Spill over of Environmentally Friendly Behaviour Phenomenon: The Mediating Effect of Employee Organizational Identification

Nik Ramli Nik Abdul Rashid [a], Naja Mohammad [b]
[a,b] Faculty of Business Management, Universiti Teknologi Mara, Malaysia.
[a] Corresponding author: nikramli@perlis.uitm.edu.my

Abstract: Positive spillover has been found in literatures since early 1980s and is still a currently relevant topic for research. These studies have been focussed on work-family situations; where there is a positive transfer of characteristics (affects, skills, values, and behaviour) from one domain (work) to another domain (family/individual). This study focuses on the "*spillover of environmentally friendly behaviour*" (EFB) – postulating that a person who is positively involved with the implementation process of the Environmental Management System (EMS) at work, will also display similar environmental friendly actions as a member of the general public or at home. Continuously involving oneself with a sense of responsibility and obligation to the EMS activities at workplace has indirectly contributed to them acquiring the relevant attitude and information about the environment.In a need to be consistent with the work-acquired attitude toward the environment, the same display of environmental friendly behaviour is shown to be extended to his non-work domain. This is consistent with the Theory of Cognitive Dissonance, where a person would maintain consistency in behaviour to avoid a sense of dissonance within himself. Another significant contributor to this environment friendly attitude is the organization's support for this noble cause, reflected in the top management commitment to the EMS. Using the Hierarchical Multiple Regression analysis (SPSS), this study has also uncovered an organizational related variable as a mediator of the EFB spillover process. Employees that believe the organization is doing a noble effort for the environment through the EMS, feels a sense of pride and has shown stronger identification with the organization. This feeling of identifying oneself with organization acts as an intervening element (mediating variable), and explain in further detail the actual stages of the EFB process.

Keywords: Environment Friendly Behavior, Environmental Management System, Employee Organizational Identification, Spillover behaviour

INTRODUCTION

One of the prominent conclusions of the Earth Summit in Rio in 1992 was that "*altering consumption patterns is one of humanity's greatest challenges in the quest for environmentally sound and sustainable development*" [1]. Since then, strategies for the attainment of a sustainable consumption pattern have been on the agenda of concerned leaders world-wide. However until now, most attempts to change consumer behavior in an environment friendly direction have focused on isolated habits (for instance on persuading consumers to participate in a recycling program, sharing of private transportation, preferring organic produces, or

using energy saving light-bulbs) rather than on achieving general (overall) changes in value orientation and subsequent environment-friendly lifestyles. This narrow focus on single behaviors and problems is inefficient and too slow, compared to the challenges ahead of us [2] [3], and others have claimed that a too narrow focus often leads to the creation or worsening of environmental problems outside the intended focus [4]. Kilbourne and Polonsky consequently suggested that the focus should be to have consumer-directed environmental policy guided by the ambition to change overall consumption lifestyle patterns, not just specific limited behaviors [5]. Most prominent is the multidisciplinary approach to the education of the environment and development issues implemented throughout the entire formal educational system.

Another complementing effort emphasizes on aspects of the educative elements from an industry perspective is through the implementation of the Environmental Management System (EMS) which is organizationally both very pervasive and comprehensive in nature (ISO14001 Standards, 1996). Previous studies have shown that organizational practices that are being implemented and communicated do have some effects on employee work attitudes and values [6] [7] [8]. As mentioned by Jackson and Coolican [9];

*If we hope to impact society and the ways in which we all live together, we are obligated to consider how to positively impact the thinking and the behavior of individuals at all stages of life and in a variety of organizational settings. We choose to focus our energies on the organizational level, for this is often where people spend a majority of their time and one where there are established, either explicitly or implicitly, codes of behavior that are reinforced over time. **If people are expected to behave respectfully and in a civil fashion, and if the organization intentionally promotes such behavior, the continuous, daily reinforcement of a respectful way of working together will often spill out into behavior outside of the organization**.*(page 788-789)

Past studies about positive spillover behavior have been all about proving the existence of such phenomenon. Even though studies have indeed proven consistently of the phenomenon; none thus far have researched its process. What organizational factors could significantly contribute to this phenomenon? In this study we have proposed an established and well-researched organizational construct of employee involvement to represent the employee sense of identity with the organization goal and strategies of promoting comprehensive

environment-friendly practices [10][11][12]. The possibility that employee involvement, achieved through experience, training and educational aspects that are formally embedded within the EMS would facilitate in the formation of a positive environmental attitude and the resulting personal norms (environmental-friendly behavior). Specific studies of whether such environment-friendly attitudes and behavior might not only be constrained within the organization's premises but could also "*spillover*" into an individual's behavior as an ordinary citizen, have already been conducted, though in a rather preliminary and sometime exploratory in nature.[13] [14]. A more recent study carried out by Nik Ramli has, to some extent, confirmed the spillover phenomenon of EFB; but again the target domain was limited to a very specific behavior related to a consumer purchase [15]. A more general or wider behavioral construct would give a more meaningful conclusion. Furthermore, considering the sense of employees indentifying with what they perceived to be good corporate social practices, the influence of being involved with the implementation of the EMS could be much stronger. Taking up from studies that showed a positive impact of organization's CSR practices on employee identification another study that would prove its mediating role in the spillover process is very much justified [16] [17]. This study attempts to achieve two main objectives: (1) To investigate the spillover of environment friendly behavior of employees in the implementation of the EMS. (2) To investigate the mediating role of employee organizational identification in the spillover of EFB phenomenon.

LITERATURE REVIEW

The Spillover Behavior Phenomenon

The behavior spillover effect has been discussed in literature in various contexts. One context of the behavior spillover study refers to positive or negative effects of an individual's working life on their personal or family life and vice-versa [18] 19] [20]. Hanson, Hammer and Colton have identified spillover behavior as having multi-dimensions, involving behavior, values and affects [21]. There have also been studies of this behavior spillover phenomenon in the environmental friendly behavior context [22] [23] [24] [25] [26] [27] [28] [15]. All of these studies have established the existence of this behavioral phenomenon.

There were also studies that went further to explore the mechanism involved in the spillover process by identifying behavioral constructs within the organizational setting. Rondenelli and Vastag in their study note that one of the strongest impacts of ISO14001 certification and the adoption of a strengthen EMS was behavioral [14]. The

preparation, registration and surveillance process during the ISO14001 certification process was thought to have made most employees more aware of environmental aspects, regulations, and impacts, not only at work, but at home and in the community. However their information was limited to that obtained from a handful of managers from just one company and with no specific behavioral construct that could explain the specific elements of the EMS that could have significantly contribute to employee environmental concern. Whereas the study by Berger and Kanetkar did use what they termed as "workplace experiences" when discussing this organizational domain and identified two psychological construct (perceived consumer efficacy and conviction) to measure the influence of the EMS on the individual employees; however the items used in their research instrument seemed not to reflect such organizational setting that could have then been identified as the source behavior in the eventual spillover process [13].

A study by Nik Ramli argued that in order to better explain and establish this spillover phenomenon; a source behavior category within the organizational setting has to be made more explicit and intentional [15]. It needs to be structured and consistent with the effort of developing the necessary attitude that could be the foundation of performing another behavior category (target behavior). Taking the above consideration, his study proposes a well established behavioral concept of employee involvement as a behavior category at an individual behavior level within an organizational setting as the source behavior or the independent variable [29] [30]. Though his study did prove the positive influence of employee involvement in the spillover phenomenon, the result has very limited generalization ability. This is primarily due to the fact that the target behavior was limited to just one specific behavior, whereas a more general environment friendly behavior category would be necessary if this phenomenon is to be confirmed.

The Theory of Cognitive Dissonance

The results of the research on dissonance theory have provided a knowledge base that makes it possible to develop measures for changing people's attitudes and behavior by targeting their inner contradictions and experimental studies have demonstrated that cognitive dissonance can produce environment-friendly adjustments in behavior [31] [32] [33]. In these cases, dissonance was produced by *increasing the salience of the discrepancy* between a person's behavior and his or her norms for environmentally proper behavior. Thus, when two different behavior categories are connected to the same belief or attitude, then a desire to avoid cognitive dissonance

should create a drive to equally perform both (or neither of them). If they fail to see that the two behaviors are linked to a common goal, they may not experience the slightest inconsistency when performing one and not the other; thus their behavior could not have been said to be driven by cognitive dissonance. A critical observation of most previous studies is that all were related to behavior adjustment from an individual private-life setting, and do not involve behavior categories from workplace situations.

The first stage of this process is the attitude formation stage. We believe that behavior in such structured and formal setting is expected to heighten the effects on attitude and behavior [34] [14]. Relying on the assumptions made from the action-opinion theory of cognitive dissonance of which repeated behavior would contribute strongly to the formation of an attitude, active employee involvement with the implementation of the EMS would also contribute to forming a person's concerns for environmental well-being in general. The EMS would continuously exposed employees with information, training, knowledge, activities, responsibility, accountability, performance appraisal, and other informal activities that would strongly influence their predisposition and determine the manner they respond toward environmental issues. The effects of actually doing something for the environment (even if within the context of workplace) and seeing the result of it would give tremendous effect on the person's attitudes and belief [35].

The next stage of the spillover of ERB process is the dissonance formation stage. According to Thogersen if two volitional behaviors are believed to lead to the same super-ordinate goal, a desire to avoid cognitive dissonance should create a drive to perform both of them [27]. A person environmental responsible behavior in an organization (e.g. taking care of scheduled waste, using recycled material, complying with regulation etc) and his personal behavior outside the organization (eating organic fruits, buying energy saving bulb, donating to environmental protection causes) have to come from his or her same concern for the wellbeing of the environment. It has to come from knowing and being aware of environmental issues. Dissonant cognitions could arise if his or her behaviors inside the organization and outside the organization are contradicting each other. Cognitions such as, "environment care is not only about organization", "individual action also matters to the environment", "I have seen for myself and I know pollution is bad" could be sufficient driving force to be consistent in his or her reaction to environmental issues. It could most probably bring the person to the final stage of the behavior spillover process where he or she extends his or her concerns for the

environment to their target- behavior outside the organization.

Environmental Friendly Behavior

Significant environmental friendly behavior (EFB) has traditionally been defined by its *impact*; that is the extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere itself [36]. However in the past decades environment protection has become an important consideration in human decision-making and this development has given environmental friendly behavior a second meaning. EFB can now be defined from the actor's standpoint as behavior that is undertaken with the *intention* to benefit the environment. This intent-oriented approach would thus focus on people's beliefs, motives, and so forth in order to understand and eventually attempt to change behaviors to its relatively more eco-friendly nature [36]. Stern et al. have identified several distinct and reliable types of environmentally responsible behaviors, which are: **environmental activism** (*active involvement in environmental organizations and demonstrations*), **nonactivist behavior in the public sphere** (*support and approval of environmental efforts, including environmental regulations and policy initiatives*), **private-sphere environmentalism or green consumerism** (*the purchase, use, and disposal of personal and household products that have environmental impact*) and finally behavior affecting **organizational decision** of which they belong (*employee efforts to reduce waste or the choice of suppliers*) [37]. The interest of this study relates more to the two later behavior categories, EFB at home (which represent the private sphere) and EFB at workplace (employee participation with organizational environmental protection efforts). Whereas individual behavior in a private sphere requires stronger self determination, behavior in organization is directed by management expectation and work responsibility. At workplace, employees are expected to confront continuous group and formal pressure to be involved in the organization's environmental programs and activities. The nature of the two EFB categories is significantly different due to the fact that each is directed toward significantly different objectives. While one is performed to lessen individual (family) impact toward the environment, the other is carried out to fulfill organizational targets and performance. It is hoped that since a person is formally trained and introduced to environmental programs and activities at workplace, this behavior category of EFB would be more appropriately placed as the source behavior of the spillover phenomenon. However, as with all other dimensions of EFB, the motives and attitudes underlying these behaviors are

their same concern for the environment and society's future well-being.

Perceived Management Support

Management support is one of the most important aspects in the implementation and maintenance of any successful organizational initiatives, including the implementation of the EMS. A consistent managerial support must be made explicit and transparent so as to have an impact on the employee's perception and generate the required behavioral response from them. An empirical study by Daily, Bishop and Steiner concluded that managerial support for an EMS should be strong and highly visible [38]. Top management within an environmentally conscious organization should strive for and support a work environment that allows its employees the freedom to make environmental improvements. An interesting observation by Cooper noted that the higher the level of management the more influence it has on employee behavior [39]. Graves and Sarkis opined that employees' pro-environmental behaviors are critical to the success of organizational environment initiative, and discussed at length how this behavior could be developed by appropriate manager's leadership orientation [40]. They proposed that transformational leadership on environmental issues is associated with increases in employees' autonomous motivation to perform pro-environmental behavior. The enthusiasm and confidence shown by a transformational leader will create a feeling of autonomy, competence and relatedness among the employees toward the organization's environmental goals and should lead them to view pro-environmental behavior as an expression of their own self.

Organizational Identification

The research on identification has been studied in order to explain the relationship between employees and organization. Ashforth and Mael define employee organizational identification as a feeling of belonging toward the organization [41]. Employee organizational identification (EOI) as with organizational commitment is a type of employee attachment. Identification is the degree to which individuals believe they and the organization are one entity [42]. EOI involves "possessing" or "sharing" the organization's values. Customers, owners and employees can identify with organizations, although most researchers examine employee organizational identification. Employees who strongly identify themselves in the organization are motivated to show their positive identities and behavior to help them achieve organizational goals [43] [44]. Moreover, research shows that employees with stronger identification will be more satisfied and will be more involved and committed in their jobs to their

organization. The employee will also have a consistent attendance and loyal to their organization for a long period of time in term of being employed by the organization [45]. Hekman, Bigley and Steensma recently found that organizational identification improves employees' performance quality and reduces employees' resistance to information technology [46]. They also found that EOI makes employees more responsive to favorable organizational treatment and more forgiving of unfavorable organizational treatment. A review of literatures found that no study has been conducted to associate the implementation of the EMS to employee identification. However, studies relating to socially responsible management, such as CSR, of which environmental protection is one of its dimensions, has resulted in positive influence on employee identification to the organization [47] [48].

METHOD

Sample and Procedure

A large multinational organization was selected as a population of this study. It has more than 2000 employees, spread in several departments. A lengthy in-house study was conducted to observe the organization's commitment to environmental and social responsibility. The company has been certified with ISO 14001 (Environmental Management System) and ISO 26000 (a voluntary Standard providing guidance on Social Responsibility). The organization takes serious measures to ensure compliance with local and international environmental regulations and ensures operations are conducted in manners which are committed to conservation of resources, pollution prevention and promotion of environmental responsibility. Maintaining employee engagement is stated in its written policy. Occupational Safety and Health management is practiced, in compliance with relevant standards and regulations. The organization has received several awards for its commitment to good environmental and social responsible practices. Apart from the environmental activities related to its EMS operation, a list of the general activities and programs related to the environment conducted by the organization, were also recorded.

The sampling process was done at random with questionnaire distributed to all available departments in the organization. 350 questionnaires were distributed, 257 were returned but only 255 were usable. 56% of the respondents were male, with a majority of them Chinese (48%) followed by Malays (35%) and others. More than 50% have been working there for the past 5 years or more, and only 13% have work one year or less. 78% were from operation

departments and the remaining were supporting staff. Only 10% were enrolled with a high school certificate, while the rest hold a Diploma (34%) or a Degree (54%).

Measurement

The spillover of EFB involves 4 main variables. The source behaviors (also the independent variables) are employee environmentally related behavior at workplace and perceived management support for the EMS. The target behavior (also the dependent variable) is EFB at home or in community. Last is, employee organizational identification as the mediating variable, linking the source and target behavior in the spillover of EFB phenomenon.

Independent Variables: The 4 items for Perceived Management Support were adopted entirely from Daily, Bishop and Steiner [38]. The 7 items for environmentally related behavior at workplace were developed based on observation of activities carried out at the workplace. Since some of these activities are not carried out by all employees, the item focused on the respondents' support for them.

Dependent Variable. The EFB at home or in the community was adapted from several past studies relating to individual environmental behavior. As all of these research were from more developed countries, the item development needs to take into consideration the existing environment social-infrastructure in Malaysia as to ensure the respondent can relate to the issues highlighted in the items. *Mediating Variable*. The 4 items for employee organizational identification were adopted entirely from the well-established measures developed by Ashforth and Mael [41].

Reliability and Validity of Measures

The results from Crombach Alpha test showed a very good reliability scores for all the variables, ranging from 0.83 to 0.88 [49]. The validity of all the constructs was determined by Factor Analysis method, using the Principle Component extraction with Varimax rotation. Guidelines as recommended by Hair et al. are strictly followed where, only factor loading of more than .5 are accepted and no cross-loading is allowed [50]. Factor having just 2 items are also dropped from the analysis [51]. The exploratory Factor analysis results showed a range of loadings between, 0.52 to 0.80. The measure of sampling adequacy (Kaiser-Meyer-Olkin) is 0.88 and the Bartlett Test of Sphericity is significant. All the items resulted into 4 factors, thus confirming the uniqueness and validity of all the variables used in this study (see Table below).

Factor Loading

	1	2	3	4
EFB – Home/Community				
EFB-home1		**.753**	.133	.046	.096
EFB-home2		**.798**	.110	.010	.163
EFB-home3		**.786**	.035	.142	.031
EFB-home4		**.711**	.033	.148	.050
EFB-home5		.730	.173	.144	.076
EFB – Workplace				
EFB-workplace1	.163	**.813**	.205	.154
EFB-workplace2	.058	**.778**	.189	.196
EFB-workplace3	.122	**.802**	.235	.211
EFB-workplace4	.157	**.795**	.228	.132
Employee Organizational Identification				
EOI1	.072	.288	**.789**	.242
EOI2	.140	.274	**.796**	.213
EOI3	.156	.193	**.809**	.177
EOI4	.161	.167	**.764**	.202
Perceived Management Support				
PMS1	.150	.235	.252	**.754**
PMS2	.046	.208	.153	**.773**
PMS3	.074	.162	.177	**.816**
PMS4	.142	.076	.181	**.758**

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Eigen values	6.499	2.323	1.531	1.306
Percentage of variance	38.23	13.66	9.004	7.680
Cumulative Sums of Square loading	**68.58%**			
Kaiser-Meyer-Olkin	**.867**			
Bartlett's test of sphercity	**.000 (sig)**			
Extraction method: Principle component analysis / Varimax rotation				

Reliability (Crombach alpha)	.830	.876	.881	.838

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Table 1 : *Factor Analysis for Variables in the Spillover of EFB Phenomenon.*

Step 1: ***Relationship between source behavior and target behavior***

Independent variables	**Dependent variable (EFB at home)**
EFB at workplace	0.283**
Perceived management support	0.145*
R^2	0.150
Adjusted R^2	0.140
F Change	21.342

p<0.01**, p<0.05*

Step 2: *Relationship between source behavior and mediating variable*

Independent variables	**Dependent variable (EOI)**
EFB at workplace	0.383**
Perceived management support	0.305**
R^2	0.365
Adjusted R^2	0.360
F Change	72.578

$p<0.01$**, $p<0.05$*

Step 3: *The inclusion of EOI as mediating variable between source and target behavior*

Dependent Variable	**Independent Variables**	**Std. Beta step1**	**Std. Beta step2**
EFB outside workplace	EFB at workplace	0.283**	0.211**
	Perceive mgt support	0.145*	0.087
	Mediator: EOI		0.188**
R^2		0.145	0.167
Adjusted R^2		0.138	0.157
F Change		21.342	16.808

$p<0.01$**, $p<0.05$*

Table 2:*Testing the mediating effect of employee organizational identification in the spillover of EFB phenomenon*

ANALYSIS AND FINDINGS

The main objective of this study is to explain the spillover of environment friendly behavior phenomenon. We postulated that the spillover process originated from several organizational factors, which are employee involvement with environment related activities at workplace and perceived management support for environmental care. The spillover process is further facilitated by the fact that employee identifies themselves with the noble effort and commitment of the organization to protect the environment. To test this mediating influence of employee organizational identification (EOI), we follow the guidelines provided by Baron and Kenny [52], which involved three steps, i.e; (1) The independent variables should significantly affect the dependent variable. (2) The independent variable should also significantly affect the mediating variable (3) The mediator should also significantly affect the dependent variable.

To establish whether EOI would fully mediate the relationship between the independent variables (source behavior) and dependent variable (target behavior), the impact of all the independent variables on the dependent variable, while controlling the mediating variable (EOI), should be zero (not significant). Whereas if the relationship between independent and dependent variable is still significant even after introducing the mediating variable, then the mediating effect would be considered as partial. Below is the output of the multiple regression tests carried out.

From the above tables two different mediating effect could be seen from the hierarchical multiple regression that have been carried out. As for the relationship between EFB at workplace and EFB at home, a partial mediating effect of EOI is observed. This could be seen when std. coefficient for EFB at workplace is significant for both step 1 (Beta 0.283, p<0.01) and step 2 (beta 0.211, p<0.01). However a full-mediating effect is observed between Perceived Management Support and EFB at home when the inclusion of EOI has resulted in the not significant standardize beta coefficient in the second step of the regression model.

Step 1 from the tables above shows that the only 14% of the independent variables could be assigned for the variation in the dependent variable (adjusted R^2 = .14). This would mean an obviously huge percentage of the exploratory power of this model still lies with other factors not focused in this study. However, a look at other studies related to work-family spillover also resulted with a R^2 of between 5% - 12% [53] [54] [15].

The result of the multiple regression in Step 2 shows a higher R^2 (adjusted R^2 = .360). Both variables (employee involvement with EFB at work and perceived management support for environmental protection) gave a positive and significant effect on employee organizational identification.

Another interesting observation worth noting is that all three regression models resulted in higher standardize beta coefficient for EFB at Workplace, as compared to Perceived Management Support. This might be due to the fact that action and experiencing environmental related activity has stronger impact on an individual attitude and norms. This is also consistent with the mediating test (step 3) where Perceived Management Support is fully mediated by EOI, whereas EFB at workplace is partially mediated. In other word, the PMS will only be a significant factor in the spillover phenomenon only if it is mediated by EOI. As for EFB at workplace, the impact of experiencing "hands-on" activity related to environmental protection is strong enough to individually impact on their spillover behavior at home or in community (hence the partial mediating effect of EOI).

CONCLUSIONS AND RECOMMENDATION

Environmental Management System and Human Behavior

Looking at data coming from reliable sources (such as Department of Environment, Universities, and NGOs), environmental problems are not getting any better. Global warming, large scale clearing of tropical forest and the resulting loss in biodiversity, air pollution, polluted water source, overflowing landfills, household garbage, industrial affluent, and pesticide-laced agricultural products are real issues that society are aware of, albeit with different level of knowledge or concern. However, everyone has to agree that the solution to these problems is not limited to having technical and scientific advancement. Indeed the focus need to be emphasized too, on the originator of the problem itself – human behavior. We need to use our expertise in the science of human behavior to understand the roots of this problem and offer suggestions on how to influence and encourage and to change them into more environment friendly behavior.

This study proposes that human behavior – attitude, values and norm – are a function of the environment they are in. This includes workplace environment, where people do spend more than half of their active living time interacting and being influenced by it. The attitude, values and norm are what make the whole

person – no matter where he or she is. We cannot compartmentalize a person according to his geographical where about – having one personality (active attitude, values and norms) at workplace, and later switch on to another personality while somewhere else. Having dual and conflicting personalities – is always a cause for an uneasy feeling within a person. The natural need to avoid this uneasy feeling is the premise of the Spillover of Environment Friendly Behavior Phenomenon that we are trying to present. And this phenomenon is rooted within well established social-psychological theories, where people are expected to have a strong desire to be consistent in their attitudes, beliefs, words, and behaviors [55] [56] [57]. One of the earliest and prominent among these theories is Festinger's theory of cognitive dissonance, *which claims that we have a need to avoid inconsistencies in our beliefs, attitudes, and behaviors* [58]. Backed by experimental evidence, the cognitive dissonance theory suggests that it is emotionally disturbing and, hence, it is unpleasant to hold inconsistent attitudes and/or perceptions or to behave in an inconsistent manner.

And the data we have generated through our study reconfirms this phenomenon. Even though the nature of this behavioral spillover is not overwhelming, it is still a starting point for initiating a behavioral intervention initiative in a significant section of our society. Knowing that behavior in society is contagious, finding the initial or starting point for an initiative is a logical step [59].

The work-environment that is to be the starting point (or source behavior) of the spillover process is in organizations implementing the Environmental Management System. The EMS is characterized as being comprehensive and pervasive – comprehensive because it involves the organization as a whole and pervasive because it requires the involvement of everyone in the organization. To have a successful and effective EMS, the organization needs the strong support of top management and commitment of all employees. Involvement denotes "active and actual participation in a consistent and continuous nature". Involvement also means "information, knowledge, training, responsibility and accountability" [29]. A person involved with the implementation of an EMS has to have the knowledge, information about the environment related activity in his or her organization. They have to undergo trainings related to it. They have to perform their part in the EMS, and expect to be held accountable and recognized for whatever he or she has achieved. All the experience and hands-on activities that are carried out by individuals to "*protect the environment*", in a long-run has to have some effects on his attitude, values and norms. In his article, Thorgersen has outlined 3 important prerequisite that could lead to an effective

behavior spillover process [27]. The prerequisites are that a) the person *knowingly and willingly* behaves in an environmentally responsible way; b) there are obvious *opportunities* for acting in an environmentally responsible way and; c) individuals are *aware of relevant similarities* between environmentally significant behaviors. As we have earlier discussed, all three prerequisite apparently seem to be present within the implementation process of environmental management system.

However, it is sometimes observed, that employees seem to be indifferent to the implementation of the EMS. There seems to be a barrier to employee whole-hearted involvement with the organization's environmental protection efforts. We believe that one significant barrier is the cynical feeling that all that is done is *NOT* for the environment – but for profit and other organizational narrow interests. Studies done by Marrow and Rondinelli, and McDonach and Yaneske identified some of the main reasons for certification with the ISO 14001 are export market pressure and compliant with overseas head-office instructions [60] [61]. Other studies note "boosting of public image" as the reason for the certification [62] [63]. Thus, a person would not be inclined to adopt an idea proposed by the organization if he perceived the organization itself is not embracing it whole-heartedly. In fact the opposite might happen, where the person would psychologically and emotionally be detached from the idea, even though physically he would be carrying out his responsibility as some routine chores. If such situation occurs it would be an opportunity loss for the environmental protection efforts.

As such, in this study we included respondent's perception of management support for environmental protection as another independent variable to reinforce the importance of organizational factors in the spillover phenomenon. Employee must be able to "*see*" that the organization is committed to minimizing the organization's negative environmental impact – through budget allocations, non-financial resources, enforcement of environmental protection policies and procedures, and feedback. These actions shows that management "*means business*" and would probably expects that employees would equally reciprocate positively by increasing their effort to understand the organization and their role in caring for the environment. This care would generally be expressed behaviorally through their support for environmentally related policies and involvement in activities organized by management as mentioned in earlier part of this article. This would then be the source behavior (EFB at work-setting).

This study has also shown involvement with practical aspects of organizational environmental practices

does not only influence one's own attitude, but his/her attitude toward relationship with the organization itself. The belief that he is helping the organization doing something good eventually created a feeling of identification with the organization. This is particularly so when both attitudes are derived from the same concern for the environment. According to the organizational identification theory, employees who value the noble efforts undertook by the organization will feel prouder about their organizational membership, which in turn increases their organizational identification and promotes the associated responses [64]. Kim et al. differentiated employee association and employee participation in company CSR efforts; concluding that it is employee participation that resulted in directly influencing employee organizational identification [65]. The same outcome could be expected for employee that had an opportunity to experience hands-on environmental protection activities within the implementation of the EMS. Employee participation with such noble cause could contribute to a rich psychological and emotional link between employee and the organization [66] [67]. In this study, comparison of the standardize coefficients of both independent variables also show higher beta for EFB-workplace rather than PMC.

The mediating effect

The mediating test was carried out to further describe the process or mechanism of the spillover of EFB. In the organizational context, it seems quite clear that the spillover phenomenon would be less salient if respondents did not perceive management as truly committed to environmental protection efforts. Since it is only by demonstrating full commitment to the environmental protection efforts (through the EMS) that employee would feel identified to the organization's environmental cause. As a full mediator, employee organizational identification is a pre-requisite for the spillover process involving PMC and EFB at home. However, at the individual level, EOI has a partial mediating effect, because even without it, the spillover still occurs. The different outcome of the mediating effect for EOI, with regard to PMC and EFB-workplace, also highlighted the importance of the individual practical involvement in the spillover of EFB phenomenon.

Recommendations

Practically, management has to realize that they can get more out of the implementation of the EMS. It should not be just about getting certifications or avoiding the infringement of existing law. Management should not be indifferent to the impact of involvement and support for the implementation of the EMS on employee attitude on behavioral norms.

The position of top management as role model or source of inspiration should be used positively in giving effect to employee behavior inside and potentially outside the organization. Management need to ensure maximum opportunities for employees to be involved in environment friendly activities in the organization. Information regarding the positive impact of organization's and individual environmental protection effort must be shared. Training is obviously a requirement. Employee must feel empowered to contribute more for the organization's environmental performance, and be recognized for it. Employee must not be made to feel that their contribution is merely to fulfill organizational selfish reasons. The ultimate benefit of these efforts is the sustainability of the environment and continuous well-being of future generations.

Organization's true concern for the environment is also another contributor to employee organizational identification. The benefits of EOI are conclusively proven in many earlier empirical researches. Management should not overlook the significant impact EOI has on organizational performance, employee loyalty, OCB etc. Also, factors contributing to EOI other than its environmental concern, such as, organizational climate, leadership orientation, organizational socialization and other organizational factors should also be given due attention. Lastly, managers must realize that the role of EOI is not only limited to internal organizational benefits but a crucial intervening component of the spillover of EFB outside the organization.

It is hope that this study would also create interest among researcher to further explore the spillover of environment friendly behavior phenomenon. Other organizational elements could be explored to further enhance the role of managers in business organizations in nurturing a more environmentally responsible society.

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