

# ECOLOGICAL INTELLIGENCE TOWARDS ECOLOGICAL BEHAVIOUR

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## **Abstract**

**All humans on the planet are morally obliged to take care of the earth. Sri Lankan consumers have values, beliefs and norms tendency towards green consumption behavioural intention to safeguard nature, but those would not be adequately converted towards actual green behaviour. Though most people believe that the choices they make result from a rational analysis of available alternatives, in reality however, emotions and sensitive feelings greatly influence in many cases, even determine our decisions. This novel, vague and conscience concept of 'Ecological Intelligence' is about the ecological sensitivity and awareness of people regarding the natural mutations and the ability to react against them. This conceptualization is aiming to build a cherished contribution by extending the Value-Beliefs-Norms (VBN) theory by proposing the moderating role of ecological intelligence towards the ecological behaviour of humans. Thus, this paper intended to expand the existing body of knowledge and footing for succeeding studies.**

**Keywords: Ecological Intelligence, Ecological Behaviour, VBN Theory**

## **1. INTRODUCTION**

The pursuit of environmental sustainability should be the responsibilities of everyone because of its complexity (Esfahani, Rahman & Zakaria, 2015), while the urgency of the issues and the capacity of taking action would be varied significantly. Individuals as consumers are becoming more concentrate on the environmental and social impact of their consumption decisions (Wedding, 2010). Promotosh and Sajedul (2011) found that 70% of consumers show their concern for the environment, but their actions are inconsistent

with these attitudes when it comes to consuming products and services. In fact, environmental negativities of the earth remaining the same. Between 60–80 per cent of the impacts on the planet come from household consumption and responsible for more than 60 per cent of the world's greenhouse gas emissions (Dockrill, 2016).

Wanninayake and Randiwela, (2008) revealed that green products have moderate level of awareness among Sri Lankan customers and they are willing to spend something more on green products. However, according to Samarasinghe (2015), though it was evident that Sri Lankan consumers have a moderate level of values, beliefs and norms tendency towards green consumption behavioural intention to safe environment but, those would not be adequately influenced towards actual green behaviour. That form a dilemma as though consumers possess with adequate green awareness, values and belief environment-friendly products and services why they do are not actually practice green purchases in that extend?

Green consumer behaviour is also highly complex, diverse and context depend (Peattie, 2010). Most scholars have attempted to identify the characteristics of 'green consumer' (Samarasinghe, 2015). Prevailing explanations of behaviour are still expressed most often in terms of personality traits, cognitive styles, brain-region activation patterns, preferences and utilities, and other assumed entities "inside" the mind. This theorization on ecological intelligence aims to explicate the mind-world interactions underlying good decision making.

"Ecological Intelligence" is an entirely novel and inconclusive concept to the world which is still in the conceptualization stage. Though there are very few authors have studied about this phenomenon, most of them attempted to define ecological intelligence,

explain its characteristics (eg: Bowers, 2008, 2009, 2010; Capra, 2005; Goleman, 2006, 2009; McCallum, 2005; 2008; Shumba, 2011; Sterling, 2009) and scale development (eg: Okur-Berberoglu, 2020; Akkuzu, 2016). However, though the scholars suggested and predicted those concepts, still not been empirically tested in any context. People today only concerned with now and are not concerned about how our actions affect others and the environment in the future. We have a deep genetic connection with all living things and this connection is key to our ecological intelligence. Further, ecological intelligence can be differing directly as cultures.

The modern study of decision making began with the normative ideal that good decisions follow the mathematical prescriptions of Bayer's rule or the maximization of expected utility. In these views, there is only one mental tool and the question of this tool's ecological rationality (Todd & Gigerenzer, 2007). But now there is an impressive body of experimental evidence showing that people often make decisions in an entirely different way (Todd & Gigerenzer, 2007). The study of ecological intelligence goes beyond this beginning by designing computational models specifies which emotions are intercourse in ecological behaviours."

Goleman (2009) predicted that human brains, which evolved to detect certain kinds of threats, make it difficult for us to see and react to current problems that affect our health and environment. From the micro-level to the global context, humans tend to perceive only one scale at a time, a tendency that underlies many of our current environmental problems. Goleman (2009) further suggested that through collective information gathering and processing, ecological intelligence will help us move beyond this limitation. However, though Goleman (2009) suggested and predicted those concepts, still not been well developed and tested.

Ecological Intelligence showcases on how 21st century information technologies offer the potential for unprecedented transparency and a form of ecological literacy in the marketplace. Ecological Intelligence works powerfully within the logic of the market place. Goleman

(2009) suggested that the inequality between companies and consumers in terms of key data about particular products that might influence shopping decisions and further he pointed out that even eco-labelling programs do not fully address this "information asymmetry". The same author further suggested that radical transparency would enable consumers to learn the full story about the true impacts of their purchases. A wide range of life cycle information about products and rates them according to their environmental, health, and social impacts allowing shoppers to make more informed choices at the point of sale. Goleman (2009) further argued that such tools will help people to be more mindful and pay closer attention to the impacts of their purchases.

Individuals' consumption habits are increasingly creating an ecological deficit at a rate which never in history (Goleman, 2009). Although the term 'green products' is attracting higher attention of people, some of the antecedents of green purchasing decisions in the Sri Lankan context are lack in understanding (Wanninayake & Randiwela, 2008). Samarasinghe and Samarasinghe (2013) have identified that female consumers have more green purchase intention than male in Sri Lanka. This may be due to their emotional feeling and sensitivity towards the natural environment. Future studies are recommended by authors to explore those antecedents of environmental knowledge and environmental effect in developing context like Sri Lanka.

Thus, this paper mainly focuses to identify and theorize how ecological intelligence impact on ecological behaviour of Sri Lankan consumers.

## **2. LITERATURE REVIEW**

### ***2.1. The value-belief-norm approach***

People's attitudes regarding the green values, beliefs and norms of the different aspects of the full cycle of environmentally friendly purchasing, using and disposing behavior have become an important consideration in consumer decision making (Samarasinghe, 2015). Most sustainability-oriented ecological behaviours, such as energy conservation,

limiting car use or paying a premium price for domestic green electricity, cause individual costs but do not provide notable personal benefits at a short to medium term.

Different social psychological theories have been developed to explain the gap between customer intention and actual behaviour such as Theory of Planned behaviour by Ajzen's (1991) and Theory of Reasoned Action by Ajzen and Fishbein (1980). Pro-environmental motivations have been studied from different theoretical perspectives focusing individually on values, environmental worldviews and beliefs, and the activation of norms (Steg, Dreijerink & Abrahamse, 2005). Value-Belief-Norm (VBN) theory of environmentalism (Stern et al., 1999; Stern, 2000) proposes a sequential model of pro-environmental behaviour according to which behaviour is motivated by a process comprising a causal chain of environmental values, beliefs and norms. Stern, (2000) links value theory to norm-activation theory. It postulates that the consequences that matter in activating personal norms are adverse consequences to whatever the individual values. The link from values to environmentally friendly behaviour is moderated by particular beliefs, such as beliefs about which people or things are affected by environmental conditions and about whether there are individual actions that could alleviate threats (Stern, 2000). Values are typically conceptualized as an important life goal which serves as guiding principles important in an individual's life (Rockeach, 1973).

## **2.2 Green/ecological behaviour intention and actual green/ecological behaviour**

Green/ecological behaviour is defined as a behaviour that reduces environmental harms and considers societal protection for the environment (Steg & Vlek, 2009). Green/ecological behaviour is closely related to the purchase, use and disposal of products (Kim & Kim, 2010) which promotes resource protection, conservation practices and supports the sustainable use of the natural environment (Lee, 2011). In marketing and consumer behaviour literature, it has become very important to predict the actual purchase behaviour of customers. However, due to the practical difficulty in

measuring the actual behaviour, the purchase intention has been used as the most immediate proxy to predict the actual behaviour (Ajzen & Fishhbein, 1980; Samarasinghe & Samarasinghe, 2013). According to Ajzen and Fishhbein (1980) the study defined green behaviour intention as the purpose towards purchasing green brands/products and intention to involve social and community activities to protect the environment whilst the actual green behaviour is referred the degree of real purchase of the green products and present involvement of social, legal, political and environmental friendly works to protect the environment. According to Young, Hwang, McDonald and Oates (2009), consumers' self-reported behaviour were highly concerned about environmental issues and had the intention to buy green brands, but were slow to translate such concerns into actual green behaviour. This was similarly evident from Sri Lankan consumers as they have a moderate level of values, beliefs and norms tendency towards green consumption behavioral intention to safe environment but those would not be adequately influenced to actual green behaviour (Samarasinghe, 2015). Green behaviour intention can be considered from the point of green purchase intention (direct behavior) and general environmental/green behaviour intention (indirect behaviour) (Samarasinghe, 2015). By concerning the similar concept, actual green behaviour can also be framed as green purchasing behaviour and general environmental/ green behaviour (Samarasinghe, 2015).

## **2.3 Ecological Intelligence**

Psychologist and science journalist, Daniel Goleman illustrated on Howard Gardner's (1983) theory of multiple intelligences to propose ecological intelligence. In this conception of ecological intelligence, Goleman (2009) combined naturalist intelligence with emotional intelligence. In holistic, eco-psychology perspective, Goleman (2009, p.44) described ecological intelligence as an "all-encompassing sensibility". Later, Akkuzu (2016, p. 198) defined ecological intelligence as "an ecological awareness and sensitivity of modern human beings regarding the negative natural mutations on a global scale and the ability to react against these changes". Recently, Okur-Berberoglu (2020, P. 133) has

referred the concept as “systemic thinking, eco-philosophy, holistic perspective, collective lifestyle and cultural commons. Thus, the concept of ecological intelligence is still vague and inconclusive and can be pointed out as a complex concept which is difficult to determine the nature and characteristics (Akkuzu, 2016).

In conceptualizing Ecological Intelligence, Goleman (2009) combines intelligence (the capacity to learn from experience and deal effectively with our environment) with ecology (an understanding of organisms and their ecosystems). McCallum (2008) notes that individuals must explore their position in the ecological balance in order to understand the hidden effects of their activities on nature and how to improve themselves in this regard which is only possible by virtue of ecological intelligence. Sterling (2009) argued the importance of approaching ecological problems through the perspective of relational thinking (which the ecological intelligence entails). According to Goleman (2009), radical transparency and ecological intelligence will be fostered by sources of product information that are authoritative, impartial and comprehensive. Further Goleman (2009) examined that consumers are facing with difficulties among choices when buying a product which is best for the environment, for their health as well as for the well-being of those who made it. It is largely impossible to get comparative information.

Although Goleman (2009) proposed an important, ecologically valid way to think about the construct of intelligence, ecological intelligence is not primarily a psychological work, in the sense of clarifying the influences or abilities that make one ecologically smart. On the other hand, Ecological intelligence should not be purely evaluated within a natural science and mechanistic perspective just because it includes the word “ecological” (Sterling, 2009).

Initially, ecological intelligence is related to either cognitive area or affective area (Shumba, 2011; Sterling, 2009). Goleman (2009) envisioned ecological intelligence in the context of cognitive psychologist Howard Gardner’s (1983) theory of multiple intelligences (eg: linguistic, musical, or bodily-kinesthetic intelligence unique talents that have proved

adaptive for the human species and that continue to provide continued benefits). The cognitive domain should interact with the natural environment (Capra, 2005). Thus, Ecological intelligence melds these cognitive skills with empathy for all life. The shared nature of ecological intelligence makes it synergistic with social intelligence, which gives us the capacity to coordinate and harmonize our efforts. Just as social and emotional intelligence build on the abilities to take another’s perspective, empathize and show concern ecological intelligence extends this capacity to all natural systems. McCallum (2008) pushed emotional intelligence to go ahead of science. He ventures into the metaphysical realm at times and explains that humans as a species are superstitious even when we try not to be. Sometimes we only understand something when we make a deep, emotional connection with it. McCallum (2005) mainly pointed out that our ecological intelligence is lacking, and rediscovering ourselves in nature is not going to be easy. According to Goleman (2009), humans display empathy when they feel distressed at the pain of the planet or resolve to make things better. It is empathy, added to a rational analysis of cause and effect that creates the motivation to help.

Recently, Okur-Berberoglu (2020) has developed a scale for Ecological Intelligence by concerning the holistic perspective as social intelligence and economy. As holistic perspective, Okur-Berberoglu (2020) argued that since every behaviour whether it is related to consumption or not, can impact directly or indirectly on the environment, people should take responsibility for their every behaviour to their environment and social community (Capra, 2005; Goleman, 2006, 2009; McCallum, 2005). Human being is a social creature and s/he should not isolate herself/himself from the social area because ecological intelligence is a social and collective process and thus, social intelligence is a subset of ecological intelligence which refers to social responsibilities of people in terms of sustainability (Okur-Berberoglu, 2020). Ecology and economy can be considered as complementing subjects (Kahn, 2010; Orr, 2002) since economy needs environmental in order to develop (Capra, 2005; Kumar & Budin, 2006). Moreover, Kahn (2010) and Orr (2002) especially emphasized that

the economy should be based on sustainable development rather than exploitation of environmental. Thus, each sustainable living effort should be undertaken with an economic and critical perspective (Okur-Berberoglu, 2020).

Akkuzu (2016), four important aspects of ecological intelligence as "as "Ecologically Conscious Purchasing Behavior", "Hidden Ecological Impact of Products", "Ecological Sensitiveness" and "Ecological Knowledge Sharing". Ecologically Conscious Purchasing Behavior is about the issues that individuals cared about while they purchase products and Hidden Ecological Impact of Products refers to the hidden impacts of the products on the ecosystem that occurred either during the production or consumption (Akkuzu, 2016). Further, Ecological Sensitiveness concentrated on determining awareness or sensitivity of individuals towards ecological issues where Ecological Knowledge Sharing emphasized on the importance of sharing ecology-related knowledge (Akkuzu, 2016).

### 3. CONCEPTUALIZATION

Schwartz (1992) in his Value Theory described consumer's ecological values play a primary role in green behaviour. Furthermore, the VBN Theory explains that the causal sequence proceeds beginning with the values levels. Several scholars have been examined the relationship between values, intention and green/environmental significant behaviour (Cherian & Jacob, 2012; De Groot & Steg, 2008; McCarty & Shrum, 2001; Nordlund & Garvill, 2002, 2003). Thus, the following propositions have surmised:

P1: Customer's ecological values influence on their ecological behaviour intention

P2: Customer's ecological values influence on their ecological actual behaviour

Several socio-psychologists have argued that consumer's green/environmental beliefs have become effective contributors to activate green norms and to motivate consumers to engage in green behaviour (Samarasinghe, 2015). As per Stern (2000), ecological beliefs have been conceptualized as individual's

awareness of the environmental consequences of certain behaviour and ascription of responsibility to themselves for taking prevention actions which have a high potential to affect actual behaviour. Further, it has been examined that consumer's ecological beliefs have become an effective contributor to identify green behaviour intention as Ajzen & Fishbein (1980) in their Theory of Reasoned Action and Ajzen (1991) the Theory of Planned Behavior makes a direct relationship between beliefs and attitudinal behavior intention. Fundamental beliefs people held with, pertaining to their interaction with the world, which will root for formation of their beliefs about environmental issues and their propensity to engage in green/ecological behavior (Stem 2000; Nordlund & Garvill, 2002). In fact, green/ecological beliefs are footing for ecological behaviour intention and towards actual ecological behaviour. With the support of this empirical evidence it advances the following propositions:

P3: Customer's ecological beliefs influence on their ecological behaviour intention

P4: Customer's ecological beliefs influence on their ecological actual behaviour

It was argued that personal norms are a key factor that bridges the attitude behaviour gap as a moral obligation go beyond the behavioural intention and activates the actual behavior (Stern, 2000). Personal norms can be identified as a significant predictor of green consumer behaviour intention and actual behaviour in many contexts such as conservation (eg: Alhassan et al., 2018; Cai et al., 2019; Corral-Verdugo & Frias-Armenta, 2006; Joshi & Rahman, 2016; Tenkasi & Zhang, 2018), recycling (eg: Do Valle, Rebelo, Reis & Menezes, 2005), littering (eg: Kallgren, Reno & Cialdini, 2000), purchasing of organic wine (eg: Thogersen, 2002), environmentally friendly travel mode (Nordlund & Garvill, 2003), consuming healthy food (Van-den-Berg, Faulks & Granado, 2000). Therefore, it is postulated that:

P5: Customer's ecological values influence on their ecological behaviour intention

P6: Customer's ecological values influence on their ecological actual behaviour

For consumers' behaviours, an intention can be converted into the actual behaviour depending on whether the consumers can recall their intention (Ajzen & Fishbein, 2005). It is similar for ecological consumption and general behaviour. Several studies have established a positive relationship between environmental purchase intention and behaviour (Samarasinghe, 2015). As per the findings of a general consumer survey conducted by McKinsey (2007), it has shown a significant interest in reducing their impact on the environment, which later translated into actual action which is relatively less. In line with the literature, the next proposition has developed as:

P7: Ecological behaviour intention leads towards actual ecological behaviour

According to Goleman (2009) it is required to move towards an ecological consciousness called as 'strong ecological sensibility' which supports a culturally shared ecological intelligence that is now well overdue. Samarasinghe and Samarasinghe (2013) have suggested that their emotional feeling and sensitivity towards the natural environment may cause some effects on consumers' ecological behaviour. As per Akkuzu (2016), "Ecologically Conscious Purchasing Behavior", and "Ecological Sensitiveness" are significant predictors of ecological intelligence.

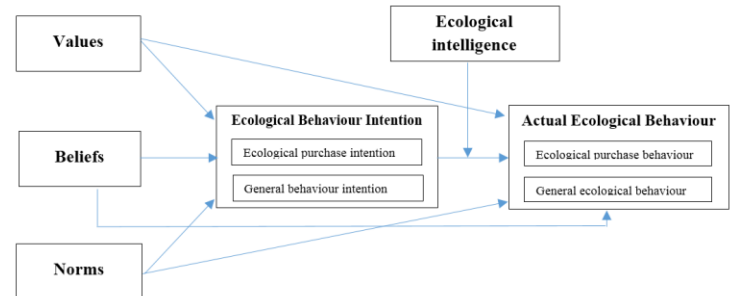
Social Intelligence can be identified as a distinctive and psychologically benefited construct which leads towards individuals' behaviour (Silvera, Martinussen & Dahl, 2001). Goleman (2009) suggested emotional and social intelligence as significant predispositions of ecological intelligence and Okur-Berberoglu (2020) has developed a scale for Ecological Intelligence by concerning social intelligence. The shared nature of ecological intelligence makes it synergistic with social intelligence. Accordingly, a moderating effect of ecological intelligence is suggested in between the impact of ecological behaviour intention towards actual ecological behaviour and the proposition has been articulated as:

P8: The impact of ecological behaviour intention on actual ecological behaviour is moderated by ecological intention

#### 4. DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK

The proposed conceptual model (refer Figure 1) was developed based on the constructs identified through the literature concerning to the specified research concern.

Figure 1: Proposed conceptual framework



Source: Author developed

#### 5. IMPLICATIONS

Ecological Intelligence is a witness to one of today's major issues, which is the basic disconnect between the human population and the natural environment. This study focused to explain how this disconnect occurred relate to ecological buying behaviours and how this disconnect needs to be bridged. This would be the first attempt to conceptualize the moderating impact of ecological intelligence in Value-Belief-Norms theory and also initial attempt to test a developed scale for ecological intelligence in a developing country.

Sri Lanka as one of the developing economies in South Asia which focuses to pay more priority to enhance the environmentally friendly living standards with sustainable consumption practice. With this intention, Sri Lankan government has already imposed some laws and regulations to identify as sustainable development plans such as organic farming, new pollution controlling method, recyclable packaging materials, eco-testing for vehicles etc. Thus, the present focus of the paper would be directly significant and benefited to government policy designers in Sri Lanka and other Asian countries as well.

Many Sri Lankan industries are also introduced ISO standards as a voluntary action to create green management systems. Although many green marketing initiatives introduced by Sri Lanka, it is still in the infant stage of implementing the green strategies. Further, some studies evidenced that consumers do not express any consistent preferences for green brands in their purchasing behaviour. According to Doherty (2009). Ecological Intelligence also caters to business audiences in significance altitude. Thus, this theorization will facilitate customers to show more conscious behaviour and especially for marketers in order to identify customer behaviour and address their inner desires.

The main aims of ecological intelligence are to develop social and environmental responsibility (Shumba, 2011; Sterling, 2009) and awareness to think critically (Bowers, 2010; Capra, 2005), to pursue cooperative learning (Sterling, 2009), and to bring about behavioural change in the long term (Bowers, 2010). Thus, ultimately this theorization leads to reduce ecological unbalance and biodiversity issues of the country and our mother planet.

## 6. CONCLUSION

Human beings as consumers are the principal responsible parties of the global threat posed by ecological problems. Unless we change our consumption choices the delicate balance of nature will irretrievably collapse. Since everything of life is connected and continue to exist within the ecological balance, we should take responsibility in the face of ecological problems and change our consumption habits which harm sustainable ecosystems. This can only be possible by incorporating an ecological perspective. In Green consumers and demands for green products are inconclusive and controversial. Consequently, there has been an ongoing debate around the world on what possible factors effect on consumer green consumption behaviour. Although there were plenty of empirical studies conducted in developed countries, a few from in developing countries. The concept of ecological intelligence is a novel and inconclusive concept, which is still in its theorization stage. Thus, this paper intended to conceptualize how ecological intelligence impact on ecological behaviour of Sri Lankan consumers.

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