhies, D. (2015). Perceived attribute importance in China: An empirical investigation of consumption-oriented personal values. In *Proceedings of the 1995 World Marketing Congress*, Springer International Publishing, pp. 469-487.

Wang, Y. Q. (1999). *Research on Chinese Buddhism*. Nanjing: Nanjing University Press.

Watkins, L. & Gnoth, J. (2011). The value orientation approach to understanding culture. *Annals of Tourism Research, 38*(4), 1274-1299.

Xin, K. R., & Pearce, J. L. (1996). Guanxi: Connections as substitutes for formal institutional support. *Academy of Management Journal, 39*, 1641–1658.

Yang, G. S. (1992). Chinese social orientation: Social interaction perspective. In Y. Guoshu & Y. Anbang (Eds.), *Chinese psychology and behavior: Ideas and methods* (pp. 87-142). Taipei: Guiguan Book Company.

Yang, M. M. (1994). *Gifts, favors, banquets: The art of social relationships in China*. Ithaca, NY: Cornell University Press.

Yau, O. H. M. (1988). Chinese cultural values: Their dimensions and marketing implications. *European Journal of Marketing, 22*(5), 44-57.

Yau, O. H. M. (1994). *Consumer behaviour in China: Customer satisfaction and cultural values*. London and New York: Routledge.

Yau, O. H. M., Chan, T. S., & Lau, K. F. (1999). Influence of Chinese cultural values on consumer behavior: A proposed model of gift-purchasing behavior in Hong Kong. In T. S. Chan (Ed.), *Consumer behavior in Asia: Issues and marketing practice*. New York: The Haworth Press.

Yau, O. H. M., Lee, J. S., Chow, R. P., Sin, L. Y., & Alan, C. B. (2000). Relationship marketing the Chinese way. *Business Horizons, 43*(1), 16-24.

Vauclair, C., Hanke, K., Fischer, R., & Fontaine, J. (2011). The structure of human values at the culture level: A meta-analytical replication of Schwartz's Value Orientations using the Rokeach Value Survey. *Journal of Cross-Cultural Psychology, 42*(2), 186-205.

Yeung, I. Y. M., & Tung, R. L. (1996). Achieving business success in Confucian societies: The importance of Guanxi (connections). *Organizational Dynamics, 25*(2), 54-65.

Zhu, J. R., Yan, Z. Z., Liu, Y. X. (2002). Compilation, Zhu Xi: Information for Children and Men. In *Zhu Zi Quan Shu*, Shanghai: Shanghai Ancient Books.

Journal of Euromarketing, 29: 116-136, 2020
Copyright © IMDA Press
ISSN: 1049-6483 print / 1528-6967 online

IMDA Press

Nation Brand Image and Economic Development: Is there a Connection?

Tarik Zeriouh
Nicolas Hamelin
Talha D. Harcar
John Lodewijks
Jayarethanam Pillai

ABSTRACT. This paper investigates the impact of a nation's brand image on its economic prosperity. Can the relationship between a nation's image and its economic wellbeing be empirically established? How does each of the dimensions used to construct a nation's images affect the economic wellbeing of a nation? What is the magnitude of each dimension's impact on the country's economic development? Two econometric models are constructed using panel data in order to explore these issues. The findings indicate that there is a significant relationship between a country's brand image and its economic wellbeing. That is, the perceptions that people hold about a country can greatly impact its trade and tourism as well as its flows of foreign direct investment.

KEYWORDS. Nation branding, place branding, country brand image, economic development, panel models, fixed random effects models, LSDV regression.

INTRODUCTION

During the last decade, the topic of nation branding has received considerable attention in the Marketing and Economics literature (Fan, 2010; Kaneva, 2011; Avraham, 2018). Governments are becoming increasingly keen on improving the international image of their countries. Authors such as Anholt (2008), and Bolin and Ståhlberg (2015) suggest that the

Tarik Zeriouh, MBA is affiliated with Department of Business Administration, Al Akhawayn University. Morocco, Nicolas Hamelin, Ph.D. SPJAIN Neuroscience Center, Sydney, Australia and John Lodewjiks, Ph.D. SPJAIN School of Global Management, Sydney, Australia, Talha Harcar, Ph.D. is a Professor of Marketing, Department of Business Administration, Pennsylvania State University at Beaver, Monaca, Pennsylvania, USA, Jayarethanam Pillai, Ph.D. is an Associate Professor of Economics, School of Business Administration and Public Policy, University of Guam, Guam, USA,

Address correspondence to Dr. Talha D. Harcar, Department of Business Administration, Pennsylvania State University at Beaver, 100 University Drive, Monaca, Pennsylvania 15061, USA, E-mail: tdh13@psu.edu

nation's image is a significant determinant in its the economic development, since it plays a central role in the success of its trade and tourism, as well as its diplomatic and cultural relations with other nations. Asseraf and Shoham (2017), using the example of Israel, showed how the re-branding of Israel's image had a positive impact on the tourism industry.

Clearly, nation brand is without doubt "the single most valuable item of intellectual property that any nation possesses, and knowing how to protect, develop, and exploit this asset is the key for translating the intangible wealth of developing countries into economic growth" (Anholt, 2005, p. 5). A range of indexes exist to measure different national brands equity, the best known being the Anholt-GfK Roper Nation Brands Index, or the Future Brand Country Index and the East West Global Index 200 (Browning, 2016). This research has two objectives. First it investigates if the Anholt-GfK Roper Overall Nation Brands Index™ is a reliable predictor of annual GDP Growth. Second, it tests the potential correlation between the six dimensions that compose the Overall Nation Brand Index (Tourism, Export, Governance, Investment and Immigration, Culture and Heritage, and People) and Annual GDP Growth.

For Papadopoulos, Hamzaoui-Essoussi, and Banna (2016), nation branding is central to the level of foreign direct investment since it is strongly correlated with investor perception of the country. De Vicente (2004) suggests that economic and social wellbeing can only be achieved through effective nation branding efforts. Accordingly, nation branding consultants have made their bread and butter claiming that nation branding strategies are the solution to underdevelopment (Browning, 2016). They claim that negative images marketed by charities and NGOs, although useful for obtaining donation, hinder more sustainable investment and, consequently, a nation's development (Browning, 2016). Central to nation branding is the belief that nation is not unlike consumer brands where "brand value" can represent as much as 40-60 percent of the value of individual businesses (Jansen, 2008).

LITERATURE REVIEW

Although the idea of a nation perceived as a brand can sometimes seem simplistic or populist, recent research conducted by O'Shaughnessy and O'Shaughnessy (2000) has concluded that a country can indeed be branded in the same way as any product or service. Advertising, public relations, and other branding techniques play a central role in creating an induced image of a country's brand (Anholt, 2002). Country of Origin (COO) effect has been identified in the literature as one of the most prominent by-products of a nation's brand (O'Shaughnessy & O'Shaughnessy, 2000). Closely linked to this stance is the claim that ethnocentrism or difference in consumer values affects how a consumer perceives a product, with COO having a major impact on purchase intention (Hamelin, Ellouzi, & Canterbury, 2011; Andéhn, Nordin, & Nilsson, 2016). Kotler (2002) explains that the marketing manipulations of COO have been proven to alter consumers' behaviour. This implies that, the author states, that "national stereotypes affect the relationships between manufacturers and their foreign clients" (p. 252). In this regard, recent research confirms that certain brands are bound by the historical and cultural background of their country of origin (O'Shaughnessy & O'Shaughnessy, 2000). French wine or Swiss chocolate, for instance, are instantly meaningful because they carry cultural associations that customers worldwide are already accustomed to.

The notion that nation branding or "place branding" is of the utmost importance for every nation has been a recurrent message by nation branding practitioners and scholars alike (Browning, 2016). Anholt (2008) claims that

positive Nation image offers an opportunity to enhance trade, economic development, and political influence with the belief that well branded nations, e.g., "cool Britannia," "incredible India," "Malaysia truly Asia," can gain a competitive edge over other countries and can attract better and more considerable investment (Browning, 2016). Sun, Paswan, and Tieslau (2016), using data from 24 countries over 12 years, demonstrated a positive correlation between country image and exports. In the perspective of Fan (2006), nation branding consists of "applying branding and marketing communications techniques to promote a nation's image" (p. 6). Brymer (2003) propounds that it is an effective tool by which most nations can increase their competitiveness in the sense that a weak country's image is expected to reduce its ability to compete at all levels. Anholt (2003) and De Vicente (2004) suggested that to enhance their competitiveness, in addition to cost efficiencies and product innovation, developing countries should therefore focus on their national branding. Klein (2002), Hamelin, Ellouzi, and Canterbury (2011) determined that the assessment of the quality of the product and the consumption choice is often based on the country of origin. Anholt (2005) stated that "national brand is national identity made tangible, robust, communicable, and useful.

Research Questions

The following two main questions have been formulated to present the argument for this paper:

- Can the relationship between a nation's image and its economic wellbeing be empirically established?
- How does each of the dimensions used to construct a nation's images affect the economic wellbeing of a nation?

Two panel models are constructed in the current research:

- Model I: In the first model, annual GDP Growth is set as a response variable, and the The Anholt-GfK Roper Overall Nation Brands Index™ is used as a predictor.
- Model II: In the second model, the six dimensions that compose the Overall Nation Brand Index, namely Tourism, Export, Governance, Investment and Immigration, Culture and Heritage, and People, are used as regressors of Annual GDP Growth.

RESEARCH DESIGN

In this paper, two panel data models are constructed. The Anholt-GfK Roper Nation Brands Index™ is used as a measure of the country brand image. This index combines individual perceptions about a country's governance, its products, its cultural status, its attractiveness from a tourism perspective, perceptions about its population, and economic and social conditions. According to Anholt (2005), a "clear, believable, and attractive national brand is achieved when the country's main bodies, activities, and investments are – accidentally or deliberately – organised around a clear and shared vision, and when its communication channels with the rest of the world (tourism, investment and export promotion, cultural relations, public diplomacy and so forth) are harmonised. These 'natural' channels of national communication can be seen as a hexagon" (p. 2). This so-called Nation Brand Hexagon is illustrated in Figure. 1.

The Anholt-GfK Roper Nation Brands Index includes all the above dimensions and is based on survey questionnaires that ask individuals about their perceptions of other countries dimensions along the following six dimensions:

- Tourism: the country's attractiveness from a tourism point of view
- Exports: their perceptions and stereotypes about the products from that country
- Governance: their perception of the government in this country

- Investment and Immigration: their personal willingness to work in this country and their perceptions about social and economic conditions in this country
- People: stereotypes about the people from the respective country as employees
- Culture: perceptions about the country's achievements in terms of culture, history, and sports

The Anholt-GfK Roper Nation Brands Index remains the most comprehensive framework for assessing a nation's brand image and hence will receive considerable attention throughout this research. The empirical technique that is used in this study is panel regression analysis.

Figure. 1. The Nation Brand Hexagon

Source: Anholt (2002)

Panel models are often used to define relationships between variables based on data that are cross section and/or time series. Furthermore, panel data models, which are based on longitudinal or cross-sectional time-series data, offer two major advantages over models that are solely based on either cross-sectional or time-series data. First, panel data models account for individual heterogeneity in that they are able to simultaneously analyse the relationship between nation branding and economic growth over time and across countries. Consequently, any cross-country effect that may exist over time is captured during the regression analysis. Second, the panel data model is able to explicitly capture non-measurable factors, or unobserved effects that differentiate one country from another or one time period from another. The two main approaches that fit panel data are acknowledged as fixed and random effects regression models. Fixed and Random Effect regression models will be constructed in this study using the following strategies: Least Squares Dummy Variable (LSDV), Feasible Generalized Least Squares (FGLS), within effect or between estimation methods.

The panel dataset used to construct both models has been pre-treated, and outlying, influential, and high leverage data point have been identified and eliminated prior to constructing the models. The square root transformation has also been performed on some predictor variables in order to further improve their normality. Both models have been constructed under the fixed and random effect assumptions using the Least Squares Dummy Variable (LSDV), Feasible Generalized Least Squares (FGLS), and Within and Between Effects estimation methods. Appropriate statistical tests have been performed in order to assess the extent to which each approach fits the dataset. The results of the aforementioned tests identified the two-way fixed effect assumption using the LSDV strategy as the most appropriate approach to construct both Model 1 and 2.

DATA HANDLING AND DESCRIPTION

Annual data ranging from 2008 to 2011, corresponding to 50 different countries are used. The Anholt-GfK Roper Nation Brands Index is used as a measure of the nation's brand image. This latter consists of an unweighted sum of six different sub-indices, as earlier indicated. The annual GDP Growth

corresponding to each of the 50 nations is used as a response variable and was collected from the World Bank's (2012) website. The panel dataset is composed of observations measured at a regular time interval (annually from 2008 to 2011, T=4) and corresponding to *n*=50 different countries for a total number of observations *n*T= 200. Such a dataset can be described as a short, fixed, and balanced panel dataset since *n*=200 is significantly larger than T=4 (Cameron & Trivedi, 2009, p. 230). Furthermore, all countries have measurements in the four time periods, and the same entities are observed for each period (Greene, 2008, p. 184). It is worth mentioning that the use of such a dataset in regression analysis increases the probability of a Type II error. Nonetheless, various constraints related to the availability of data made it impossible to use a *longer* panel in the present research. Table 1 summarizes the cross-sectional time-series data that will be used to construct the panel models.

Table 1. Summary of the Panel Dataset Used to Construct Model 1 and 2

Variable	Obs	Mean	Std. Dev.	Min	Max
Year	200	2009.5	1.12084	2008	2011
Country1	200	25.5	14.46708	1	50
GDP_Growth	200	.2262763	4.474689	-14.26534	9.03986
Overall_NBI	200	54.27583	9.143544	24.1	73.26
NBI_Export	200	51.57665	11.00105	21.04	84
NBI_Govern~e	200	51.1551	9.333029	28.6	76.54
NBI_Culture	200	54.6244	10.23396	23.71	81.04
NBI_People	200	58.7533	8.373372	36.21	79.2
NBI_Tourism	200	61.84185	10.15014	34.68	90.04
NBI_Im_Inv	200	45.42025	10.01976	15.4	69.38

* For the sake of the analysis the string variable country has been encoded to a numeric form Country1.

All the data management, manipulation, and analysis in this research are executed using STATA/SE 12.00 (2012), which is a statistical package that is widely used by academics and practitioners across various fields of practice.

Data Treatment and Transformation

Unusual data points that may adversely affect the results of the regression analysis are identified. These observations can take the form of outlying observations, high leverage, or influential data points. Such potentially troublesome data have been identified and then dealt with accordingly prior to constructing the econometric models. Since the current research aims at constructing two econometric models, the identification of unusual data points is separately performed for each model to be constructed. A detailed statistical Appendix deals with these and other robustness issues, and it includes Tables 2-10.

Table 2 and 12 summarize the results of multiple pooled OLS analyses performed under four different scenarios of Data treatment for Model 1 and 2. In the first scenario (Regular OLS), the OLS models are constructed using the entire dataset. In the second scenario entitled (Outliers), the outlying data points in Table 2 and 3 have been omitted prior to constructing the models. In the third scenario (High leverage), high leverage points listed in Table 6 and 7 have been omitted. In the fourth

scenario (Influential points), influential data points in Table 9 and 10 have been omitted. The OLS Analysis results under each scenario have been systematically collected and are listed for each scenario in Tables 11 and 12. Multiple goodness-of-fit measures are also reported. These include the F-test P-value, the Coefficient of determination R^2, Adjusted R^2, t-tests of individual predictors P-values, parameter estimates of each predictor βi and the remaining number of observations after the potentially troublesome observations have been eliminated.

Table 2. Summary of the OLS Analyses Under Four Scenarios of Data Treatment (M1)

	Regular OLS	Outliers	High Leverage	Influential points
n	200	189	184	189
Prob > F	0,0001	0,0002	0,0131	0,0175
R-squared	0,0781	0,0726	0,0334	0,0298
Adj R-squared	0,0735	0,0677	0,0281	0,0246
P_Overall_NBI	0	0	0,013	0,0333395
Coef_Overall_NBI	0,1367787	0,0799017	0,1051145	0,0799017

Table 3. Summary of the OLS Analyses Under Four Scenarios of Data Treatment (M2)

		Regular OLS	Outliers	High Leverage	Influential points
	n	200	188	92	162
	Prob > F	0	0	0,0103	0
	R-squared	0,2608	0,3404	0,1752	0,3598
	Adj R-squared	0,2378	0,3185	0,117	0,335
P>|t|	NBI_Export	0,421	0,343	0,561	0,734
	NBI_Governance	0,219	0,066	0,092	0,145
	NBI_Culture	0,022	0,003	0,307	0,022
	NBI_People	0,004	0,001	0,149	0,005
	NBI_Tourism	0,079	0,063	0,801	0,025
	NBI_Im_Inv	0,044	0,004	0,623	0
Reg coef	NBI_Export	-0,039863	-0,0394378	0,0633755	0,0129382
	NBI_Governance	-0,0626516	-0,0777635	0,1808387	-0,0587919
	NBI_Culture	0,1268796	0,1393002	0,1263511	0,0975015
	NBI_People	0,181538	0,1815926	0,1915849	0,1356139
	NBI_Tourism	0,0967716	0,0844667	0,0306205	0,0908079
	NBI_Im_Inv	-0,1110354	-0,1318812	-0,0578859	0,1479032

Based on these results summarized in table 2, it was concluded that omitting potential outliers will considerably improve the robustness and statistical relevance of Model 1. As for Model 2, it appears from Table 3 that omitting influential points will sensibly increase the statistical relevance of Model 2. The analysis on Data transformation shows that performing the square root transformation slightly improves various goodness-of-fit

measures including F-test p-value, individual t-test results and R^2 for both models. More details are available under the Appendix. In light of these findings, these transformations will be systematically performed prior to constructing the two models from here onward.

THE MODELS

The econometric Models that are constructed in the current research have been formulated as follows:

Model I: $Real\_GDP\_Growth_{i,t} = \beta 0 + \beta 1\ Overall\_Nation\_Brand\_Index_{i,t} + U_{i,t}$

The presence of a relationship between the Anholt-GfK Roper Nation Brands Index ™ sub-indices and the GDP growth is tested in the empirical Model II:

Model II**:** Real GDP $growth_{i,t} = \beta 0 + \beta_1 Tourism_{i,t} + \beta_1 \surd Export_{i,t} + \beta_2 \surd Governance_{i,t} + \beta_3$ Investement and $Immigration_{i,t} + \beta_4 \surd$ Culture and $Heritage_{i,t} + \beta_5 People_{i,t} + U_{i,t}$

Where:

i= country

t= time

$Overall\_Nation\_Brand\_Index_{i,t}$: The Anholt-GfK Roper Nation Brands Index Index that measures the overall nation brand value.

$Tourism_{i,t}$: The Anholt-GfK Roper Nation Brands Index sub-index that measures the country's attractiveness from a tourism point of view

$Export_{i,t}$: The Anholt-GfK Roper Nation Brands Index sub-index that measures the perceptions and stereotypes about the products from country i.

$Governance_{i,t}$: The Anholt-GfK Roper Nation Brands Index sub-index measuring the perceptions of the government in country i.

$Investement\ and\ Immigration_{i,t}$: The Anholt-GfK Roper Nation Brands Index sub-index measuring willingness to work in country i and the perceptions of social and economic conditions in the country.

$People_{i,t}$: The Anholt-GfK Roper Nation Brands Index sub-index measuring stereotypes about the people from country i as employees.

$Culture\ and\ Heritage_{i,t}$: The Anholt-GfK Roper Nation Brands Index sub-index measuring perceptions about the country's achievements in terms of culture, history and sports.

EMPIRICAL RESULTS

Appropriate statistical tests are performed in order to assess the extent to which each approach fits the dataset. The results of the pooled OLS, Fixed Effect, and Random effect models are summarized in order to compare between the different strategies and select the one that best fits the dataset.

Pooled OLS. The pooled OLS approach ignores the panel structure of the data in the sense that it does not account for any group or time specific effects.

Fixed Effect Models. Fixed effect models assume that intercepts vary across entities or time periods (one-way fixed Group/ Time models) or across both (Two-way Fixed Effect Models). Multiple strategies can be adopted to construct the panel model under each assumption of the fixed effect. Examples are the LSDV, the Within Group/Time Effect and the Between Group/Time Effect strategy. In this section, Model 1 and 2 are constructed under each of the aforementioned strategies in order to select the one that best fits the dataset.

One-Way Fixed Effect Models

One-Way Fixed Group Effect Models. The one-way fixed group model approach examines group (in this case Countries) variations in intercepts. Since the number of groups in the dataset (i= 50 countries) is too large compared to the number of time periods T=4, the incidental parameter problem may arise under the LSDV strategies (Baltagi, 2001). This problem is due to the use of too many dummy

variables as predictor variables within the model, which sensibly decreases the number of degrees of freedom and therefore causes the standard errors of parameters to be inflated. In such instances, the Within Effect approach, which uses group means of variables instead of dummies, should be considered instead (Hun Myoung, 2009). Nonetheless, the LSDV strategies will be fully developed in the current research despite their potential incompatibility with the current dataset. In fact, such an explanation holds a peagogical value since it will help develop a comprehensive a methodological framework that can be used to guide future research.

Least Squares Dummy Variable Models

LSDV1 without a Dummy. The LSDV1 is the most common procedure for constructing linear regression models that have dummy regressors. In this procedure, a dummy predictor is dropped during the regression analysis in order to solve the issue of perfect multicollinearity. It is worth mentioning the choice of a dummy variable to be dropped does not change the results of the regression analysis.

LSDV2 without the Intercept. In the LSDV2 the regression analysis is performed after omitting the intercept.

LSDV3 with Restrictions. In LSDV3, the regression analysis is constrained so that the sum of the group dummy parameters is equal to zero. The dummy coefficients are then computed as the deviations from the averaged group effect corresponding to the intercept.

Within Group Effect Model

In datasets where the number of groups is too large, the use of dummies under the LSDV strategy increases the standard errors of parameters. The Within Effect strategy is useful in this case since it transforms the model's variables using group means to avoid such problems. Under this Model Country has to be set as the independent unit.

Between Group Effect Model: Group Mean Regression

In the Between Effect model, group means of variables are used to construct the model. Therefore, the number of observations in the dataset drops from *n*T= 189 to *n*=50 (Model 1) and from *n*T=162 to *n*=49 (Model 2).

Fixed Group Effects (F-test)

The presence of a Fixed Group Effect in Model 1 and 2 needs to be statistically confirmed.

The following null hypotheses have been formulated:

Model 1: H0: μ1 = … =μ n-1 =0

F_{STAT}= ((SSE_pooledOLS - SSE_LSDV1-3) /(n-1)) / (SSE_LSDV1-3 /(nT- n- k))

F_{STAT}= ((2449.55357 - 751.2098) /(50-1)) / (751.2098 /(189- 50- 1))

= $6.3671_{[49,138]}$

Where:

n=Number of groups

*n*T=Total number of observations

k=number of predictor variables

Model 2: H0: μ1 = … =μ n-1 =0

F_{STAT}= ((SSE_pooledOLS - SSE_LSDV1-3) /(n-1)) / (SSE_LSDV1-3 /(nT- n- k))

F_{STAT}= ((996.2551 - 396.9703) /(49-1)) / (396.9703 /(162- 49- 1))

= $3.37_{[48,107]}$

Where:

n=Number of groups

*n*T=Total number of observations

k=number of predictor variables

In both models, the F statistics are large enough to reject H0 at the .05 level. Therefore, it can be concluded that there is a Fixed Group effect in datasets used to construct Model 1 and 2.

One Way Fixed Time Effect Models

Least Squares Dummy Variable Models: In this instance, the incidental parameter problem will not arise under the LSDV strategies since one-way fixed time effect models assume that intercepts vary across time periods (in this case T=4).

LSDV1 without a Dummy: This strategy uses time dummy variables instead of group dummies. The results of the LSDV1 for Model 1 and 2 are summarised in the Appendix.
LSDV2 without the Intercept: After suppressing the intercept, the LSDV2 models have been constructed and results are summarised in Appendix 11.
LSDV3 with a Restriction: After imposing a constraint on the regression analysis (sum of all time dummy variables equal to 0), the LSDV3

Within Time Effect Model

The One-way Within Time Effect approach uses deviations from time means as observations and eliminates the intercept (results can be found in the Appendix)

Between Time Effect Model

The One-way Between Time Effect approach uses time means to regress the response variable on its predictors. Consequently, the total number of observations used to construct Model 1 and 2 drops to T=4. Details of the regression analyses can be found in the Appendix. Note that in this instance, STATA did not construct the model because of the small number of observation (n*=4).

Fixed Time Effects (F-test)

The presence of a fixed time effect needs to be statistically confirmed.
The following null hypotheses have been formulated:
Model : H0: $\tau_1 = \ldots = \tau_{n-1} = 0$
The F_{STAT} and its corresponding p-value have been computed

```
. test dYear1 dYear2 dYear3

 ( 1)  dYear1 = 0
 ( 2)  dYear2 = 0
 ( 3)  dYear3 = 0

       F(  3,   184) =   10.49
            Prob > F =    0.0000
```

Model 2: H0: $\tau_1 = \ldots = \tau_{n-1} = 0$
The F_{STAT} and its corresponding p-value have been computed.

```
. test dYear1 dYear2 dYear3

 ( 1)  dYear1 = 0
 ( 2)  dYear2 = 0
 ( 3)  dYear3 = 0

       F(  3,   152) =   12.82
            Prob > F =    0.0000
```

The very small F-test p-values presents strong evidence that there is a fixed time effect in the dataset used to construct both models.

Two-Way Fixed Effect Model

In the present research, the Two-way Fixed Effect approach investigates group and time effects simultaneously.

Least Squares Dummy Variable Models

LSDV1 without Two Dummies: Two dummy variables (one for each type of effects) need to be dropped prior to running the regression analysis.
LSDV1 + LSDV2: Drop a Dummy and Suppress the Intercept: This strategy requires a group or a time dummy to be dropped and the intercept to be suppressed.
.LSDV1 + LSDV3: Drop a Dummy and Impose a Restriction: In this strategy, a group or a time dummy is dropped and a constraint is imposed on group or time dummy parameters
.LSDV3 with Two Restrictions: This approach requires two restrictions to be imposed during the regression analysis. The first restriction is that the sum of all group dummies is equal to 0 and the second one stipulates that the sum of all time dummies is equal to 0.

Two-way Within Effect Model

In this strategy the intercept needs to be suppressed. The response and the predictor variables also need to be transformed before constructing the Model.
Two-way Fixed Effects (F-tests). The presence of two-way fixed effects needs to be statistically confirmed for both models using an

appropriate F-test. Based on the results, it was concluded that there are strong evidences of the presence of two-way group *and* time fixed effects in the dataset used to construct both models.

Random Effect

Random effect models analyse how group and/or time affect error variances (Hun Myoung, 2009). Since explaining the internal functioning of Random Effect models will not serve the purpose of the current research, the discussion in this section will mainly focus on determining the presence of a Random Effect in the dataset.

One-way Random Group Effect Model. The One-way Random group effect model analyses how groups affect error variances. A Feasible Generalized Least Squares (FGLS) analysis has then been performed.

One-way Random Time Effect Model. This strategy examines how time entities affect error variances. An FGLS analysis has been performed for Model 1 and 2.

Two-way Random Effect Model

The two-way random effect model examines how group and time both impact error variances.

SUMMARY OF FINDINGS

The results on the fixed and random effects models constructed so far have been summarised in Tables 4 and 5. These include F-test or likelihood ratio test p-values, coefficient of determination R^2 adjusted, Parameter Estimates of Regressors, degrees of freedom for errors, Sum of squared errors.

Hausman Specification Test - Fixed Effects or Random Effects?

The Hausman specification test is required in order to evaluate the best strategy that fits the dataset used to construct Model 1. The presence of a random effect has not been confirmed for Model 2 making the Hausman specification test irrelevant to this model.

The Hausman specification test stipulates that a random effect model is better than its fixed counterpart if the null hypothesis that the individual effects are uncorrelated with the other repressors in the model is not rejected (Hun Myoung, 2009). The Hausman $\chi 2$ test p-value obtained is small enough to reject the hypothesis at the 0.05 level. It can therefore be concluded that a fixed effect strategy should be favoured for Model 1.

DISCUSSIONS

It appears from Table 4 that the Two-way fixed Effect Method using the LSDV strategy provides the best results with an R^2 Adj = .8346, F-test p-value < .0000, 135 degrees of freedom (Model 1). As for Model 2, Table 5 suggests that the same strategy provides again the best results with an R^2 Adj = .8281, F-test p-value < .0000, 104 degrees of freedom. Based on the aforementioned information panel, Model I and II can be expressed as follows:

Model I: $Real\_GDP\_Growth_{i,t} = -2,1273 + Country\_specific\_effect + Year\_specific\_Effect + .0187\ Overall\_Nation\_Brand\_Index_{i,t} + U_{i,t}$

According to Model 1, one unit increase in the Nation Overall Brand Index score of a country is expected to increase its real GDP growth by 0.0187 %. The country specific effect, such as skilled workforce, excellent regulatory environment, pro-business support, level playing field, good infrastructure facilities, and crucially safe environment offers positive image in the form national branding. This features are taken up in Model II.

Model II: $\text{Real GDP Growth}_{i,t} = -7.3188 + Country\_specific\_effect + Year\_specific\_Effect + .0104\ \text{Tourism}_{i,t} + .3456\ \sqrt{}\ \text{Export}_{i,t} + .7901\ \sqrt{}\ \text{Governance}_{i,t} + -.0151\ \text{Investement and Immigration}_{i,t} + -.481\sqrt{}\ \text{Culture and Heritage}_{i,t} + -.019\ \text{People}_{i,t} + U_{i,t}$

Table 4. Comparing the Results of Fixed Effect Model Methods for Model 1

		Model	Overall_NBI	e'e	dF	F or Wald $\chi 2$	R2
Two-way fixed effect Models	Fixed time effects	*LSDV*	0,0569	751.2098	138	6,94	0,7156
			(0,0265)	(2,331)	-	0,6126	(0,6126)
		Within effect	0,056981	-	138	4,6	0,0323
			(0,0265)	-	-	(0,0337)	-
		Between effect	0,2336	486,1533	48	15,07	0,2389
			(0,0602)	(3,1825)	-	(0,0003)	(0,2230)
	Fixed time effects	*LSDV*	0,1	2091,801	184	12,09	0,2081
			(0,0272)	(3,3717)	-	(0,0000)	(0,1908)
		Within effect	0,1	-	184	13,52	0,0684
			(0,0272)	-	-	(0,0003)	-
		Between effect	0,5316	6,2948	2	0,75	0,2729
			(0,61355)	1,7741	-	(0,4776)	(-0,09)
Two-way fixed effects Model		*LSDV*	0,0187	313,739	135	18,9	0,8812
			(0,01789)	(1,5245)	-	(0,0000)	0,8346
		Within effect	0,205	327,6004	188	1,76	0,0093
			(0,0154)	1,3201	-	(0,1864)	(0,0040)

Table 5. Comparing the Results of Fixed Effect Model Methods for Model 2

		Model	NBI_Export	NBI_Gov	√ NBI_Cult	NBI_People	NBI_Tourism	NBI_Im_Inv	e'e	dF	F or Wald $\chi 2$	R2
Two-way fixed effect Models	Fixed time effects	*LSDV*	0,7261	0,8872	-0,4039	-0,0195	0,0187	-0,021	396,9703	107	5,81	0,7456
			(0,7605)	(0,7024)	(0,8505)	(0,0502)	(0,0466)	(0,0471)	(1,9261)	-	(0,0000)	(0,6172)
		Within effect	0,7262	0,8872	-0,4039	-0,0195	0,0187	-0,021	-	107	1,58	0,0812
			(0,7606)	(0,7024)	(0,8505)	(0,0502)	(0,0466)	(0,0471)	-	-	(0,16)	-
		Between effect	0,0005	-2,2992	1,0774	0,3808	0,0499	-0,0918	207,5535	42	9,04	0,5637
			(1,2022)	(1,2874)	(1,29301)	(0,1185)	(0,0875)	(0,0995)	(2,223)		(0,0000)	(0,5013)
	Fixed time effects	*LSDV*	0,1868	-0,7785	1,2441	0,146	0,0867	-0,1545	795,0564	152	1626	0,4905
			0,5011	0,5184	0,5669	0,0432	0,037	0,037	2,2871	-	0	0,4604
		Within effect	0,1868	-0,7785	1,2441	0,1407	0,0867	-0,1545	-	152	16,03	0,3876
			(0,5011)	(0,5184)	(0,5699)	(0,0432)	(0,0362)	(0,037)	-	-	(0,0000)	-
		Between effect	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-
Two-way fixed effects Model		*LSDV*	0,3456	0,7901	-0,481	-0,019	0,0104	-0,0151	173,3057	104	14,6	0,8889
			(0,5162)	(0,471)	(0,5747)	(0,0339)	(0,0316)	(0,0317)	(1,2909)	-	(0,0000)	(0,8281)
		Within effect	0,4011	0,6843	-0,3674	-0,0208	0,0184	-0,0173	207,5087	156	1,56	0,0547
			(0,4607)	(0,4168)	(0,5077)	(0,0302)	(0,0281)	(0,0283)	(1,1533)	-	(0,1547)	(0,0212)

Table 6. Comparing the Results of Random Effect Model Methods for Model 1

			Model	Overall_NBI	e'e	dF	F or Wald $\chi 2$	R2
Random effects models	One-way Random effect Models	Random group	FGLS	0,0811	-		10,86	-
				(0,0246)	-		(0,0010)	-
		Random time	FGLS	0,1014	-	-	14	-
				(0,0271)	-	-	(0.0002)	-
	Two-way Random		FGLS	0,10092	-	-	13,81	-
				0,02715	-	-	(0,0002)	-

Table 7. Comparing the Results of Random Effect Model Methods for Model 2

			Model	NBI_Export	NBI_Gov	√NBI_Cult	NBI_People	NBI_Tourism	NBI_Im_Inv	e'e	dF	F or Wald $\chi 2$	R2
Random effects models	One-way Random effect Models	Group	FGLS	0.1824	-0,4776	1,2637	0,0637	0,0868	-0,1085	-	-	43.38	-
				(0,5879)	(0,5810)	(0,6639)	(0,0461)	(0,0401)	(0,0399)	-	-	(0.0000)	-
		Time	FGLS	0,1929	-0,7797	1,2688	0,1447	0,087	-0,1546	-	-	101,22	-
				(0,4913)	(0,5085)	(0,5587)	(0,0424)	(0,0354)	(0,0363)	-	-	(0,0000)	-
	Two-way Random		FGLS	0,1824	-0,4776	1,26372	0,0637	0,0868	-0,1085	-		43,38	-
				(0,5879)	(0,5810)	(0,6639)	(0,0461)	(0,0401)	0,0399	-		(0,0000)	-

Holding all other regressors constant, a one unit increase in the Nation Brand Tourism Index score is expected to increase its real GDP growth by .0104 %. Equally, a one unit increase in Export is expected to increase real GDP growth by .3456%. A one unit increase in the Export score of a country increases the GDP growth by .3456%. Increasing the Governance by one-unit results in an increase of .7901% in the GDP growth. Controversially, a one unit increase in the Nation Brand Investment and Immigration Index score negatively impacts the real GDP growth by .0151%. A one unit increase in the Culture and Heritage score decreases GDP growth by .481%. Finally, a one unit increase in People score in ceteris paribus conditions decreases GDP growth by .019%.

Furthermore, two additional predictor variables have been added to the two models: *Country_specific_effect* and *Year_ specific _Effect*. These correspond to the variations in GDP Growth that are specific to the Country *i* and/or Year *t*. Therefore, they should be accounted for in the models since the presence of two-way fixed effects in the dataset has been statistically confirmed.

The group/time specific effects corresponding to the countries and years used to construct Model 1 and 2 are listed in the Parameter Estimates of Regressors column in the Appendix.

One can argue that an R^2 Adjusted of 0.8281 is too large for panels models built to measure fluctuations in the GDP Growth (response variables) of a country as a linear function of how people perceive this country (predictor variables). One reasonable

explanation is that the Anholt-GfK Roper Nation Brands Index ™ and its sub-indices act as proxies for other economic variables. For instance, the predictor variable NBI_Tourism, which measures the country's attractiveness from a tourism point of view, is expected to reflect the government's efforts and investments in the tourism industry.

The large t-test p-values > 0.05 of individual predictor variables also suggest that these regressors are not statistically relevant to the models and should therefore be excluded from the LSDV analysis. In fact, this issue is caused by incidental parameter problem, which is often observed in the LSDV strategy when the number of groups in the dataset (i= 50 countries and T=4) is too large (Baltagi, 2001). This problem is due to the use of multiple dummy variables as predictor variables within the model, which sensibly decreases the number of degrees of freedom and therefore causes the standard errors of parameters to be inflated. In fact, the individuate t-tests score are to be considered incorrect in this instance. The remaining goodness-of-fit measures indicate that the LSDV approach is the most appropriate strategy for Model 1 and 2.

The current research successfully established the relationships that exist between a nation brand and its GDP growth. This study shed light on the importance of nation branding so that policy makers can design a better strategy to improve the image of the country.

CONCLUSION

The current research, whilst being basic in approach, presents sufficient empirical evidence that there is a significant relationship between a country's brand image and its economic wellbeing. In other words, national branding must be a key consideration for government's economic policy agenda. In fact, one can argue that the collection of perceptions that people hold about a country can greatly impact its economic performance. Throughout this study, various mechanisms have been put in place in order to ensure the internal and external validity of its findings and the generalizability of the conclusions.

In light of these findings, it can be concluded that a clear and well-defined strategy that seeks to improve the image of a country is expected to positively impact its economic situation as it has been demonstrated by the econometric Model I. From Model II, the six dimensions that are used to construct the Anholt-GfK Roper Nation Brands Index ™ do affect GDP growth. For instance, the Tourism regressor, which measures the country's attractiveness from a tourism point of view, was found to positively impact its GDP growth. NBI Culture and Heritage, on the other hand, was found to negatively affect the GDP growth of a nation. Furthermore, it was concluded that the Anholt-GfK Roper Nation Brands Index and its sub-indices act as proxies for other economic variables in that they mirror the country's endeavours to improve its economic wellbeing. The present study, albeit being basic in its approach, seeks to quantitatively analyse the relationship between a nation's branding strategies and its economic development

REFERENCES

Andéhn, M., Nordin, F., & Nilsson, M. E. (2016). Facets of country image and brand equity: Revisiting the role of product categories in country-of-origin effect research. *Journal of Consumer Behaviour, 15*(3), 225-238.

Anholt, S. (2002). Foreword: *Journal of Brand Management.* Vol.9, 4-5,

Anholt, S. (2003). Brand New Justice: The Upside of Global Branding. Butterworth Heinemann.

Anholt, S. (2003). Branding places and nations. In R.Clifton & J.Simmons (Eds): *Brand and Branding*. The Economist in Association with Profile Books, London.

Asseraf, Y., & Shoham, A. (2017). Destination branding: The role of consumer affinity. Journal of destination marketing & management, 6(4), 375-384.

Avraham, E. (2018). Nation branding and marketing strategies for combatting tourism crises and stereotypes toward destinations. *Journal of Business Research, 36*(2), 1-11.

Baltagi, Badi H. 2001. *Econometric analysis of panel data*. Wiley, John & Sons

Bolin, G., & Ståhlberg, P. (2015). Mediating the nation-state: Agency and the media in nation-branding campaigns. *International Journal of Communication, 9*, 19.

Browning, C. S. (2016). Nation branding and development: Poverty panacea or business as usual?. *Journal of International Relations and Development*, *19*(1), 50-75.

Brymer C. (2003). *Branding a country*, www.interbrand.com.

Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using Stata*. TX: Stata Press.

De Vicente J. (2004). *State branding in the 21st century*. Master's Thesis. The Fletcher School.

Dormann, C. F., Elith, J., Bacher, S., Buchmann, C., Carl, G., Carré, G., Marquéz, J. R. G., Gruber, B., Lafourcade, B., Leitão, P. J., Münkemüller, T., McClean, C., Osborne, P. E., Reineking, B., Schröder, B., Skidmore, A. K., Zurell, D. , & Lautenbach, S. (2013). Collinearity: A review of methods to deal with it and a simulation study evaluating their performance. *Ecography, 36*, 27-46.

Fan, Y. (2010). Branding the nation: Towards a better understanding. *Place Branding and Public Diplomacy*, *6*(2), 97-103.

Fan, Ying (2006). Branding the nation: What is being branded? *Journal of Vacation Marketing, 12*(1), 5-14.

Greene, W. H. (2008). *Econometric analysis*, 6th ed. Upper Saddle River, NJ: Prentice Hall.

Hamelin, N., Ellouzi, M., & Canterbury, A. (2011). Consumer ethnocentrism and country-of-origin effects in the Moroccan market. *Journal of Global Marketing, 24*(3), 228-244.

Hausman, J. (1978). Specification Tests in Econometrics, *Econometrica*, 46(6), pp.1251-1271.

Jansen, Sue Curry (2008). Designer nations: Neo-liberal nation branding — Brand Estonia. *Social Identities 14*(1), 121–42.

Kaneva, N. (2011). Nation branding: Toward an agenda for critical research. *International Journal of Communication*, 5(1) :117-141.

Klein, J.G. (2002). Us versus them, or us versus everyone? Delineating consumer aversion to foreign goods. *Journal of International Business Studies, 33*(2), 345-363.

Park, H. M. (2009). *Linear Regression Models for Panel Data Using SAS, Stata, LIMDEP, and SPSS*. Working Paper. The University Information Technology Services (UITS) Center for Statistical and Mathematical Computing, Indiana University.

Papadopoulos, N., Hamzaoui-Essoussi, L., & El Banna, A. (2016). Nation branding for foreign direct investment: An Integrative review and directions for research and strategy. *Journal of Product & Brand Management*, *25*(7), 615-628.

Regression with Stata Chapter 2 - Regression Diagnostics. UCLA: Statistical Consulting Group. from http://www.ats.ucla.edu /stat/stata/webbooks/reg/chater2/statareg 2.htm (accessed January 7, 2014).

Shapiro, S. S. & Wilk, M. B. (1965). An analysis of variance test for normality (for complete samples). *Biometrika, 52*(3-4), 591-611.

StataCorp. 2011. Stata Statistical Software: Release 12. College Station, TX: StataCorp LP

Sun, Q., Paswan, A. K., & Tieslau, M. (2016). Country resources, country image, and exports: Country branding and international marketing implications. *Journal of Global Marketing, 29*(4), 233-246.

Tabachnick, B. G. (1989). *Using Multivariate Statistics*. (2nd edition). New York: HarperCollins.

The World Bank. (2012). Annual GDP Growth [Data file]. Available from http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG

Vittinghoff, E., Glidden, D. V., Shiboski, S. C., & McCulloch, C. E. (2005). *Regression methods in biostatistics: Linear, logistic, survival, and repeated measures models*. New York: Springer Science.

Weber, B. (2012). *Outliers* [PDF document]. Retrieved from Lecture Notes Online Web site: http://kellogg.northwestern.edu/faculty/weber/emp/_Session_4/Outliers.pdf

APPENDIX
IDENTIFICATION AND TREATMENT OF UNUSUAL AND INFLUENTIAL DATA AND OTHER STATISTICALS TESTS FOR ROBUSTNESS

Outliers

A scatterplots half matrix of explanatory and response variables plotted against each other was performed. A visual screening of individual plots shows that in some scatterplots such as (GDP_Growth vs. NBI_People), there are data points that are located far away from the cloud of the remaining observations. These points require extra attention since they might be potential outliers that can distort the results of the panel models. Preliminary pooled OLS analyses using the entire dataset have been performed to construct Model I and II. Data points with absolute standardized residual values exceeding 2 should normally raise alarm as they could hide potential outlying values (Weber, 2012). All these points have been identified for Model I and II and are listed in Table 8 and 9.

High Leverage Data Points

High leverage data are observations with an extreme value(s) on one or multiple regressors. Such observations can significantly bias the results of the econometric models being built, since they tend to amplify the regression coefficient estimates (Vittinghoff et al., 2005). These high leverage points have been identified for Model 1 and 2 and are illustrated in Table 10 and 11.

Table 8. List of Data Points with Absolute Standardized Residual Values Exceed 2 (M1)

	Year	Country	r1
35.	2008	Taiwan	2.073403
41.	2008	Romania	2.134339
44.	2008	United Arab Emirates	-2.889179
68.	2009	Finland	-2.374648
72.	2009	Russia	-2.036872
92.	2009	Lithuania	-3.072155
94.	2009	United Arab Emirates	-2.851966
95.	2009	Estonia	-2.998368
135.	2010	Taiwan	2.044365
140.	2010	Peru	2.092084
144.	2010	United Arab Emirates	-2.313117

Table 9. List of Data Points with Absolute Standardized Residual Values Exceed 2 (M2)

	Year	Country	r2
35.	2008	Taiwan	2.967847
41.	2008	Romania	2.412788
44.	2008	United Arab Emirates	-2.20194
68.	2009	Finland	-2.082315
72.	2009	Russia	-2.36132
76.	2009	Mexico	-2.260956
85.	2009	Taiwan	2.65926
92.	2009	Lithuania	-3.122618
94.	2009	United Arab Emirates	-2.339852
95.	2009	Estonia	-3.372065
140.	2010	Peru	2.298683
141.	2010	Romania	2.666362

Table 10. List of Observations with Leverage > (2*1+2)/200 =.02 (M1)

	Year	Country	lev1
8.	2011	Australia	.0227628
52.	2011	Egypt	.0206204
55.	2010	Estonia	.023497
56.	2011	Estonia	.0334928
68.	2011	Germany	.0229909
85.	2008	Iran	.0339482
92.	2011	Ireland	.0265823
112.	2011	Mexico	.0353183
136.	2011	Poland	.0206269
165.	2008	Spain	.0209777
176.	2011	Switzerland	.022591
180.	2011	Taiwan	.024325
188.	2011	Turkey	.0268718
191.	2010	United Arab Emirates	.0236026
192.	2011	United Arab Emirates	.0597314
197.	2008	United States	.0266621

From Table 8, 9, 10, and 11, it appears that the dataset contains data points, such as the observations associated with Japan in 2009, that can possibly be outliers and high leverage

points at the same time. Figures 2 and 3 can help identify such data points.

Table 11. List of Observations with Leverage > (2*6+2)/200 =.07 (M2)

	Year	Country	lev2
30.	2009	China	.0740218
32.	2011	China	.0758278
37.	2008	Czech Republic	.0733633
52.	2011	Egypt	.0795044
56.	2011	Estonia	.0789021
68.	2011	Germany	.0765994
92.	2011	Ireland	.0817199
96.	2011	Italy	.0970392
98.	2009	Japan	.1044483
164.	2011	South Korea	.0810984
184.	2011	Thailand	.0756958
192.	2011	United Arab Emirates	.0961123
198.	2009	United States	.0764245
200.	2011	United States	.0786963

Table 12. Data Points with Cook's d > 0.02 (M1)

	Year	Country	d1
32.	2011	China	.024119
54.	2009	Estonia	.0627068
58.	2009	Finland	.0206491
102.	2009	Lithuania	.061612
137.	2008	Romania	.0217548
180.	2011	Taiwan	.0278661
189.	2008	United Arab Emirates	.0202485
190.	2009	United Arab Emirates	.0513443
191.	2010	United Arab Emirates	.0632788
192.	2011	United Arab Emirates	.1170383

Figure 2. A Plot Representing Data Points with High Leverage and Large Squared Residual Values (M1)

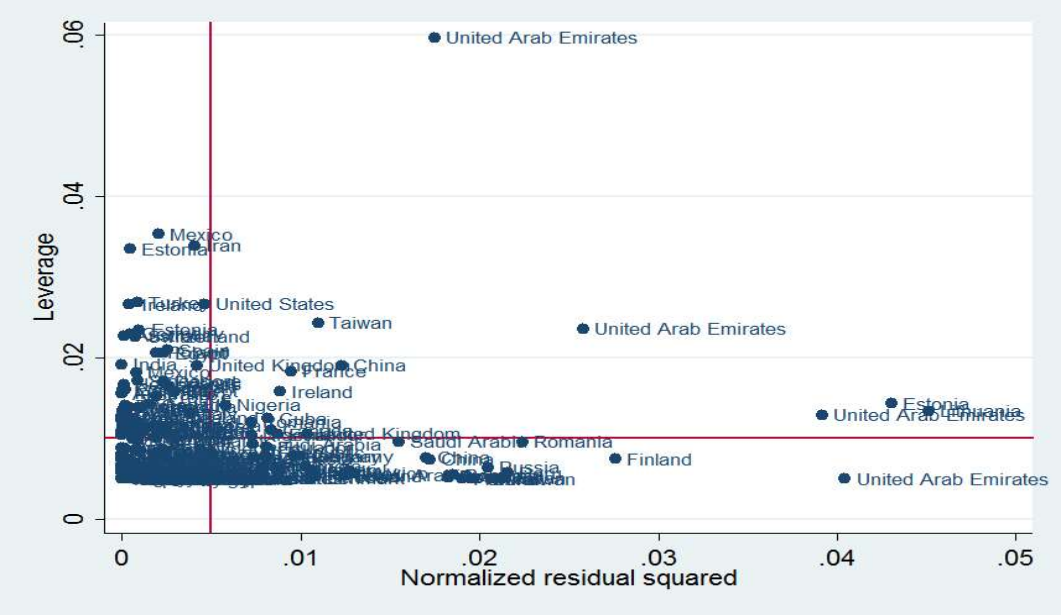


Figure 3. A Plot Representing Data Points with High Leverage and Large Squared Residual Values (M2)

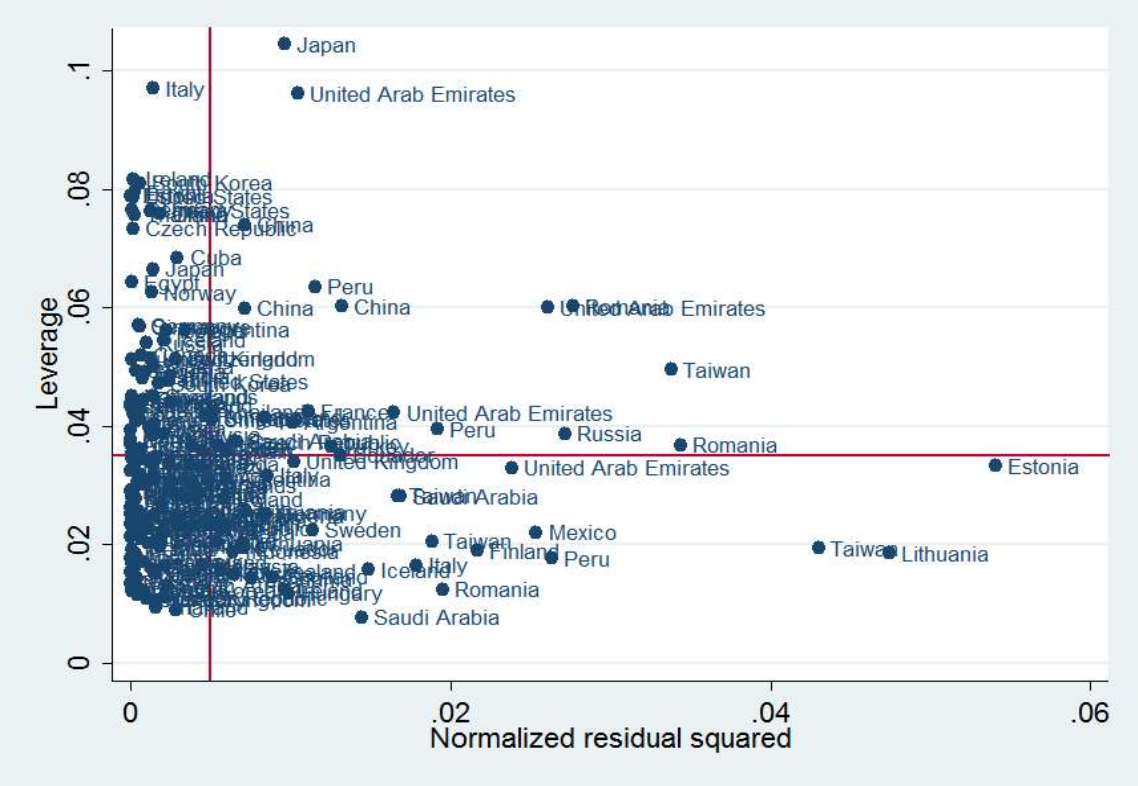


Table 13. Data Points with Cook's d > 0.02

	Year	Country	d2
29.	2008	China	.0248356
54.	2009	Estonia	.0530529
98.	2009	Japan	.0345691
102.	2009	Lithuania	.0251813
129.	2008	Peru	.0226012
132.	2011	Peru	.0230183
137.	2008	Romania	.051951
139.	2010	Romania	.0376374
142.	2009	Russia	.031402
177.	2008	Taiwan	.0239752
178.	2009	Taiwan	.0510814
189.	2008	United Arab Emirates	.0231266
190.	2009	United Arab Emirates	.0488234
191.	2010	United Arab Emirates	.0209388
192.	2011	United Arab Emirates	.0338268

Individual Cook's distances have been computed for all observations used to construct Model 1 and 2. Table 12 and 13 summarise all observations in Model 1 2 with Cook's distances that are greater than 4/number of obs =.02. DFBETA values corresponding to the first five observations under Model 2 have been retrieved from the dataset and listed in Table 14.

Influential Data Points

The DFBETA command in Stata analyses how each coefficient in the model responds when an observation is omitted or not. The rule of thumb is to further investigate observations with an absolute DFBETA value that is greater than $2/\sqrt{200} = 0.1414$. These data points can be visually identified in Figure 4 and 5 and are listed in Table 15 and 16

Table 14. First Five Observations and their Corresponding DFBETA values (M2)

	Year	Country	_dfbet~t	_dfbet~ce	_dfbet~re	_dfbet~le	_dfbeta~m	_dfbeta~v
1.	2008	Argentina	.0068223	-.0132217	-.039939	-.1513421	.0955367	.0966612
2.	2009	Argentina	.1091935	.0191969	-.1130729	-.0308635	-.0119053	.0002264
3.	2010	Argentina	.0253668	-.0707883	-.0517044	.0132377	-.0133983	.0481647
4.	2011	Argentina	.0310804	-.0596878	-.0464132	-.135648	-.009945	.0840413
5.	2008	Australia	.0001606	-.0001459	.0020644	-.0013965	-.0015258	-.0000218

Figure 4. A Graph Identifying Observations with DFBETA Values in Excess of the Cut-off Points -.1414 and .1414 (M1)

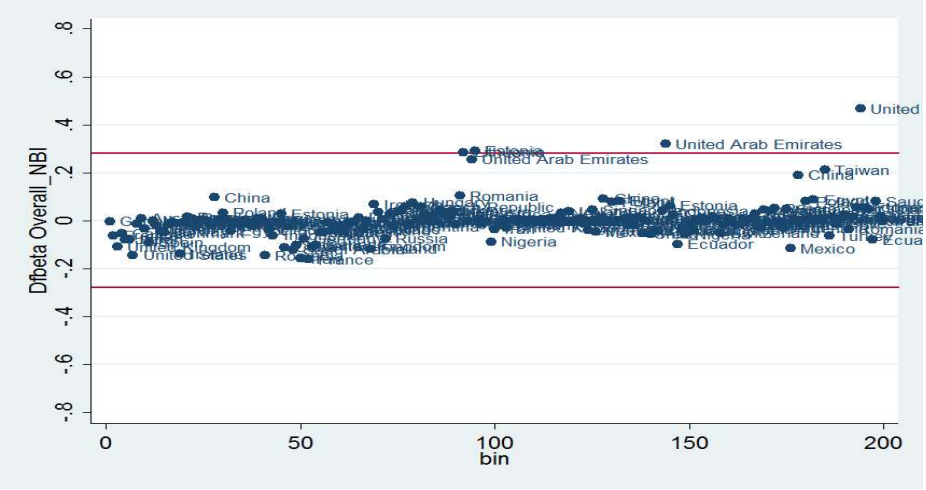


Figure 5. A Graph Identifying Observations with DFBETA Values in Excess of the Cut-off Points -0.1414 and 0.1414 (M2)

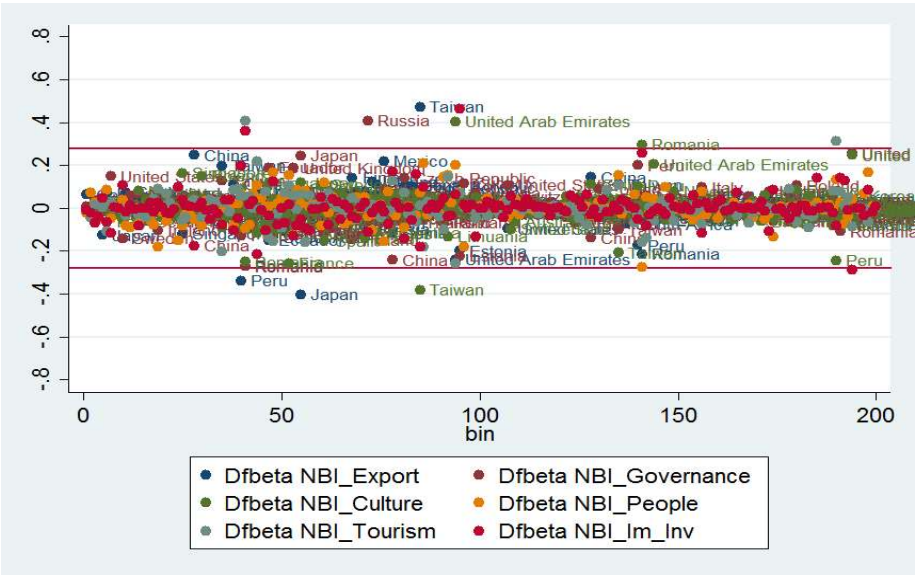


Table 15. A List of Observations with DFBETA Values in Excess of the Cut-off Points -0.1414 and 0.1414 (M1)

	Year	Country
32.	2011	China
54.	2009	Estonia
62.	2009	France
85.	2008	Iran
102.	2009	Lithuania
137.	2008	Romania
180.	2011	Taiwan
190.	2009	United Arab Emirates
191.	2010	United Arab Emirates
192.	2011	United Arab Emirates
197.	2008	United States

TESTING NORMALITY, HOMOSCEDASTICITY AND NORMALITY OF RESIDUALS

A major assumption under the OLS analysis is to construct models with residual values that are normally, or at least identically and independently, distributed. The normality of residuals is only required in order to conduct valid hypotheses tests including F-tests and t-tests. Two kernel density plots of residual values were generated from the pooled OLS analyses for Model 1 and 2 respectively. For both Models 1 and 2, the residuals appear normally distributed around their respective means. Further test using the Shapiro- Wilk W-test (1965) were also performed for both models in order to quantitatively assess the normality of residuals. For both models, the p-values are larger than .005, which suggests that the residual values obtained from the initial pooled OLS analysis are indeed normally distributed.

Homogeneity of the residuals. The homogeneity of the residuals' variance needs to be tested prior to constructing the econometric models (Tabachnick, 1989). The residuals were plotted against their fitted values. From the plots the residuals' variances in both models were found homogeneous and a Breusch-Pagan test for residual values confirmed that the residuals' variances are homogeneous in both models.

Table 16. A List of Observations with DFBETA Values in Excess of the Cut-off Points -0.1414 and 0.1414 (M2)

	Year	Country
1.	2008	Argentina
29.	2008	China
30.	2009	China
31.	2010	China
32.	2011	China
34.	2009	Cuba
45.	2008	Ecuador
54.	2009	Estonia
58.	2009	Finland
62.	2009	France
85.	2008	Iran
89.	2008	Ireland
94.	2009	Italy
98.	2009	Japan
102.	2009	Lithuania
110.	2009	Mexico
129.	2008	Peru
131.	2010	Peru
132.	2011	Peru
133.	2008	Poland
137.	2008	Romania
138.	2009	Romania
139.	2010	Romania
142.	2009	Russia
145.	2008	Saudi Arabia
148.	2011	Saudi Arabia
153.	2008	Singapore
166.	2009	Spain
169.	2008	Sweden
177.	2008	Taiwan
178.	2009	Taiwan
179.	2010	Taiwan
180.	2011	Taiwan
182.	2009	Thailand
186.	2009	Turkey
189.	2008	United Arab Emirates
190.	2009	United Arab Emirates
191.	2010	United Arab Emirates
192.	2011	United Arab Emirates
194.	2009	United Kingdom
197.	2008	United States

Multicollinearity. Multicollinearity is a multivariate problem which arises when predictor variables in a regression model are linearly related (Dormann et al., 2013). In situations where the degree of multicollinearity in a model is above normal, the standard errors of the coefficients tend to increase, and the coefficients estimates become highly unstable. The VIFs, which measure the severity of the multicollinearity in an OLS regression analysis, have been computed for all predictor variables in Model 2. It appears that the predictors used in Model 2 all have a VIF < 10. Therefore, it can be concluded that the degree of multicollinearity in Model 2 fits the requirements of the OLS regression analysis.

PREDICTOR VARIABLES TRANSFORMATION

From Table 16, it appears that the response variable GDP_Growth does not require any transformation. As for the predictors NBI_Export and NBI_Governance NBI_Culture, the p-values of their $\chi 2$ tests across all possible transformations indicate that the square root transformation would help make these variables more normally distributed (highest p-values).Under the OLS analysis, the normality of residuals is only required to have valid t-tests. That is, regression coefficients remain valid although residuals are not normally distributed but their statistical relevance cannot be validated. The ladder command in STATA lists the major transformations that can be performed on variables in Model 1 and 2 and quantifies their appropriateness. Table 17 summarises the outputs of the ladder command on the dataset. Table 18 compares the results of the pooled OLS regression analysis before and after the square root variable transformations have been performed on NBI_Export NBI_Governance NBI_Culture for Model 1 and 2.

Table 17. Comparison Across Potential Transformations Using the Ladder in STATA

	Trsf	GDP_Growth	Overall_NBI	NBI_Export	NBI_Governance	NBI_Culture	NBI_People	NBI_Tourism	NBI_Im_Inv
P (chi2)	cubic	0	0,007	0	0	0	0,008	0	0
	square	0	0,031	0	0,017	0,014	0,248	0,031	0,025
	identity	0,787	0,283	0,208	0,426	0,379	0,904	0,969	0,772
	sqrt	0	0,298	0,322	0,627	0,683	0,359	0,522	0,013
	log	0	0,037	0,002	0,268	0,343	0,031	0,033	0
	1/(sqrt)	0	0,001	0	0,023	0,029	0,001	0	0
	inverse	0	0	0	0,001	0,001	0	0	0
	1/square	0	0	0	0	0	0	0	0
	1/cubic	0	0	0	0	0	0	0	0

Table 18. Assessing the Effect of Variables Transformation on the Results

		Influential points	After transformation
	n	162	162
	Prob > F	0	0
	R-squared	0,3598	0,3616
	Adj R-squared	0,335	0,3369
P>|t|	NBI_Export	0,734	0,677
	NBI_Governance	0,145	0,17
	NBI_Culture	0,022	0,017
	NBI_People	0,005	0,007
	NBI_Tourism	0,025	0,027
	NBI_Im_Inv	0	0
Reg coef	NBI_Export	0,0129382	0,2301959
	NBI_Governance	-0,0587919	-0,7929835
	NBI_Culture	0,0975015	1,509994
	NBI_People	0,1356139	0,1311858
	NBI_Tourism	0,0908079	0,0890545
	NBI_Im_Inv	0,1479032	0,153586

	Outliers	After Transformation
n	189	189
Prob > F	0,0002	0,001
R-squared	0,0726	0,0775
Adj R-squared	0,0677	0,0726
P_Overall_NBI	0	0
Coef_Overall_NBI	0,0799017	1,646146

Journal of Euromarketing, 29: 137 - 138, 2020
Copyright © IMDA Press
ISSN: 1049-6483 print / 1528-6967 online

IMDA Press

BOOK REVIEW

Handbook of Entrepreneurship and Marketing Ian Fillis and Nicholas Telford, editors (2020). Cheltenham, UK: Edward Elgar Publishing. 456 pages. ISBN: 978-178536 4563 (hardcover), ISBN: 978-1785364570 (eBook).

Reviewed by Claude Cellich, International University in Geneva, Switzerland

The *Handbook of Entrepreneurship and Marketing* is a welcome addition to the growing interest in the theory and practice of marketing by executives of small and medium enterprises (SMEs). The increasing participation of SMEs in the global economy forces them to constantly innovate to remain competitive in a complex, ambiguous, and chaotic context due to the entry of new competitors, shorter product life cycles, greater consumer sophistication, and digitalization of the economy.

The Handbook is structured into 6 parts containing 28 chapters written by 51 scholars. Part I starts with an introduction and setting the scene, followed by SMEs strategy and networking in Part II, contemporary developments in entrepreneurial marketing practice (Part III), innovative approaches to understanding entrepreneurial marketing (Part IV), entrepreneurship marketing and the arts and cultural industries (Part V), and ends with a concluding chapter (Part VI) addressing future directions in entrepreneurship and marketing.

In Parts I and II, the attributes of entrepreneurs are described by several authors. Although some nuances exist among them, all authors mention that entrepreneurs tend to be risk takers, that they tend to be optimistic, and that they display creativity and passion for the development of their enterprises. Instead of having a clear marketing strategy, entrepreneurs rely mostly on ad hoc activities, informal networks, intuition, and learning by doing. Many SMEs do not survive beyond the initial phase of development due to insufficient financial resources, weak managerial skills, low investment in digital technologies, poorly trained staff in data analytics, and limited knowledge of consumer demand. This explains to some extent the high rate of failures among start-ups in the early phase of development (Dinnar & Susskind, 2019).

Part III, chapters on crowdfunding, are timely as they provide practical advice on the benefits and pitfalls of seeking financial resources from nontraditional channels. Entrepreneurs can consider four different crowdfunding models as described below:

- donation-based, which is non-financial and mainly social oriented
- rewards-based, providing capital in exchange of receiving tangible rewards
- lending-based model, offering funds as a loan with the expectation of a return on investment
- investment-based model, also known as the equity-based model, where capital is provided in return for a proportion of equity in the enterprise.

Of all the 4 models, the reward and lending ones are most significant for entrepreneurs. When considering crowdfunding, entrepreneurs should ask themselves questions to avoid unpleasant surprises, including "Am I seeking funding or crowdfunding, and how much do I really need?"

The chapter on the internationalizing of SMEs addresses the importance of having in-house expertise. Going international calls for specialized skills to survive in today's global marketplace. Often, business opportunities are lost due the difficulties of the staff to handle export/import procedures.

Part IV addresses the role of leadership and its impact on the enterprise's performance. It is best for entrepreneurs focus their energies on both tangibles and intangibles over the long term. For SMEs, intangibles can provide inexpensive resources for their marketing activities. Reference is made to the marketing literature that treats SMEs as smaller versions of large organizations. However, SMEs do not have the financial resources to develop and apply conventional marketing strategies. To offset resource constraints, entrepreneurs rely on personal contacts, word-of-mouth, and storytelling to promote their products or services. When done properly, storytelling can become an effective and inexpensive promotional tool (Fryer, 2003). Serendipity and being at the right place at the right time can have a positive on impact on a firm's performance.

Part V contains several chapters representing various industries including film, publishing, arts organizations, and visual arts. All these industries share a common goal of creativity. The survival of the organization is often linked to the founder tendency to control decision making and marketing, as entrepreneurs are reluctant to delegate. This raises the question of longevity and the issue of succession, as entrepreneurs are too busy engaging in daily operations to consider future growth opportunities. In addition to applying the SWOT analysis, entrepreneurs can consider the VUCA concept (volatility, uncertainty, complexity, ambiguity) to help them to make better decisions and anticipate potential problems while providing a comprehensive view of the environment they are operating (Bennett & Lemoine, 2014).

In conclusion, this volume is a timely resource for academics as it contributes to the literature while advancing our knowledge of the expanding field of entrepreneurial marketing. Although entrepreneurs operate in different industries, they share similar constraints, mainly financial ones, limiting their marketing activities. Digital technologies offer new channels of communications to enhance entrepreneurs' marketing efforts. Social media provides another opportunity to communicate with customers, provided that the messages are updated regularly and targeted to the intended audience. Scholars will find challenging thoughts for future research into how entrepreneurs can improve their management and marketing performances through the introduction of new business models and the integration of digital technologies in their organizations.

References

Bennett, N., & Lemoine, G. (January-February, 2014). What VUCA really means to you. *Harvard Business Review.*

Dinnar, S., & Susskind, L. (Eds.). (2019). *Entrepreneurial negotiation*: *Understanding and managing the relationships that determine entrepreneurial success*. Palgrave MacMillan.

Fryer, B. (June 2003). Storytelling that moves people. *Harvard Business Review.*

JOURNAL OF EUROMARKETING

Author Index to Volume 29

Numbers 1-4, 2020

JOURNAL OF EUROMARKETING

Enlarged Europe is playing an increasingly more important role in the global economy. The purpose of the Journal of Euromarketing is to meet the needs of academics, practitioners, and public policy makers in the discussion of marketing issues pertaining to Europe and European countries' trading relationship with other nations. The purpose of this journal is to increase our understanding of the strategic planning aspects of marketing management in Europe. As well, marketing and international business aspects of the trading relationship between European and foreign firms are also explored conceptually and analytically. The unique position of the region provides fascinating reading material for practitioners, public policy makers and academicians. The articles submitted to the journal create a forum whereby a conceptual understanding of the European markets and marketing systems be operationalized, analytical insights obtained as well as the past, the present, and the future of European marketing be highlighted.

The manuscripts submitted should report the results of cross-cultural/national and comparative studies conducted among countries of Europe and European countries and other nations. The articles submitted can be based upon a single country of the region and/or industry there upon with a concerted effort to contrast the results/findings and managerial implications with those obtained by international marketing scholars/practitioners elsewhere. Both thought provoking and well-developed and documented conceptual/ theoretical as well as empirical contributions are sought. But every manuscript must have an applied, managerial orientation.

With its 28 full and 6 associate members, EU is the world's largest internal market possessing nearly $13 trillion economy. Its importance is constantly increasing. Currently, there is a vacuum in the marketing literature which needs to be filled by relating the Europe factor to the global marketing scene; emphasizing on an interaction mode – that is, the horizontal dimension as well as the inter and intra trade and marketing activities in Europe. As such, Journal of Euromarketing covers the following areas of inquiry:

a) Functional areas of marketing in Europe and comparison with the practices of those in other regions.
b) The dynamics that account for the linkage of European national markets into markets of the developing world, North and Latin America, the Far East and Africa.
c) Determine the best methods available for marketing goods and services in different socio-economic, demographic, cultural, competitive, and legal-political environments of Europe at national and regional levels.
d) The method by which European marketing institutions are linked together into viable and coherent business systems.
e) The type of environmental factors prevailing in different European countries of the region which force changes in the marketing structure of the area countries and industrial sectors
f) How efficiently does the marketing system perform its universal functions in the countries of Europe and how the weaknesses of the marketing system can be overcome in the region?
g) The various stages of market and marketing system development in Europe as a working device for generalizing and, possibly, predicting likely developments in marketing in individual countries of the region.

Articles submitted must contain practical information for the marketing practitioners, public policy makers, classroom teachers and researchers with a major emphasis on European marketing. The Journal tries to appeal to a larger group of readers, so the articles should be written in such a manner that those outside the field can comprehend the expertise and attitudes of those who work within it. Hence, a major

criterion is that the language used should be as simple as possible without altering in any way, form, or shape the quality of the information to be communicated. Although not exhaustive, the following topics are illustrative of the subject areas to be covered in the Journal:

- Cross-National Consumer Segments in Europe
- Export behavior of European Firms
- Marketing Strategies of European Multinationals
- Marketing Implications of Strategic Alliances of European Firms
- Markets and Marketing Systems of European Countries
- Marketing Practices of Europe Companies
- Public Sector Marketing in Europe
- Comparative Marketing Systems in Europe
- Diffusion of Innovations Among European Nations
- Transfer of Marketing Technology and Reverse Technology Transfer in Europe
- Buyer-Seller Interactions and Organizational Buyer Behavior Issues in European Markets
- Business Customs and Practices Among European Countries
- Marketing Interaction/Interrelationships Between Europe and Other Trading Blocs
- European Corporate Cultures
- Legal-Political Aspects of Marketing in Europe
- Marketing Issues Pertaining to EU, EFTA, Council of Europe, European Members of OECD, and Associate Members of EU
- Marketing Research in Europe
- Communication/Promotion/Advertising Strategies of European Firms
- Other Topics Directly Related to European Marketing

The Journal is published four times a year. Papers are blind reviewed by at least two members of the Editorial Review Board. Book reviews and special case study materials based on product/service, success and/or failure of European companies in global markets and industries shall also appear as regular items in the Journal of Euromarketing.

Prospective authors are requested to attempt to restrict their submissions to approximately twenty-five double spaced pages including figures, tables, and references. Authors should submit their manuscripts electronically along with a short abstract and a one-page executive summary (this is in addition to an abstract which emphasizes on the managerial and/or public policy implications of the article) to either Editor-in-Chief Erdener Kaynak at ek9@comcast.net or Associate Editor Dr. Abu N. M. Waheeduzzaman at waheed@tamucc.edu. The IMDA Press style guidelines should be used in preparing manuscripts. If in doubt, prospective authors should either refer to the inside back cover of any IMDA Press journals or use The APA Style Guidelines. For more information and subscription to the journal visit http://journals.sfu.ca/je/index.php/euromarketing
For "Instructions for Authors" and for additional information, please contact the Editor-in-Chief.

Erdener Kaynak, Ph.D. D. Sc.
Editor-in-Chief
Journal of Euromarketing
The IMDA Press
P.O. Box 94
Cambeltown, Pennsylvania 17010
U.S.A

Telephone: (717) 566-6586 (Journal)

Fax: (717) 948-6343 (Office)
(717) 566-1191 (Journal)

INSTRUCTIONS FOR AUTHORS

Aims and Scope. The *Journal of Euromarketing* aims to meet the needs of academicians, practitioners, and public policymakers in the discussion of marketing issues pertaining to Europe. It helps to increase our understanding of the strategic planning aspects of marketing in Europe and the marketing aspects of the trading relationship between European and foreign firms. Today's Europe is going to play an increasingly more important role in the global economy, so the unique position of the region is certain to provide fascinating reading material. The *Journal of Euromarketing* fosters a conceptual understanding of the European markets and marketing systems, provides analytical insights, and highlights the past, present, and future of European marketing.

Manuscript Submissions. Authors are strongly encouraged to submit manuscripts electronically. If submitting a disk, it should be prepared using MS Word or WordPerfect and should be clearly labeled with the authors' names, file name, and software program. Manuscripts should be submitted in triplicate to Dr. Erdener Kaynak, Editor, *Journal of Euromarketing*, School of Business Administration, Pennsylvania State University at Harrisburg, 777 West Harrisburg Pike, Middletown, PA 17057 or by e-mail at k9x@psu.edu or ek9@comcast.net

Each manuscript must be accompanied by a statement that it has not been published elsewhere and that it has not been submitted simultaneously for publication elsewhere. Authors are responsible for obtaining permission to reproduce copyrighted material from other sources and are required to sign an agreement for the transfer of copyright to the publisher. All accepted manuscripts, artwork, and photographs become the property of the publisher.

All parts of the manuscript should be typewritten, double-spaced, with margins of at least one inch on the all sides. Number manuscript pages consecutively throughout the paper. Authors should also supply a shortened version of the title suitable for the running head, not exceeding 50 character spaces. Each article should be summarized in an abstract of not more than 100 words. Avoid abbreviations, diagrams, and reference to the text in the abstract.

References. References, citations, and general style of manuscripts should be prepared accordance with the APA Publication Manual, 4th ed. Cite in the text by author and date (ex: Smith, 1983) and include an alphabetical list at the end of the article. Examples: Journal: Tsai, M. & Wagner, N. N. (1978). Therapy groups for women sexually molested as children. *Archives of Sexual Behavior, 7*(6), 417-427. Book: Millman, M. (1980). *Such a pretty face*. New York: W. W. Norton. Contribution to a Book: Hartley, J. T., & Walsh, D. A. (1980). Contemporary issues in adult development of learning. In L. W. Poon (Ed.), *Ageing in the 1980s* (pp. 239-252). Washington, DC: American Psychological Association.

Illustrations. Illustrations submitted (line drawings, halftones, photos, photomicrographs, etc.) should be clean originals or digital files. Digital files are recommended for highest quality reproduction and should follow these guidelines: 300dpi or higher; sized to fit on journal page; EPS, TIFF, PSD format only; and submitted as separate files, not embedded in text files.

Color Illustrations. Color illustrations will be considered for publication; however the author will be required to bear the full cost involved in color art reproduction. Color art can be purchased for online only reproduction or for print + online reproduction. Color reprints can only be ordered if print + online reproduction costs are paid. Rates for color art reproduction are: Online Only Reproduction: $225 for the first page of color; $100 per page for the next three pages of color. A maximum charge of $525 applies. Print + Online Reproduction: $900 for the first page of color; $450 per page for the next three pages of color. A custom quote will be provided for articles with more than four pages of color.

Tables and Figures. Tables and figures (illustrations) should not be embedded in the text, but should be included as separated sheets or files. A short descriptive title should appear above each table with a clear legend and any footnotes suitably identified below. All units must be included. Figures should be completely labeled, taking into account necessary size reduction. Captions should be typed, double-spaced, on a separate sheet.

Proofs. Page proofs are sent to the designated author using IMDA Press's Article Tracking System (ATS). They must be carefully checked and returned within 48 hours of receipt.

Reprints and Issues. Reprints of individual articles are available for order at the time authors review page proofs. A discount on reprint is available to authors who order before print publication. Each contributing author will receive 1 complete issue in which the article publishes and a complimentary PDF. The file is for personal use only and may not be copied and disseminated in any form without prior written permission from IMDA Press.