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G-Readiness of an Organisation and Green Brand Equity: Exploring through Consumer Lens for eco sustainability

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Abstract

Importance of IT and its role on ecological impact in terms of sustainable practices has been discussed since early 2000's . Various research discusses impact on business performance or competitiveness from an organizational point of view on implementing Green IT practices. Green IT service enabling an organization to gain green brand equity in the market has not been presented in literature before to the best of author's knowledge. Green IT service initiatives can be moved into mainstream core business practice than just as niche projects as this study gives evidence that G-readiness model implementation influences consumer perception towards gaining green brand equity of organization. This research paper proposes to measure Green IT dimensions by a pre- experimental design study using a scenario based questionnaire Capital investments and marketing plans for business greening will benefit an organization since socially conscious consumer base is increasing.

Keywords: Green IS, Green IT , Green Brand Equity, G-readiness, eco sustainability

1. Introduction

Recently as inferable from the huge amount of environmental contamination due to the boom of industrial manufacturing in the world, environmental issues are increasing at a fast pace(Chen, 2008a). General public are now more conscious of this fact and so more organisations are showing willingness to acknowledge the environmental obligations(Chen et al., 2006). These days, natural apprehension quickly develops as a standard concern for purchasers in light of an unnatural changes, and numerous organizations are looking to grab these chances. Green IT and the management competency toward eco-sustainability is an emerging area needing more focus by academicians as well as industry specialists. In spite of previous studies having paid consideration to investigate the relevant issues of brand equity it is not in terms of environmental issues especially with respect to its IT dimensions.

Green IT research is a pathway to achieve two main UN Sustainable Development Goals (1)Industry, Innovation & Infrastructure – Goal 9 ; (2)Affordable & Clean Energy-Goal 7. A greater awareness to the policy makers of businesses in the direction of Green IT is an effective way to implement the above sustainable goals in a practical sense. This makes Green IT, an important aspect to be included in any company's corporate social responsibility. It is important to address value in terms of environmental footprint reduction in conducting any business. Information technology is a relevant part of every business now and it is not only the responsibility of IT companies but also of all companies using IT services to be conscious of the impact of their usage of technology on the environment.

"G-readiness is an organization's Green IT capability as demonstrated through the combination of green IT attitude, policy, practice, technology, and governance in order to reduce IT, business process, and supply chain related emissions, waste and water use; improve energy efficiency; and generate green economic rent"

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(Molla, Cooper & Pittayachawan, 2011: 74).This is addressed since capital investment practices requires knowledge on which Green IT dimensions are to be focused and is currently unexplored.

2. Literature Review

A review of literature shows that Green IT factors are considered important to firms at managerial levels to contribute to competitive advantage, improve business performance or to implement corporate environmental ethics. Here is a list of relevant insights from various research which led to the question of how consumers of a brand would view green brand equity and which Green IT dimensions will be useful in that perspective.

2.1 Green IS factors vs Competitive Advantage or Business Performance (Organization level)

An interceding impact exist between Green Information System and competitive advantage by the green process or product innovation performance (Nanath & Pillai,2017). Firms are showing willingness to be a part of Green IS due to their gains .Further investment in green IT structural capital, green IT relational capital, green IT human capital and business competitiveness gains are increased as degree of business greening increases (Chuang & Huang, 2015).Business greening can be achieved only when the managers are concerned with the need to be a part of such green initiatives. Green innovation can be promoted for performance enhancement by making managers benefit out of developing such solution to social cause in the business (Tang, Walsh, Lerner, Fitza, & Li,2018).

Businesses are able to understand use of energy efficient methods to cut down costs and boost performance. Information System scholars are to look at energy supply and demand system elements by developing a framework with IS as core for research(Watson, Boudreau, & Chen, 2010). When academicians are able to develop a viable model to include what IT dimensions can drive a Green IT initiative, more companies may follow the trend .This in turn translates into customers to move towards such environment conscious brands and in turn, environment protection . This paper is focused on using G-readiness model (Molla, Cooper, & Pittayachawan,2011) and testing its effectiveness to create a green brand equity for an organization.

2.2 Corporate Environmental Ethics Vs Green IS factors (Organization level)

Green relationship learning and innovation is carried forward because of corporate ecological morals (Chen, & Chang, 2013) and it confirms relevance of looking at sustainability for IT systems. Environmental Corporate Social Responsibility and green IT capital coupled with environmental performance and business competitiveness (Shun-Pin Chuang & Sun-Jen, 2018) brought IT dimension's relevance to sustainability. Private households exhibiting energy efficient behavior with information system (Loock, Staake, & Thiesse,2013) gave direction to start looking through consumer lens for our proposed study. The motivations for the favorable result of the green innovation market.(Medeiros, Vidor, & Ribeiro, 2018) was framed in a tetrological loop which gave more factors to include in Green IT dimensions. The definition of Green IT attitude , policy , practice , technology and governance is adopted from the G-readiness model (Molla, Cooper, & Pittayachawan,2011).

2.3 Green Brand Equity

Referring to Aaker (1991) and Keller(1993), this study defined ''green brand equity'' as ''a set of brand assets and liabilities about green commitments and environmental concerns linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service". Investing on inputs to expand green satisfaction, green trust ,green brand image and is useful to upgrade green brand equity (Chen,2010). Higher brand value can empower shoppers to be eager to pay more for a similar degree of value because of the engaging quality of the name appended to the item (Chen,2010).This confirms the relevance of investing in Green IT capital for green brand equity.

The following hypotheses are tested for this study.

H1 Green IT attitude in a firm is positively associated with their Green brand equity.
H2 Green IT policy in a firm is positively associated with their Green brand equity .
H3 Green IT governance in a firm is positively associated with their Green brand equity
H4 Green IT practice in a firm is positively associated with their Green brand equity .
H5 Green IT technology in a firm is positively associated with their Green brand equity

3. Research Methodology

3.1 Method

The present study employed a two sample t-test assuming unequal variances to differentiate green brand equity of an organization with High Green IT attitude and Low Green IT attitude. Likewise the t- test was conducted for High and Low levels of Green IT practice, Green IT policy, Green IT technology and Green It governance.

3.2 Stimuli development

The instrument assessment of the five G- readiness constructs were already conducted in the study by Molla, Cooper, & Pittayachawan(2011). Their study assessed convergent validity, unidimensionality, factorial validity, discriminant validity, nomological validity, and predictive validity for the constructs.

A pre-test was conducted and inputs were used to modify the scenario based questionnaire. The pre-test was taken by 12 participants. The following suggestions were given by them (1) Alter the wordings of scenario so that people do not skip over similar sounding phrases.(2) Use similar products of car industry in each scenario(3) Give a paragraph break/ bold text to highlight the line which is repetitive in all four scenarios .

3.3 Study participants and procedure

The responses were collected through an online survey from a total of ninety Indian customers. The survey was filled by 44 females and 46 males. The sample consisted of 61 post graduate students and 29 IT sector employees. Three sets of survey forms were used with three or four scenarios containing four questions each pertaining to green brand equity. This ensured avoidance of answering of a very lengthy questionnaire by a single individual which would distort the results due to mental fatigue. 60 respondent results were considered for each of the five constructs.

3.4 Independent Variables

Five independent variables used in the study are Green IT attitude, policy, governance, practice, and technology .

3.4 Dependent Measures

Green Brand Equity is the dependent variable in this study. The questions were based on one product (car) and how implementing Green IT dimensions in a car manufacturing unit would influence consumers perception on the green brand equity of the organization. The ten scenarios were developed using the sixty six items of G- readiness model. Respondents rated items on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4. Conclusion

4.1 Result and Analysis

Table 1 t test : Two sample assuming unequal various for the five G-readiness constructs comparing high and low levels for 30 observations each

		Mean	Variance	Df	t Stat	P(T<=t) one-tail	t Critical (one-tail)	P(T<=t) two-tail	t Critical (two-tail)
Green IT Attitude	High	3.258	0.627	57	0.305	0.381	1.672	0.762	2.002
	Low	3.192	0.809						
Green IT Practice	High	3.333	0.376	56	0.384	0.351	1.673	0.703	2.003
	Low	3.267	0.530						
Green IT policy	High	3.558	0.464	53	2.713	0.004	1.674	0.009	2.006
	Low	2.983	0.883						
Green IT Technology	High	3.333	1.053	56	2.525	0.007	1.673	0.014	2.003
	Low	2.717	0.736						
Green IT Governance	High	3.600	0.550	57	3.280	0.001	1.672	0.002	2.002
	Low	2.925	0.720						

This study proves that Green IT policy, governance and technology has a pronounced effect on customers over Green IT attitude and practice. This is an interesting result since earlier literature supported that, to the management of a company it is the Green IT attitude that is more relevant.

4.2 Future Direction and Limitation

The existing literature does not address whichGreen IT dimension and how to assess capital requirement for it .This study aimed to assess these possibilities to promote environmental management, a part and parcel of every business using IT services. Future research can be done to explore the causation effects and effectiveness of the Green IT constructs discussed in the paper.

Finally, the limitation in this study is the dependence on G readiness model heavily

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