

ANALYZING THE IMPACT OF REBRANDING IN MECHANICAL INDUSTRY TOWARDS CUSTOMER REACTION: A CASE STUDY IN PT. TURBO TECH INDONESIA.

Haddara Nuraini¹, Ainur Rofiq²

Abstract

This minor thesis is purposes to examine the influence of rebranding towards consumer behavior. There are six independent variables included in the rebranding namely, new brand and service proximity, stronger new and initial brand familiarity, stronger brand image, initial brand attachment, place attachment, and place convenience. The six independent variable were investigated to see the impact on change in service evaluation. The sampling technique used is purposive sampling and the research instruments were tested using the validity test, reliability test, and classical assumption test. The hypotheses used partial (T-test) and dominant test. Result of the data analysis from multiple regressions showed that the six variables have a significant effect partially to change in service evaluation. Overall, all independent variables are included in the regression equation to dependent variable which is equal to 50.7 %, while 49.3 % is contributed by other variables that are not included in this equation. From the test result, the dominant test shows that attachment to the service place variable has a dominant influence on change in service evaluation.

Keywords: *rebranding, customer reaction, service evaluation, proximity between the new brand and the service, brand familiarity, brand image, service place.*

Abstrak

Minor Tesis ini bertujuan untuk menguji pengaruh rebranding terhadap perilaku konsumen. Ada enam variabel independen termasuk dalam rebranding yaitu, kedekatan merek baru dan layanannya, lebih kuat keakraban merek awal dan yang baru, citra merek yang lebih kuat, keterikatan merek awal, keterikatan pada tempat, dan kenyamanan tempat. Keenam variabel bebas diselidiki untuk melihat dampak perubahan dalam evaluasi layanan. Teknik sampling yang digunakan adalah purposive sampling dan instrumen penelitian diuji dengan menggunakan uji validitas, uji reliabilitas, dan uji asumsi klasik. Hipotesis yang digunakan adalah parsial (T-test) dan uji dominan. Hasil analisis dari beberapa data regresi menunjukkan bahwa enam variabel memiliki pengaruh yang signifikan secara parsial terhadap perubahan evaluasi layanan. Secara keseluruhan, semua variabel independen termasuk dalam persamaan regresi untuk variabel dependen yang sama dengan 50,7%, sedangkan 49,3% merupakan kontribusi variabel lain yang tidak termasuk dalam persamaan ini. Dari hasil tes dominan menunjukkan bahwa keterikatan pada variabel layanan tempat memiliki pengaruh yang dominan terhadap perubahan dalam evaluasi layanan.

Kata Kunci: *rebranding, reaksi pelanggan, evaluasi pelayanan, kedekatan antara merek baru dan layanan, keakraban merek, citra merek, dan tempat layanan.*

INTRODUCTION

Tuominen (1999) defined brand as “a name, term, sign, symbol, design, or combination of them which is intended to identify the goods and services of one seller or a group of sellers and to differentiate them from those competitors”. Indeed, brands itself are important intangible assets that significantly influence company performance (Morgan & Rego, 2009; Rao et al, 2004). Srivastava and Shocker (1991) also added that the value of a brand can be measured not only in terms of providing advantages in a competitive market, but also opening up the potential market that has not seen. One of the most popular marketing concept and potentially vital which has widely discussed by both scholars and practitioners during the last decade is branding and its brand equity. In addition to the actual brand owned assets, such as patents and trademarks, there are four main elements underlying brand equity: brand name, brand loyalty, brand perceived quality, and brand associations (Kaikati and Kaikati, 2003). Maintaining a brand in service firms is challenging. Based on de Chernatony & Cottam (2006) and Keller (2003), companies will constantly need to take the chance to transform the brand to retain the accuracy of brand equity.

Due to company's constantly changing business environment, many businesses are reported in the press has adopted a new name for instance, mergers, acquisitions or changes in normal ownership. This strategy may annul years of effort and can seriously damage or even destroy brand equity (Muzellec & Lambkin, 2006).). In a strong brand, there must always be a revolution to stay desirable. Managing the brand for the long haul might involve rebranding. Accordingly, nearly all expenses for rebranding are just able to fully deem and, in some cases, is actually crucial for survival. Rebranding is expected to give opportunity for complete transformatio (Kaikati and Kaikati, 2003).

Certainly, the rebranding actions taken by some companies are based on the reasonable grounds. One of which occurs in this case study. The company PT. Turbo Tech Indonesia originally comes from Europe precisely in Netherlands. Previous, it was named as PT TurboNed Indonesia. Based on Economic and Financial Affair (<http://ec.europa.eu/>, 2009) the world economic crisis is rooted in the failure of European Union to improve banking system. The economic crisis afflicts many sides including Turboned in Greek branch. In 2009, the central organization company located in the Netherlands took an action to close branches in Greece and Italy. In 2012, one of Europe banks was forced to acquire and close Turboned in Netherland. Regarding this major problem, it required for all branches around the world not to use the brand that is already embedded in corporate identity including the two branches in Indonesia. The above are mentioned reasons require the management team at PT. Turboned Indonesia to take a decision. Precisely in 2014 the management then replaced PT. Turboned with PT. Turbo Tech Indonesia.

From previous study, rebranding has been identified as a solution to address these challenges. However, Rebranding is expensive and time-consuming, and as the amount of companies raised practice of rebranding, the failure rate is higher compared to its success (Causon, 2004; Stuart and Muzellec, 2004). As shown by Kapferer (2007), brand name changes particularly risky for the company. Only two studies (jaju et al, 2006; Collange, 2008) has investigated how the characteristics of the two brand names are involved the evaluation of the

impact of a product or company. So, there is no model has been developed in the context of the services and the topic needs to be an investigation. Addition to their intuition, marketing manager in the services sector did not really understand why consumers easily accept some changes to the brand name but not the other, independently of how they are implemented.

From the background and issues written above, this research is conducted in order to examine whether review literature on product rebranding and on service place characteristics to identify variables that might explain the change in evaluation of a service that has undergone PT. Turbo Tech Indonesia rebranding issue. Furthermore, this research is entitled **"Analysis on The Impact of Rebranding As A Marketing Strategy in Mechanical Industry Towards Consumer Reaction: A Case Study In PT. Turbo Tech Indonesia."**

Corporate Brand Name

During the last two decades, many scholars have taught corporate branding as an effective approach for enterprises to build competitive advantage (Balmer, 2002). The main principles of the brand is that a product had to have quality in positive brand evaluation, how quickly an individual can remember a brand or can be called as accessible brand attitude and the consistency of a brand do 'reminders' to consumers. A lot of managers and business writers hold the view that branding is impartial image management products, additional tasks that can be isolated from the main business product management. Consumers not only use price as an indicator of quality but also, as an indicator of the cost that is sacrificed to exchange for a product or product benefits (Balmer, 2002).

Rebranding

Rebranding is a practice from the formation of a new name that represents the change within the position of the stakeholders and it is creates identity differentiation from the competitors (Muzellec & Lambkin, 2006). Rebranding strategy, which is one of the branding strategies, should be adjusted in advance for different companies to their own needs. Therefore it is difficult for all companies to apply the general formula rebranding. Further, Muzellec & Lambkin (2006) also added changing a corporate brand name suggests the loss of all values that the old name signifies in an extremely short course of time. It may nullify years of effort and can seriously damage or even destroy the equity of the brand. Some writers believe that rebranding is too costly and too time consuming. As an increasing amount of corporate practice rebranding, the failure rate is high compared to its success (Causon, 2004). By taking a broader perspective on company rebranding, it can be separated into two areas. The first is associated with changes in the visual identity of the company, including the company name and logo change (Muller et al., 2011). However, the second is also related to internal processes, including the companies values change, the participation of employees and the company's internal marketing (Lomax and Mador, 2006).

Service Evaluation

Service evaluation is about proactively testing the customer's service experience and measuring the actual experience against the ideal that the business wants to deliver (Ringin, 2016). Key to the accuracy and successful service

evaluation should be based with factual, objective, fair results that can only be achieved if the services are actually performed by people outside the business that is being evaluated, with no room for perceptions of bias or hidden agenda. An evaluation tool may be developed in the form that determines the business area that will evaluate the significance of such areas in relation to the overall score. Evaluation services are most effective when there is a clear definition to what business customers want to experience, and this turn establishes brand to be achieved and maintained. Evaluating coverage can be varied from physical factors like cleanliness and merchandising. Next, the behavioral factors cover attitudes, approaches sales and the performance of the service and product knowledge (Ringin, 2016).

Brand Familiarity

Considering that the rebranding implies substitution of one brand to another, the team management would expect consumer to compare the equity of each to establish their attitude towards product, service, or company changes (Collange, 2015). Relationships between consumers and brands remain fairly strong, even if the battle for the consumer's attention is growing. In here, brand familiarity is associated with one of the evaluated element, brand awareness (Aaker, 1991). Brand familiarity, through repeated exposures to the brand, should lead to an increase in ability for consumers to identify and remember the brand. Thus, the right marketing strategy to enhance brand awareness and familiarity is obvious definition of what causes consumers to "experience" or are affected by the brand has the potential to increase familiarity and awareness (Keller, 1993).

Stronger Image

According to Aaker (1991), brand image has become essential concept in customer behavior research from the beginning of 1950s. Both marketing researchers and marketers have long advocated the use of apparent brand image as the foundation for market success. Theoreticians of brand indicate that what people know about the company can influence the perception of enterprise products. For example, the association ability of companies and associations of corporate social responsibility will affect customers' trust of and attitude towards the products of these companies, so the brand image of the company may influence the evaluation of products, and this relationship was moderated by the perceived risk.

Attachment to The Brand

Two researches conducted by Collange in 2008 and 2015 explain the effect of attachment to the initial brand. Brand attachment is defined as a psychological variables reflecting ongoing emotional relativity and cannot be changed by brand and express the relationship of psychological closeness to it. The emotion has been shown to have a powerful influence on consumer behavior (Keller, 1993). Based on Thomson et al (2005) an emotional brand attachment has been defined as a positive emotional outcome of strong connection among consumers and brands. Consumers who feel a strong attachment to brand will be more loyal and less price sensitive. Thomson et al also added that the majority of

studies to date suggest the attachment that develops and strengthens from time to time as consumers have a lot of experience to the brand.

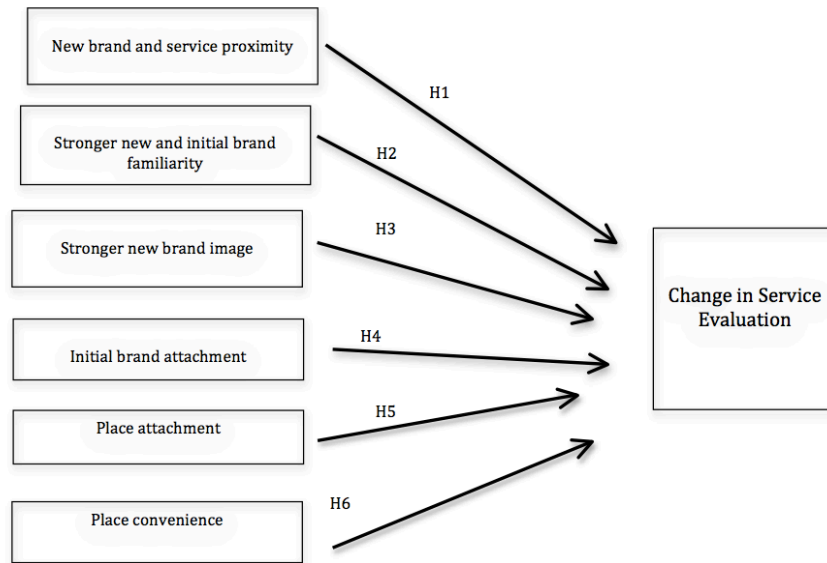
Service Place

Williams et al. (1992) proposed that the place attachment is a two-dimensional building, which consisted of identity and dependence. Places of identity have emotional meaning and refer to "the symbolic importance of a place as a repository for emotions and relationships that give meanings and purpose to life". Williams and Vaske (2003) stated that place identity can boost an individual's self-esteem and increase feelings of belonging to their community. On the other hands, place dependence has more like a functional meaning. It refers to the specific functions and conditions of a place that are necessary to satisfy an individual's needs and goals.

Brady and Cronin (2001) proposed three alternative models of place attachment to be developed. It is proposed that service quality should be measured in three dimensions: quality of interaction, environmental quality of service and result quality. Brady and Cronin (2001) further proposed that several sub-dimensions compose each of these three dimensions. Quality of interaction consists of attitudes, behaviors, and employees skill. Quality environmental services consist of the design facilities that increase customer loyalty conditions and social factors. The last is quality of the results can be developed based on the sub-dimensions of the waiting time, the real elements, and valence. These functions or conditions might be related to the physical aspects of the place such as decoration, color, furniture, office layout, and workshop cleanliness. It also has been suggested that the accessibility to a place can increase dependency (Williams and Vaske, 2003).

Hypothesis Model

- H1: The bigger the closeness between new brand and services, the more positive changes in the evaluation of services will be.
- H2: The more substantial the intimacy within the new brand name oppose to the previous brand name, the more positive the change in service evaluation will be.
- H3: The more powerful the new brand image as compared to the previous brand name, the more positive alteration in the evaluation of the service will be.
- H4: The greater consumer's attachment to the previous brand, the less positive the change in service evaluation will be.
- H5: The more powerful the consumer s attachment to the place of service, the more positive changes in the evaluation of the service will be.
- H6: The higher comfort of the service, the more positive changes in the evaluation of the service will be.



Source: Processed Data Analysis, 2016

RESEARCH METHODOLOGY

The research type in this study is using quantitative approach with emphasizing hypotheses in explanatory research. According to Maxwell and Mittapalli (2008) explanatory research is conducted to explain rather than illustrate the phenomenon studied. It has been quantitative in nature and typically tested prior hypotheses by measuring relationships between variables. Hence, this study aims to analyze the effect of independent variables from rebranding issue towards consumer reaction. This study uses validity, reliability, and classical assumption test before creating equation model to test the hypothesis. In analyzing the influence of independent variables to dependent variable, the study uses multiple linear regression analysis, *t test* and the value of *adjusted R square*.

RESULTS

Profiles of the Respondents

The demographic information includes the following characteristic of participants; age, sex, education background, and job position, which represented in frequency distribution and percentages. A total of 150 questionnaires were distributed and collected from customers of PT. Turbo Tech Indonesia. It can be inferred that the majority of respondents meeting the characteristic of this research are from bachelor degree educational background that is about 41%. Regarding the job position, most respondents are those having position as salespersons or marketing team as shown by 36%. In terms of age, there are 43% of respondents belonging to the group age of 23-29. Next, about 63% percent of respondents are male.

Descriptive Statistics of the Variables in the Model of the Study

For the dependent variable: change in service evaluation contains of 2 items, while the independent variables in each dimensions; start from new brand and service proximity contains 3 items, stronger new and initial brand familiarity

contains 2 items, stronger new brand image contains 2 items, initial brand attachment contains 5 items, place attachment contains 6 items, and place convenience contains 3 items with the total of 23 items.

According to the results, the means of service evaluation is 3.7, while the independent variables in each dimension; start from new brand and service proximity is 4.03, stronger new and initial brand familiarity is 3.85, stronger new brand image is 4.1, initial brand attachment is 4.06, place attachment is 3.78, and place convenience is 3.86. Based on the mean value above, it indicates that most of the consumers are agree with the item statement.

Descriptive Statistics of the Test Results

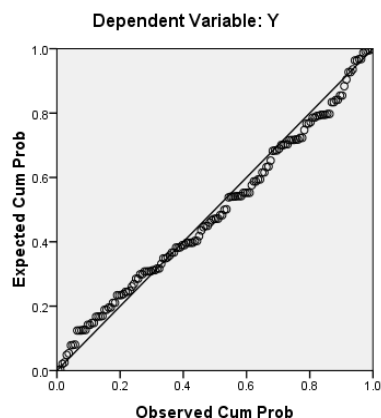
4.3a Validity and Reliability Test Results

Variable	Validity Result	Reliability Test	
	Remarks	Cronbach Alpha Coefficient	N of items
New brand and service proximity	Valid	.674	23
Stronger new and initial brand familiarity	Valid	.760	
Stronger new brand image	Valid	.701	
Initial brand attachment	Valid	.807	
Place attachment	Valid	.744	
Place convenience	Valid	.761	
Change in service evaluation	Valid	.634	

Based on validity test, the overall items included in dependent and independent variables are valid. Moreover, the results of Cronbach Alpha Coefficient are all bigger than 0.6, which indicates that all variables are reliable. In line with reliability result, normality test showed that the pattern is parallel with the diagonal line, where H_0 is accepted and fulfills the normality criteria.

4.3b Classical Assumption Test

Normal P-Plot Residuals

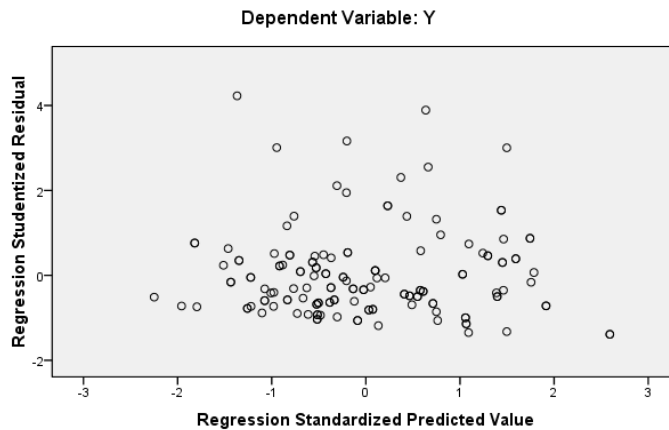


In addition, according to classical assumption test results, there is no multicollinearity and heterocedasticity happened in the test result. In six dependent variable, the result of tolerance is bigger than 0.10 and VIF less than 10.00, while in heterocedasticity test using scatterplot and it is denies the availability of heterocedasticity happened among variables.

Multicollinearity Test

Model	Collinearity Statistic	
	Tolerance	VIF
1		
X1	.756	1.323
X2	.946	1.057
X3	.954	1.048
X4	.613	1.631
X5	.592	1.688
X6	.784	1.275

Heteroscedasticity Test



For the result of regression equation, there are six variables and all the variables has significant influence on change in service evaluation, those are: new brand and service proximity is .002, stronger new and initial brand familiarity is .034, stronger new brand image is .010, initial brand attachment is .014, place attachment is .000, and place convenience is .006 by having value of Sig. lower than 0,05.

T-Test (partial)

Model	t	Sig.
(Constant)	2.839	.005
X1	3.197	.002
X2	2.146	.034
X3	2.621	.010
X4	2.497	.014
X5	6.274	.000
X6	2.804	.005

However, based on the result of determinant coefficient R square, the five dimension of service quality indeed influence students' satisfaction as big as 52.7% (0.527).

Determinant Coefficient

Model	R	R square	Adjusted R Square
1	.726	.527	.507

DISCUSSION

Repose on the result obtained in the research; the problem of this research can be addressed. New Brand and Service Proximity, Stronger New and Initial Brand Familiarity, Stronger New Brand Image, Initial Brand Attachment, Place Attachment, Place Convenience, and Changes in Service Evaluation are used to reveal the customers reaction on PT. Turbo Tech Indonesia's rebranding issue.

Theoretical Implication

Theoretical implication is used by the researcher as a reference for problems, model, or result of the research. Some theoretical implications obtained as follow:

1. The Influence of New Brand and Service Proximity

The research finding in this present research shows that the variable has positive partially influence. This goes along with the findings of previous research by Jaju et al (2006) stating that consumers' evaluation on the company suffering from a merger will decline when both of the firm was regarded as being similar. This is also in line with the research conducted by Collage in 2008 and 2015 stating that there is a positive relationship between perceived fit of current brand and the product has on the change in the evaluation of consumers and their intent to purchase.

2. The Influence of Stronger New and Initial Brand Familiarity

Considering that the rebranding implies substitution of one brand to another, it will expect consumers to compare 'before and after'. Collange (2008) showed that the greater the familiarity with the new brand compared to the initial brand, the less product evaluation and intention to buy decline. In a competitive market conditions, customer loyalty is the key to success. Moreover, in the present conditions, the value of PT. Turbo Tech Indonesia should be at least the same as the company's previous name. Thus, it should not only maintain the quality but also improve it.

3. The Influence of Stronger New Brand Image

This statement is also consistent with the research conducted by Collage in 2008 and 2015. It showed that the stronger the image, the less product evaluation and intention to buy decline. Brand image plays an important role in the development of a brand as the brand image concerns the reputation and credibility of the brand, which later becomes "guidelines" for the consumer audience to use the services causing particular experiences that will determine whether the consumer will become brand loyalists or easily moved to another brand.

4. The Influence Initial Brand Attachment

This variable is according to research conducted by Collange (2008), in the form of attachment to the initial brand. Brand attachment is defined as psychological variables that reflect relativity on ongoing emotional relationship with the brand and express the psychological proximity to it. However, the result is contrary to the results in this present research. This might be caused by the fact that the consumers are emotionally connected with the initial brand and they dislike the loss, regardless of the quality of the new brand. It also occurs in this research so the hypothesis is made in accordance with the final result of the survey that has already implemented

5. The Influence of Place Attachment

The finding of this present research shows that Attachment to The Service Place is the most dominant variable with the highest amount of standardized beta. It is also supported by a previous research conducted by Collange 2015. It is stated that the stronger the consumer's attachment to the service place, the more positive the change in service evaluation will be. It seems that people can develop an emotional relationship with the places.

6. The Influence of Place Convenience

Cognitive variables are selected to maintain the comfort of the service. This choice is motivated by the important role of this variable in the literature in the service. As an attachment place, the researcher expects the comfort of services to facilitate the customer acceptance of the rebranding as high comfort encourages customers to continue to appreciate places. This is to address the needs of these consumers in a manner that concerns about the services provided on the spot.

Practical Implication

There are several managerial implications gotten from this study. First one is that the service rebranding is a risky operation that must be administered with great care. Granted, it appears that the evaluation of services dropped significantly after the rebranding. The second implication found in this research is this research provides guidance in applying the service company brand name change. Specifically, after conducting this research, the writer proposes some suggestions regarding the change of a brand name particularly on the relation to the six conditions that have been investigated namely: (1) the new brand must be justified for the service; (2) the new brand should be able to bring up a strong familiarity with the consumer compared to the initial brand; (3) the new brand should be actual or potential, more interesting than the initial brand; (4) the customer has already had an attachment to the initial brand; (5) The customer must feel attached to the place of service. (6) The customer should feel comfortable to the service place.

CONCLUSION

Based on the research result of multiple linear regression analysis, the conclusions of the research are as follow: New Brand and Service Proximity variables have significant influence on Change in Service Evaluation. Stronger New and Initial Brand Familiarity variables have significant influence on Change

in Service Evaluation. Stronger New Brand Image variables have significant influence on Change in Service Evaluation. Initial Brand Attachment variables has significant influence on Change in Service Evaluation, Place Attachment variables has significant influence on Change in Service Evaluation. Hereafter, this variable also has dominant influence on the Change in Service Evaluation, this variable has significant influence on Change in Service Evaluation. Place Convenience variables have significant influence on Change in Service Evaluation.

Recommendation

The strategy in dealing with rebranding, which has been reviewed in four chapters above, in principle, is looking for what the consumer wants and needs and how to meet the needs of consumers. From the results of research that has been done in PT. Turbo Tech Indonesia, the most dominant variable is attachment to the service place. This can be done by adding the existing facilities in the office and workshop, fixing the spatial distribution of workmanship turbocharger in the workshop, and starting to completely change the uniforms and other tools that aims to show the new identity of PT. Turbo Tech Indonesia.

For future researchers, this research can be used for a reference in future researches, especially on the topic of rebranding influence on the reaction of consumers. It is also useful particularly for those who use new brand and service proximity, Stronger new and initial brand familiarity, With The New Brand Compared To The Initial Brand, Stronger Image of the New Brand Compared to the Initial Brand, Attachment to the Initial Brand, Attachment to The Service Place, and Convenience of The Service Place toward Change in Service Evaluation variables

REFERENCES

- Aaker, D.A. (1991). *Managing Brand Equity*. The Free Press, New York, NY.
- Balmer, J.M.T. and Greyser, S.A. (2002), "Managing the multiple identities of the corporation", *California Management Review*, Vol. 44 No. 3, pp. 76-86.
- Brady, M. and Cronin, J. (2001), "Some new thoughts on conceptualizing perceived service quality: a hierarchical approach", *Journal of Marketing*, Vol. 65, pp. 34-49.
- Causon, J 2004, "The internal brand: successful cultural change and employee empowerment", *Journal of Change Management*", vol. 4, no. 4, pp. 297-307.
- Collange, V, 2008. The impact of a brand name substitution on product evaluation and purchase intention. *Rech. Appl. Mark.* 23 (2), 1–18.
- Collange, V, 2015. Consumer reaction to service rebranding. *Journal of Retailing and Consumer Services* 22, 178-186.
- de Chernatony, L, & Cottam, S 2006. "Internal brand factors during successful financial services brands", *European Journal of Marketing*", vol. 40, no. 5/6, pp. 611-633.
- Jaju, A., Joiner, C., Reddy, S.K., 2006. Consumer evaluations of corporate brand redeployments. *J. Acad. Mark. Sci.* 34 (Spring), 206–215.

- Kaikati, Jack G. and Kaikati, Andrew M, (2003),"A rose by any other name: rebranding campaigns that work", *Journal of Business Strategy*, Vol. 24 Iss 6 pp. 17 – 23
- Kapferer, J.-N., 2007. *The New Strategic Brand Management: Creating and Sustaining Brand Equity Long Term*, fourth ed. Kogan Page, London.
- Keller, K.L., 2003. *Strategic Brand Management*, second ed. Prentice Hall, Upper Saddle River.
- Lomax, W & Mador, M 2006, "Corporate re-branding: from normative models to knowledge management", *Journal of Brand Management*", vol. 14, no. 12, pp. 82-95
- Morgan, N. A., & Rego, L. L. (2009). Brand portfolio strategy and firm performance. *Journal of Marketing*, 73, 59–74.
- Muller, Brigitte, Kocher, Bruno, & Crettaz, Antoine (2011). The effects of visual rejuvenation through brand logos. *Journal of Business Research*, xxx(xxx-xxx), 1–7.
- Muzellec, L. and Lambkin, M. (2006), "Corporate rebranding: destroying, transferring or creating brand equity?", *European Journal of Marketing*, Vol. 40, No. 7/8, pp. 803-824
- Ringin, Renata. 2016. Service Evaluation; Taking The Mystery Shopping or If You can Measure it, You Can Manage it. [ONLINE] Available at: [http://www.proactivestrategies.com.au/library/Service%20Evaluation/Service%20Evaluations%20\(Retail%20News%20Article\).pdf](http://www.proactivestrategies.com.au/library/Service%20Evaluation/Service%20Evaluations%20(Retail%20News%20Article).pdf). [Accessed 7 April 2016].
- Srivastava, Rajendra K. and Allan D. Shocker (1991), "Brand Equity: A Perspective on Its Meaning and Measurement," Report #91-124. Cambridge, MA: Marketing Science Institute.
- Stuart, H., Muzellec, L. 2004. Corporate makeovers: can a Hyena be rebranded?. *The Journal of Brand Management*, Vol. 11, No. 6, pp. 472-82
- Thomson, M., MacInnis, D. J., & Park, C. W. (2005). The ties that bind: Measuring the strength of customers' emotional attachment to brands. *Journal of Consumer Psychology*, 15(1), 77–91.
- Tuominen, Pekka (1999) Managing Brand Equity. *The Finish Journal of Business Economics* 1999:1, 65-100.
- Williams, D., Patterson, M., Roggenbuck, J. and Watson, A. (1992), "Beyond the commodity metaphor: examining emotional and symbolic attachment to place", *Leisure Sciences*, Vol. 14, pp. 29-46.
- Williams, D. and Vaske, J. (2003), "The measurement of place attachment: validity and generalizability of a psychometric approach", *Forest Science*, Vol. 49, pp. 831-40.