The International Journal of Learning Spaces Studies (IJLSS)

ORIGINAL RESEARCH ARTICLE

Training to Reduce Brand Aversion in Technological Businesses: Data Envelopment Analysis Approach

Mahsa Rafiei [1*]

[1] PhD in Mathematical Statistics, Shiraz University, Shiraz, Iran. Email: mahsa.rafiei@yahoo.com, 0009-0009-5491-7598.

ARTICLE INFO

ABSTRACT

Purpose: The purpose of the current research is to teach how to reduce brand aversion in technological businesses.

Method: The research method was based on multi-criteria decision-making techniques for real data of technological businesses. In this research, the data envelopment analysis method was used in DEAP software. Based on two inputs, and three outputs, the effectiveness of brand aversion training has been investigated in 20 technological businesses.

Findings: The results show the importance of brand hate training in improving the performance of these businesses. More importantly, brands are becoming increasingly international and culturally relevant markets. As a result, an essential element of all brand management theory tests should be considered from a cross-cultural perspective. When we examine the structure, antecedents, and consequences of brand aversion cross-culturally, the consumer's understanding of feelings of deep dissatisfaction and aversion to consumer-brand relationships deepens.

Conclusion: The findings indicate that the gradual decrease in trust affects the two dimensions of brand hatred, i.e. feelings of disgust and deep dissatisfaction. ©**authors**

1. Introduction

Emerging technologies accelerate enterprise business transformation, which requires the development of agile business processes and forward-looking governance. Implementing new technology solutions and work methods also requires the support of the IT team, the organization's commitment, and the willingness of personnel to develop new skills (Noronha, 2022). Digitization provides new business opportunities and requires companies to have a consistent digital frontline to engage with customers, partners, and employees in a networked multi-channel world. Traditional IT must become the technology backbone responsible for professional development and managing digital solutions in close collaboration with the business core. IT organizations have years of experience, optimized processes, and ready-made solutions which make them excellent partners to support and advise other organizational units in business technology management (Barrero et al., 2021).

Meanwhile, branding is considered one of the essential principles in the professional activity of any business, and its importance in the development and visibility of technological businesses cannot be ignored. The branding of technological businesses, especially small ones, is so significant that many start-up businesses are doomed to failure due to underestimating the importance of these activities. Brand aversion, or strong negative emotional reactions from consumers who have had negative experiences with a brand (Roy et al, 2022) seems to affect many brands, especially more prestigious and/or influential brands (eg, Apple, Nike, etc.). Brand hatred is likely to increase anger expressed on anti-brand websites (Kucuk, 2018). The anti-brand and anti-corporate trends that are rapidly spreading globally through social media and the Internet have challenged today's international brand managers to understand the negative downward cycle of consumer-brand relationships that is evident with the rise of brand aversion (Akrout et al, 2023). Brand hate is famously seen in tech businesses where viral marketing is highly influential.

It is even possible that brand hatred comes from consumers who have had a very positive relationship with a brand and as a result complicates the phenomenon (Grégoire et al, 2009). Consequently, enhancing only the positive aspect of consumer brand relationships may have a negative effect, but this process is not sufficient to reduce anti-brand threats. Accepting a unified view in the digital platform and being culturally short-sighted about brand hatred (Hofstede, 2010) can greatly lead to the intensity of these negative reactions. This may ultimately alienate former customers and expose current and future customers to emotions that jeopardize the brand's survival. In this context and based on international comparative research that examines relationships and interactions between consumers and brands (Usunier, 2011), it is necessary to create a better understanding of the nature of brand hatred. Its variations between and across cultures, its dimensions, drivers, and consequences should also be understood, and measures of brand aversion should be improved (Akrout et al, 2023).

Studies conducted in psychology (Ito et al., 1998) and neuroscience (Fossati et al., 2023) indicate that people remember negative events more than positive events. However, research on negative emotions in marketing is limited (Fetscherin, 2019). Marketing researchers instead focused on the negative aspects of consumer-brand relationships (Makri et al., 2020), such as brand hatred (Demirbag-Kaplan et al., 2015), brand avoidance (Lee et al., 2009), brand revenge (De Campos Ribeiro et al., 2018) and brand aversion (Park et al., 2013). Although these studies have examined several negative forms of brand-consumer relations, they have focused on behaviors (for example, avoidance, rejection, and sabotage) instead of studying the determinants of these behaviors (Makri et al., 2020)

In related research, the concept of brand hatred has become a critical research point (Dessart et al., 2020), however, the research on brand aversion training in technological businesses is still in the emerging and flourishing stage (Roy et al., 2022). Considering these gaps and gaps in the research literature, the present study expands and develops the conceptualization of brand hate reduction training and the cross-cultural experience of consumers about it. Here we start

with the idea that brand aversion is more enduring than the brief experience of negative brand-related emotions. In other words, we respond to the call to examine brand hate from a broader perspective which looks at hatred as a desire and tendency rather than an emotion (Zarantonello et al., 2016).

The present study contributes to the research literature. Based on a detailed review of the research literature, a definition of hatred is given that can also be used in the case of brand hate. Therefore, this research is looking for an answer to the question, what is the training to reduce brand hatred in technological businesses.

2. Literature Review

Before examining brand hate conceptualized in the research literature, we start with the conceptualization of hate as an emotion in psychology. Some studies have considered hate as a simple emotion and combined it with related emotions. Although various studies examined hatred based on a simple emotion, other studies described it as a combination of primary and secondary emotions (Dessart et al., 2020).

The feeling can be defined as "a mental state of readiness for action that results from the cognitive evaluation of events or thoughts; it has a cognitive phenomenological tone, is associated with physiological processes, and is often expressed in physical terms" (Bagozzi et al., 1999). Emotional-cognitive theories help people to react to events related to them using emotions. The interpretation of an event—appraisal—rather than the event itself, determines the type of emotion evoked. In particular, Lazarus and Monat (1974), pointed out that emotions are the result of evaluating an event in terms of its potential impact on individual well-being (primary evaluation) and the ability to cope with an event (secondary evaluation) (Pandey et al., 2020). When an event is thought to facilitate the achievement of a person's goal, then that person experiences positive emotions. Conversely, when events are detrimental and prevent goal achievement, a person experiences unpleasant or negative emotions. According to the theory of cognitive evaluation, self-induced negative events lead to feelings of guilt, shame, and regret. In addition, negative events provoked by others (namely, the brand) cause various negative emotions, such as anger, contempt, disgust, and hatred (While et al., 2021).

Brand aversion in brand management

Companies interact with consumers through brand management decisions regarding brand elements (Akrout et al., 2023). From the point of view of consumers, a brand is a reflection of their relationships, perceptions, experiences, and feelings about a specific product, including factors such as advertising, quality, price, and other marketing measures related to the product (Meilhan, 2019).

As a goal, it is thought that the brand has certain human characteristics (Blackshaw, 2008). In addition, the brand develops and expands characteristics of two-way interpersonal communication with customers due to its relationship with human states of mind (Sternberg, 2005). However, negative events and feelings can jeopardize this relationship, because it is not shown to be harmless and healthy. Therefore, brands can be considered responsible for the implementation of negative actions through the humanistic principle. In addition, consumers empowered by the Internet, social media, and globally reduced information asymmetry (Hegner et al., 2017) freely attack and criticize these online brands. Online platforms rely on consumer reviews and use them as a form of ordering, processing, and collecting data and information (Bryson et al, 2013). Therefore, consumers who are likely to talk about a negative experience or post negative reviews about a brand's history of abuse can seriously damage the brand. In particular, consumers are likely to do this after experiencing critical events that lead to negative emotions and consequences. According to the suggestion made in Blackshaw's book (Romani et al, 2015) under the title "A satisfied customer tells three friends, an angry customer to 3,000 people", this experience leads to criticism, opposition and lasting hostility towards the brand and as a result, hatred of the brand (Bryson et al., 2021).

Sternberg's conceptualization of hate

Considering the history of the relationship (probably already full of repeated negative feelings) between the brand and the consumer who hates it, many researchers started to conceptualize brand hate by referring to Sternberg's (2005) hate triangle theory. According to this definition, hatred (hate) is a hostile feeling towards another person or group, which consists of hatred, disgust and aversion, and the desire to harm or even destroy the object of hatred (Rogovsky et al., 2021). This definition leads to three structural components of hate: denial of intimacy (negative feelings), enthusiasm (arousal that enables action), and commitment (a story that justifies negative feelings about having or being hated). The idea that hate refers to negative feelings about being hated has become popular, but our argument is that hate also gives rise to positive emotions (Zhang et al., 2020).

Technological business

Businesses in all sectors are facing a situation where technology is changing the landscape around them, moving from the back room of an organization into the hands of customers, employees, and society. Faster development cycles, disruptive business models, and increased competition highlight the essential role of technology and automation in business. This means that business success relies heavily on the optimal use of technology. Business technology as a concept describes all the technologies that help an organization to run its business and operational processes. This technology can be customer-facing applications and solutions, business-critical manufacturing and logistics solutions, or back-end financial systems, etc (Mukherjee et al, 2022).

3. Method

In this section, data analysis has been done to measure the efficiency of selected companies using data coverage analysis. In previous chapters, the basic concepts of efficiency and productivity measurement by the DEA method and the main models of this method, which are the CCR and BCC models, were examined. The CCR model measures the firm's efficiency under the assumption of constant returns to scale (CRS) and the BCC method measures the firm's efficiency under the conditions of variable returns to scale (VRS). These models can be calculated and used from two aspects: the first approach is based on the minimization of production factors (inputs) and the second approach is based on the maximization of the product (facilities). The BCC method is used in this study.

Efficiency measurement is done by the specialized software of DEA method, namely DEAP V.2.1, and in accordance with the research objectives, for four aspects of performance evaluation, the analyzes are presented separately by content as follows:

◻ Calculation of efficiency, for 20 projects,
◻ Calculation of the surplus of production factors or inputs,
◻ Determining the reference unit for ineffective units,
◻ Calculate the weight of the reference unit for the ineffective unit,
◻ Calculate the optimal amount of inputs for each company,
◻ Ranking of 20 companies using the above results (compiling the ranking system based on efficiency).

The above outputs will be calculated and presented in the form of variable returns to scale. The reason for using variable returns to scale is the limitations that the assumption of constant returns to scale has, such as the fact that it is only useful when firms operate at the optimal scale, and this is far from the mind. In addition, the variable returns to scale approach provide more accurate and complete results.

The type of efficiency means that, for example, a small project that is in the conditions of increasing returns to scale, can increase its production and benefit from economies of scale, for example, by adding to its expert workforce. Sometimes a company becomes so big that its management cannot effectively and efficiently control all the production steps and operates in

decreasing efficiency relative to scale, and any increase in production factors leads to a smaller increase in output.

Considering that in the state of variable efficiency to scale, the results of the input-oriented and output-oriented modes differ, and in this research, the analysis is based on being output-oriented and maximizing the output factors, therefore, in this part, the calculation of efficiency types, values optimal inputs and outputs, reference DMUs and their weights and the lack of output factors; It is presented in terms of maximizing product factors (output-oriented). It should be noted that all analyzes are performed using real data and statistics of input and output variables during the year 2022.

4. Finding

Formation of the decision matrix

In the data envelopment analysis technique, the efficiency of decision-making units (DMU) is evaluated based on inputs and outputs. Data related to the inputs and outputs of DMUs can be displayed in a decision matrix. The decision matrix with n indicators and m options will be calculated as follows:

$$X = \begin{bmatrix} x_{11} & x_{12} \dots & x_{1n} \\ x_{21} & x_{22} \dots & x_{2n} \\ \vdots & \vdots & \vdots \\ x_{m1} & x_{m2} & x_{mn} \end{bmatrix}$$

In this matrix, x_{ij} is the value of the *jth* variable for the *ith* company.

Table 1. Inputs and outputs of decision making

I1	Input	Actual cost
I2	Input	Project importance factor
O1	Output	Realized income
O2	Output	SPI
O3	Output	CPI

Table 2. Decision making data based on inputs and outputs

CPI	SPI	Income	Importance factor	Cost	DMU
0.34	0.03	20,760,000,000	8.19%	60,210,000,000	DMU01
1.82	0.18	92,910,000,000	7.40%	51,070,000,000	DMU02
1.15	0.98	29,080,000,000	2.07%	25,230,000,000	DMU03
1.67	0.02	2,710,000,000	0.72%	1,620,000,000	DMU04
1.37	1.03	75,960,000,000	3.42%	55,640,000,000	DMU05
1.13	0.95	67,820,000,000	1.96%	60,200,000,000	DMU06
0.93	0.76	112,230,000,000	4.73%	120,560,000,000	DMU07
1.11	0.68	350,720,000,000	15.25%	314,940,000,000	DMU08
0.99	0.72	307,860,000,000	17.49%	311,400,000,000	DMU09
1.21	0.96	118,920,000,000	3.96%	98,220,000,000	DMU10
0.88	0.84	70,790,000,000	4.52%	80,830,000,000	DMU11
1.06	0.97	18,600,000,000	0.79%	17,580,000,000	DMU12
1.52	1.00	19,310,000,000	1.51%	12,690,000,000	DMU13
1.28	0.51	29,100,000,000	1.81%	22,820,000,000	DMU14
1.42	0.51	13,840,000,000	0.73%	9,780,000,000	DMU15
1.23	0.98	248,330,000,000	9.31%	202,440,000,000	DMU16
1.32	0.99	228,660,000,000	6.99%	172,720,000,000	DMU17
0.98	1.00	33,670,000,000	1.57%	34,190,000,000	DMU18
1.24	0.87	49,690,000,000	1.62%	40,190,000,000	DMU19
0.81	0.57	13,060,000,000	5.97%	16,090,000,000	DMU20

- Calculation of efficiency of DMUs

Calculation of efficiency of decision units can be achieved based on scale efficiency. Based on these calculations, the performance of decision units can be identified based on the level of efficiency. In this research, the efficiency of 20 companies and their type of efficiency are presented: the average efficiency of 20 projects is calculated and shown in the following table:

Table 3. Average efficiency of 20 projects

Return type	Performance	DMU
reducer	0.818	DMU01
increasing	0.994	DMU02
-	1	DMU03
reducer	0.817	DMU04
-	1	DMU05
	0.972	DMU06
-	1	DMU07
-	1	DMU08
-	1	DMU09
increasing	0.995	DMU10
-	1	DMU11
increasing	0.911	DMU12
increasing	0.939	DMU13
increasing	0.995	DMU14
increasing	0.999	DMU15
-	1	DMU16
-	1	DMU17
reducer	0.996	DMU18
increasing	0.972	DMU19
reducer	0.830	DMU20

- Explanation that in the output of the DEAP software, the return type *irs* means increasing (ascending) return to scale and *drs* means decreasing (descending) return to scale.

5. Conclusion

This research responds to the demand to examine the dark side of the relationship between brands and consumers and to express brand hatred more precisely in technological businesses, while examining the relationships between them in a comprehensive conceptualization that includes cross-cultural contexts. The effect of brand hatred is a boundary mechanism, like interpersonal hatred; In this case, the brand blurs the boundaries between "self" and "target of hate". Hatred of the brand, in this sense, creates social boundaries that create a sense of separation between oneself and the brand; The hated brand is removed from the consumers' domain. Obviously, avoidance (staying or staying away from a brand) is rooted in brand hatred. Negative feelings towards brands can be directly related to brand avoidance behavior. More importantly, brands are becoming increasingly international and culturally relevant markets. As a result, an essential element of all brand management theory tests should be considered from a cross-cultural perspective. When we examine the structure, antecedents, and consequences of brand aversion cross-culturally, our understanding of feelings of deep dissatisfaction and aversion to consumer-brand relationships deepens. The findings indicate that the gradual decrease in trust affects the two dimensions of brand hatred, i.e. feelings of disgust and deep dissatisfaction.

At the same time, researchers develop brand hatred not only as an emotional concept but also by going beyond it and examining it as an emotion/inclination. Research on brand aversion has established the multidimensional nature of this construct. At the same time, this research expands our understanding by conceptualizing brand hate from a rich perspective that includes feelings of deep dissatisfaction and disgust. At the same time, this study has investigated the differences in the nature of brand hatred, drivers and results instead of the basic constituent differences in the importance of the dimensions of brand hatred. Tracking consumer complaints across all social media platforms and monitoring any reports of consumer frustration with the brand, for example using artificial intelligence, can help the brand avoid crises. Brands can demonstrate accountability and build trust by testing any campaign or product before it goes to market. In this way, brands can anticipate anti-consumer behavior or antipathy that can destroy

brand image. Meanwhile, brands need to engage with decision makers who understand cultural differences to reduce cultural myopia

Declaration of Competing Interest

The author declares that he has no competing financial interests or known personal relationships that would influence the report presented in this article.

References

Akrout, H. Mrad, M. (2023). Measuring brand hate in a cross-cultural context: Emic and Etic scale development and validation. *Journal of Business Research*,154: 11-32. https://doi.org/10.1016/j.jbusres.2022.08.053

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science*, 27(2), 184–206. https://doi.org/10.1177/0092070399272005

Barrero, J. M., Bloom, N., & Davis, S. J. (2021). *Why working from home will stick* (No. w28731). National Bureau of Economic Research. https://doi.org/10.3386/w28731

Blackshaw, P. (2008). *Satisfied customers tell three friends, angry customers tell 3,000: running a business in today's consumer-driven world*. Currency.

Bryson, D., Atwal, G., & Hultén, P. (2013). Towards the conceptualisation of the antecedents of extreme negative affect towards luxury brands. *Qualitative Market Research: An International Journal*. https://doi.org/10.1108/QMR-06-2013-0043

Bryson, D., Atwal, G., Hult´en, P., & Heine, K. (2021). Antecedents of luxury brand hate: A quantitative study. *Strategic Change*, 30(1), 35–43. https://doi.org/10.1002/jsc.2387

De Campos Ribeiro, G., Butori, R., & Le Nagard, E. (2018). The determinants of approval of online consumer revenge. *Journal of Business Research*, 88, 212–221. https://doi.org/10.1016/j.jbusres.2018.03.024

Demirbag-Kaplan, M., Yildirim, C., Gulden, S., & Aktan, D. (2015). I love to hate you: Loyalty for disliked brands and the role of nostalgia. *Journal of Brand Management*, 22(2), 136–153. https://doi.org/10.1057/bm.2015.10

Dessart, L., Veloutsou, C., & Morgan-Thomas, A. (2020). Brand negativity: A relational perspective on anti-brand community participation. *European Journal of Marketing*. https://doi.org/10.1108/EJM-06-2018-0423

Fetscherin, M. (2019). The five types of brand hate: How they affect consumer behavior. *Journal of Business Research*, 101, 116–127. https://doi.org/10.1016/j.jbusres.2019.04.017

Fossati, P., Hevenor, S., Graham, S., Grady, C., Keightley, M., Craik, F., & Mayberg, H. (2003). In search of the emotional self: An fMRI study using positive and negative emotional words. *American Journal of Psychiatry, 160*, 1938–1945. https://doi.org/10.1176/appi.ajp.160.11.1938

Grégoire, Y., Tripp, T. M., & Legoux, R. (2009). When customer love turns into lasting hate: The effects of relationship strength and time on customer revenge and avoidance. *Journal of marketing*, *73*(6), 18-32. https://doi.org/10.1509/jmkg.73.6.18

Hegner, S. M., Fetscherin, M., & Van Delzen, M. (2017). Determinants and outcomes of brand hate. *Journal of Product & Brand Management*, 26(1), 13–25. https://doi.org/10.1108/JPBM-01-2016-1070

Hofstede, G., & Hofstede, G. J. (1982). Dimensions of national cultures. *Diversity and unity in cross-cultural psychology*, 173-187. https://doi.org/10.1108/JPBM-01-2016-1070

Ito, T., Larsen, J., Smith, N., & Cacioppo, J. (1998). Negative information weighs more heavily on the brain: The negativity bias in evaluative categorizations. *Journal of Personality and Social Psychology, 75*, 887–900. https://doi.org/10.1037/0022-3514.75.4.887

Kucuk, S. U. (2018). Macro-level antecedents of consumer brand hate. *Journal of Consumer Marketing*, *35*(5), 555-564. https://doi.org/10.1108/JCM-10-2017-2389

Lazarus, R. S., & Monat, A. (1974). *Cognitive and coping processes in emotion*. Fifty Years of the Research and Theory of RS Lazarus: An Analysis of Historical and Perennial Issues, 70-84. https://doi.org/10.1016/B978-0-12-741950-3.50006-9

Lee, M. S., Motion, J., & Conroy, D. (2009). Anti-consumption and brand avoidance. *Journal of Business Research*, 62(2), 169–180. https://doi.org/10.1016/j.jbusres.2008.01.024

Makri, K., Schlegelmilch, B. B., Mai, R., & Dinhof, K. (2020). What we know about anti consumption: An attempt to nail jelly to the wall. Psychology & Marketing, 37(2), 177–215. https://doi.org/10.1002/mar.21319

Meilhan, D. (2019). Customer value co-creation behavior in the online platform economy. *Journal of Self-Governance and Management Economics*, 7(1), 19–24. https://doi.org/10.22381/JSME7120193

Mukherjee, S., & Narang, D. (2022). Digital economy and work-from home: The rise of home offices amidst the COVID-19 outbreak in India. *Journal of the Knowledge Economy. https://doi.org/10.1007/s13132-022-00896-0*

Noronha, E., Jain, P., Puri, D., Misra, A., Shah, P., Patel, M., ... & Jain, D. (2022). Social Compact: Co-creating socially responsible businesses the Indian way. *Vikalpa*, *47*(2), 119-190. https://doi.org/10.1177/02560909221094379

Pandey, J., & Varkkey, B. (2020). Impact of religion-based caste system on the dynamics of Indian trade unions: Evidence from two state owned organizations in North India. *Business & Society*, 59(5), 995–1034. https://doi.org/10.1177/0007650317745867

Park, C. W., Eisingerich, A. B., & Park, J. W. (2013). Attachment–aversion (AA) model of customer–brand relationships. *Journal of Consumer Psychology*, 23(2), 229–248. https://doi.org/10.1016/j.jcps.2013.01.002

Rogovsky, N., & Cooke, F. L. (2021). *Towards a human-centred agenda: Hu0man resource management in the BRICS countries in the face of global challenges*. ILO

Romani, S., Grappi, S., Zarantonello, L., & Bagozzi, R. P. (2015). The revenge of the consumer! How brand moral violations lead to consumer anti-brand activism. *Journal of Brand Management*, 22(8), 658–672. https://doi.org/10.1057/bm.2015.38

Roy, S. K., Sharma, A., Bose, S., & Singh, G. (2022). Consumer-brand relationship: A brand hate perspective. *Journal of Business Research*, 144, 1293–1304. https://doi.org/10.1016/j.jbusres.2022.02.065

Sternberg, R. J. (2005). The theory of successful intelligence. *Revista Interamericana de Psicología/Interamerican Journal of Psychology, 39*(2), 189–202

Usunier, J. C. (2011). Language as a resource to assess cross-cultural equivalence in quantitative management research. *Journal of World Business*, 46(3), 314–319. https://doi.org/10.1016/j.jwb.2010.07.002

While, A., & Eadson, W. (2021). Zero carbon as economic restructuring: spatial divisions of labour and just transition. *New Political Economy*. https:// doi. org/ 10. 1080/ 13563 467. 2021. 19679 09

Zarantonello, L., Romani, S., Grappi, S., & Bagozzi, R. P. (2016). Brand hate. Journal of Product & Brand Management, 25(1), 11–25. https://doi.org/10.1108/JPBM-01-2015-0799

Zhang, C., & Laroche, M. (2020). Brand hate: A multidimensionalpsy construct. *Journal of Product & Brand Management*, 30(3), 392–414. https://doi.org/10.1108/JPBM-11-2018-2103