

ECO-BASED REASONED ACTION MODEL: THE ROLE OF MANAGEMENT CONTROL SYSTEM

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Abstract

This paper aims to enrich Fishbein and Azjen's Theory of Reasoned Action in predicting the emergence of green behavior by adding institutional-based control system to maintain green intention's stability. Intention's stability is a crucial construct in realizing green behavior, though, it is affected by several instances such as: resources availability, individual capabilities, new information, and cooperation and commitment of individuals. For that reason, it is plausible to argue that the existence of institutional-based control directing green behavior, such as eco-based management control systems, namely levers of eco-control, can maintain and augment one's intention to pursue green behavior. Thus, the paper contributes in enriching the knowledge of the emergence and persistence of green behavior in organizations.

Keywords : *theory of reasoned action, environment, management control system, levers of eco-control*

Abstrak

Artikel ini bertujuan untuk mengembangkan *Theory of Reasoned Action* dalam memprediksi perilaku hijau, dengan menambahkan sistem pengendalian manajemen untuk mempertahankan stabilitas niat. Niat merupakan konstruk yang sangat penting dalam mewujudkan perilaku hijau, namun stabilitasnya dapat dipengaruhi oleh beberapa faktor, yaitu ketersediaan sumberdaya, kemampuan individu, adanya informasi baru, serta kerja sama dan komitmen individu. Oleh karena itu, keberadaan system pengendalian manajemen berbasis lingkungan, yang disebut sebagai levers of eco-control diperlukan untuk mempertahankan dan meningkatkan niat seseorang untuk berperilaku hijau.

Kata kunci: *theory of reasoned action, lingkungan, sistem pengendalian manajemen, levers of eco-control*

Article History

Received : 2020-11-20
Revised : 2020-12-07
Accepted : 2020-12-27



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1. Introduction

The growing attention to the environmental issues have forced the increasing concerned about the environment preservation movements. Communities and organizations are expected to behave in accordance with the movements, referred as pro-environmentally or green behavior. Improving green behavior might be done by strengthening individual behavior motivational factors, such as environmental concern (Said *et al.*, 2003; and Lee, 2008), willingness to gain reputation and public legitimacy (Ali *et al.*, 2016), and self-believed norms. One of the basic theory in behavioral study is Theory of Reasoned Action (TRA) that explains and predicts individual behavior based on its determinants, namely attitudes and subjective norms, through intention (Fishbein and Ajzen, 1975). TRA is a founded theory that underlies the development of further behavioral theories, such as Technology Acceptance Model - TAM (Davis, 1989); Theory of Planned Behavior -

TPB (Ajzen, 1991); Motivational Model (Davis *et al.*, 1992); and Unified Theory of Acceptance and Use of Technology - UTAUT (Venkatesh *et al.*, 2003).

Despite its recognition, TRA-based researches conducted to this point have focused more on individual behavior (Zhang *et al.*, 2014; Doane, Pearson and Kelley, 2016; Untaru *et al.*, 2016), while its application on the behavior of individuals as organization members is still limited. This article will develop TRA to pursue green behavior in organizational context. The starting point will be a brief description about TRA, followed by providing arguments why it is necessary to introduce a mechanism of management control system, namely levers of eco-control to original TRA framework, then proposing an extended TRA model and closing the article with conclusion and implication.

2. Literature Review

Theory of Reasoned Action - TRA (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980) is one of

behavioral theories derived from motivational psychology. Psychological theory has been used in management accounting research since the 1950s, pioneered by Argyris (1953) who examined the social context in budgeting. Furthermore, since the 1970s more researches have applied psychological theories to explain and predict management accounting practices, such as budgeting and performance appraisal in organizational contexts affecting individual thoughts and behavior, specifically decisions, considerations, satisfaction and pressure (Birnberg, Luft, and Shields, 2007).

The original TRA model consists of four variables, namely: attitude and subjective norms, which influence behavior through intention. Attitude is a function of belief. Someone who believes that a certain behavior will have a positive effect will also generate a positive attitude to the behavior, conversely people who believe that the impact produced by a behavior is negative, will also be

negative about the behavior (Ajzen and Fishbein, 1980, p.7, 56). Subjective norms are a person's perception that most of the people who are important to him think that a certain behavior should or should not be performed (Ajzen and Fishbein, 1980, p.7). Intention is a contributor that mediates the relationship between attitudes and subjective norms with behavior. Attitudes and subjective norms are determinants of an intention to behave in a certain way. One will intend to behave in a certain manner if his/her assessment of the behavior is positive, and has the perception that those who are important to him/her prefer to behave in such a way (Ajzen and Fishbein, 1980: 58-59). Behavior, which serves as the final part of the theory, contains several elements that cannot be separated, namely "action, target, context, and time" (Ajzen and Fishbein, 1980: 34). Thus, the action has to be done in accordance with a specific goal, in a specific situation, and in an appropriate occasion.

TRA has been widely used in various fields of research, such as accounting (Djatej *et al.*, 2015; Law, 2010); information technology (Alryalat, Rana and Dwivedi, 2015; Cai and Zheng, 2017; Doane, Pearson and Kelley, 2016; Mishra, Akman and Mishra, 2014); marketing (Brodowsky, Stewart and Anderson, 2018; Sulehri and Ahmed, 2017); social commitment (Zarzuela and Antón (2015); health (Zhang *et al.*, 2014; Head and Noar, 2014; McEachan *et al.*, 2016; Conner *et al.*, 2017); banking (Lujja, Mohammad and Hassan, 2016); human resources management (Lee *et al.*, 2018); and environment (Lindsey, 2015; Untaru *et al.*, 2016). Thus, its applicability has been empirically acknowledged.

3. Methodology

This literature review research aims to contribute in the development of the theory of reasoned action (TRA) to be applied in the ecological context, which will be done by proposing a management control system variable, named levers of eco-control. A series

of study to review the related literatures was conducted, using a methodology developed by Hart (2018). The stages include: (1) searching background information and idea; (2) mapping the topic; (3) focusing topic and analyzing information needs; (4) detailing search of sources; (5) constructing initial bibliographies; and (6) conducting secondary evaluations of the literature.

The searching of literatures were done using specific keywords, consisting of theory of reasoned action, levers of (eco) control, environmental accounting, and management control system. For these keywords-based searching, articles must be published since year 2000. This stage yielded 147 results. Then the abstracts and titles of these articles were selected by considering the second inclusion criteria: articles that explicitly mentioned behavior, levers of eco-control, and environment. This stages resulted in 36 articles to be reviewed thoroughly and used as the basis for the development of the model

proposed in this study. This model develops the original TRA by introducing the eco-control concept as the mediating variables of the effect of eco-behavior intention on actual eco-behavior.

4. Results

4.1 Infusing management control system within TRA concept: why is it necessary?

TRA is a well-established theory, although, it remains open to develop, specifically that related to intention stability. One's intention might change from time to time (Ajzen and Fishbein, 1980: 47). The farther the space between evaluating intentions and examining behavior, the more likely a person is to acquire new material or experience incidents that might change his/her intention. So, the longer the time intermission, the lower the connection between intention and behavior (Fishbein and Ajzen, 1975: 370). Therefore, to obtain more accurate behavior prediction, intention needs to be measured in the span of time as close as possible to behavior.

However, this is not an easy task because it is often unreasonable or unfeasible to measure someone's intentions proximately before the behavior occurs (Fishbein and Ajzen, 1975: 382).

Sometimes, a behavior is a continuation of the previous behavior. In this case, the behavior cannot occur, before a certain behavior is carried out. The more steps prior the intended behavior, the smaller the correlation between intention and behavior (Fishbein and Ajzen, 1975: 370). This also disrupts intentions stability because every step taken is likely to bring up new information that can affect the realization of intention into behavior.

A comparable situation arises when a person is dependent on other persons or occurrences. The higher the dependency level, the lower the correlation between intention and behavior (Fishbein and Ajzen, 1975: 370). If a person's intentions depend on someone else behavior, or a certain event to occur, and thus lower the

expectation to behavior realization, then it is very likely that intention will be changed. Furthermore, realization of intention into behavior can also depend on the collaboration of others (Fishbein and Ajzen, 1975: 371). A person may not be able to realize his/her intention without the help of others. This condition is often found in an organizational context, which requires cooperation and commitment from all members of the organization to realize common intention.

Based on the problems identified in the TRA, a development of TRA is possible, as is also confirmed by Ajzen and Fishbein (1980: 26), that many factors influence behavior, so to predict behavior accurately, it is necessary to add other variables to the model. In addition, the unstable nature of intentions during the time between intention formulation and behavior realization, needs attention. Intention stability needs to be maintained to predict behavior more accurately, especially for individuals within an organization. For

this reason, management control system is necessary to ensure that the intention does not change (Chenhall, 2008; Naranjo-Gil, 2016; Maas, Schaltegger, dan Crutzen, 2016).

Management control systems (MCS) are the practices to maintain or change patterns of organizational activities in order to implement organizational strategies (Anthony and Govindarajan, 2007). To be effective, MCS should be implemented comprehensively through four sets of control system, called levers of control (LOC), consisting belief, boundary, diagnostic and interactive control (Simons, 2000; Widener, 2007). Simons (1995, p.4) when initiating this concept states that LOC is an approach to manage the burden between freedom and boundaries, empowerment and accountability, superiors' direction and subordinates' creativity, and between experiment and efficiency. He further calls this pressure a combination of positive and negative control systems. Positive control is done by emphasizing

motivation, appreciation, guidance and prioritizing learning; while negative control emphasizes coercion, punishment, suggestions for improvement, and control itself. The two opposing forces, positive and negative, are not connotations of good and bad, but rather the different roles in the control process.

In the LOC perspective, Simons (1995) identifies belief and interactive control systems as positive controls, while boundary and diagnostic control systems are negative. The existence of both is important for effective control. Belief systems are basic morals that are adopted by the organization, officially transferred and systematically confirmed by top managers as the basic norms, goals, and direction of the organization. An interactive control system is a formal information system used by managers to engage in decision-making activities by subordinates, and stimulates exploration and education to come up with new approaches. Boundary systems communicate risks to be

avoided, and provide limits on activities for members of the organization, including ethical limits for employees and strategic limits for management in exploring innovative ideas. A diagnostic control system that communicates key performance variables, is a formal information system that is used by managers to monitor organizational performance and avoid deviations from previously established performance standards.

The four elements of LOC are complementary and will work optimally if implemented in an equalized manner, namely the proper combination between compliant behavior (boundary and diagnostic control system) and innovative, creative efforts (belief and interactive control system). However, this balanced condition will have different meanings for different organizations, because different combinations will fit different strategies and schemes, achieving differences of results (Kruis, Speklé, and Widener, 2016). Therefore, the balance mix arrangement of LOC

elements should be in accordance with organizations' strategic plan, industrial factors, as well as social, including environmental factors.

In responding urgent environmental issues, Henri and Journeault (2010); Journeault *et al.* (2016) have developed an eco-based control mechanism, namely levers of eco-control (LOEC). It is a development of the concept of levers of control (LOC) (Simons, 1995). The four control are designed to accommodate.

4.2 Eco-based reasoned action: a model of extended TRA

To be applied in environmental context within organization, TRA might be extended by considering more suitable intention determinants. Fishbein and Ajzen (2011: 2) state that the reasoned action approach encourages the use of unique constructs from different fields. In the context of green behavior, attitudes might be reflected by the level of environmental concern (Chan *et al.*, 2014). Luo and Deng (2008) use the term environmental concern to

measure attitudes towards the environment activities or issues. Nonetheless, aspects of environmental concern are still often placed as factors outside the framework of general management control (Johnstone, 2018). This framework would be ineffective to apply when dealing with environment issues. Therefore, a new conceptual framework accommodating environmental concern is needed for eco-based management control, which is important for sustainable organizations, individuals and communities (Crutzen, Zvezdoz, and Schaltegger, 2017).

Another intention's determinant is subjective norms. In this context, subjective norms relate to the views of those who are important to the organization - the stakeholders - about green behavior. These will form stakeholders' opinions and expectations, and become pressures for the organization to realize the expectations (Deegan, 2002). Thus, in the eco-based TRA framework, stakeholder pressure might act as a

proxy for subjective norms (Harms *et al.*, 2014). Environmental concern and stakeholder pressures will affect individual intentions towards green behavior. The higher the sense of environmental concern, and the stronger pressures from stakeholders, the greater the intention towards green behavior.

Intention is a central construct of TRA, because one will behave after confirming the intention. The intention will be able to change due to certain factors, for example changes in the availability of resources, individual capabilities, and new information collections. This is likely the case for organizations, because organizational intentions are formed from the intention of a group of individuals who are members of the organization, and the realization of intentions becomes dependent on cooperation and commitment within the group (Fishbein and Ajzen, 1975: 371). Therefore, a mechanism within the MCS framework is needed, that is levers of eco-control (LOEC) (Henri

and Journeault, 2010; Journeault *et al.*, 2016) to mediate the relationship between intention and behavior. With the control existence, all organization members will commit and move together to realize green intentions into behavior.

The relationship between intention, LOEC, and behavior is likely to be causal, and thus LOEC will be a mediation for the relationship between intention and behavior. This is supported by the study of Naranjo-Gil (2016) who states that boundary and diagnostic control system positively affect planned strategies realization, while belief and interactive control system have positive impact on realized spontaneous as well as deliberate strategies. On the other hand, Journeault *et al.* (2016) study the control system by examining how intended strategies are related to the alternative use of beliefs, boundaries, interactive and diagnostic levers of eco-control. The two studies have built a fundamental concept of relationship among three variables: strategic

intention, LO(E)C, and realized strategy. This would be the starting point to offer an alternative framework to study the role of LOEC related to intention and behavior in organizational context.

The last construct in the model is green behavior. Green behavior or environmentally friendly behavior can be defined based on its impact: i.e. the extent to which that behavior changes the availability of material and energy from the environment or changes the structure and dynamics of ecosystems or biosphere, both directly and indirectly (Stern, 2000). Examples of behaviors that have a direct impact on the environment are deforestation, waste disposal that endangers the environment, and excessive use of pesticides. Behaviors that have an indirect impact, such as the formulation of policies that do not favor the environment, also have an equally bad impact on the environment. In addition to impact-based definition, green behavior can be defined based on the perspective of the actor, both

individuals and organizations. It starts from the intention to improve the environment or the tendency to act in favor of the environment (Amel, Manning and Scott, 2009; Stern, 2000). Individuals can influence the environment through other individual behaviors within an organization, which might produce a large environmental impact because organizational actions are the largest source that could cause or reduce environmental problems (Stern, 2000; Lin and Ho, 2010). Both definitions of green behavior, either based on impact or actors' perspectives will fit the proposed framework, depends on the purposed behaviors.

Based on the above description, an alternative extended TRA model is presented in Figure 1. The framework will be introduced as an eco-control based reasoned action model (Eco-BRAM), a specific TRA model for the context of green behavior of individuals in organizational context, based on the TRA framework of

Fishbein & Ajzen (1975) and Ajzen & Fishbein (1980).

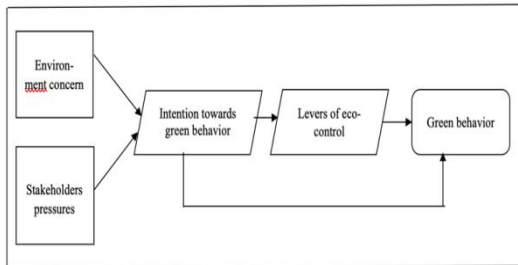


Figure 1
Eco-Control Based Reasoned Action Model

Source: Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980), extended for green behavior context (2019)

Figure 1 shows that the constructs in the model are environmental concern and stakeholder pressure which directly influence the intention towards green behavior; the intention which has a direct effect on green behavior; and an indirect effect on green behavior through LOEC. Intentions formulated rigidly will lead to the selection of belief, boundaries and diagnostic control systems, and will result in planned (intended) green behavior. A rigid intention is likely hard to change during the process of realization. An example of rigid intention would be regulation based-plan, program, and

budget. Belief control will provide basic values for individuals to believe that a certain behavior must be conducted; boundary control builds constraint to individuals by communicating risks and limits to restrict from certain behavior; diagnostic control communicates and monitors key performance variables to be achieved, and avoid deviations from previously established standards. Thus, the three control systems will enforce the rigid intention to be realized.

On the other hand, intentions formulated more flexibly will lead to the selection of belief and interactive control system mechanisms and will result in emergent (spontaneous) green behavior. Flexible intention will need belief and interactive controls to apply, although, interactive control will likely be more crucial than other control systems, because interaction among individuals within organization is important to develop dynamic intention to suit the environment. Emergent ideas during the process of intention formulation and realization

will be necessary to pursue best performances. An interactive control system empowers subordinates' participation in decision making activities and stimulates search and learning to find new strategies, and thus, intention will likely be realized through spontaneous behaviors.

5. Conclusions

To respond to Fishbein and Ajzen (2011: 2) encouragement of employing unique constructs for various fields of research in a reasoned action framework, this study proposes environmental concern and stakeholders' pressures as determinants of green behavior intention. Additionally, the proposed framework introduces an eco-based management control mechanism into the model, namely levers of eco-control (LOEC). LOEC will ensure individuals within an organization commit and cooperate to realize green behavior intention into actual behavior. This might be done through the appropriate mix of the four eco-control implementations consisting of belief,

boundary, diagnostic, and interactive controls. Which controls are to be applied will depend on the nature of intention and the expected behavior. The more rigid the intention are formulated, the more likely that belief, boundaries and diagnostic control systems to be applied, and thus planned (intended) green behaviors will be occurred. Conversely, more flexible intention will prefer interactive control along with belief control, resulting emergent (spontaneous) green behaviors. The framework proposed by this study is expected to enhance behavioral researches in environmental context within organization. Future empirical researches are necessary to confirm the effectiveness of the framework.

REFERENCES

- Ajzen, I. (1991). *The Theory of Planned Behavior. Organizational Behavior and Human Decision Process*, 50, pp.179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

- Ali, M., Wang, W., & Chaudhry, N. (2016). Investigating motivating factors for sound hospital waste management, *Journal of the Air & Waste Management Association*, DOI: 10.1080/10962247.2016.1181686.
- Alryalat, M. A. A., Rana, N. P., & Dwivedi, Y. K. (2015). Citizen's adoption of an E-Government system: Validating the extended theory of reasoned action (TRA). *International Journal of Electronic Government Research (IJEGR)*, 11(4), 1-23.
- Amel, E. L., Manning, C. M., & Scott, B. A. (2009). Mindfulness and sustainable behavior: Pondering attention and awareness as means for increasing green behavior. *Ecopsychology*, 1(1), 14-25.
- Anthony, R. N., & Govindarajan, V., Dearden, J. (2007). *Management control systems* (Vol. 12). New York, NY: McGraw-Hill.
- Argyris, C. (1953). Human problems with budgets. *Harvard Business Review*, 31, 97-110.
- Birnberg, J.G., Luft, J., & Shields, M.D. (2007). Psychology theory in management accounting research. *Handbook of Management Accounting Research*, ed. Chapman, Hopwood and Shields. DOI: 10.1016/S1751-3243(06)01004-2.
- Brodowsky, G., Stewart, K., & Anderson, B. (2018). Brand and Country Influences on Purchase Intentions: A Theory-Of-Reasoned Action Approach. *Journal of Promotion Management*, 24(2), 251-269.
- Cai, H., & Zheng, D. (2017). Digital Library use Intention Research: An Explanation based on Theory of Reasoned Action and Technology Acceptance Model. *DEStech Transactions on Computer Science and Engineering, (CSAE)*. 2017 *International Conference on Computer Science and Application Engineering (CSAE 2017)* ISBN: 978-1-60595-505-6.
- Chan, E. S., Hon, A. H., Chan, W., & Okumus, F. (2014). What drives employees' intentions to implement green practices in hotels? The role of knowledge, awareness, concern and ecological behaviour. *International Journal of Hospitality Management*, 40, 20-28.
- Chenhall, R. H. (2008). Accounting for the horizontal organization: A review essay. *Accounting, Organizations and Society*, 33(4-5), 517-550.
- Conner, M., McEachan, R., Lawton, R., & Gardner, P. (2017). Applying the reasoned action approach to understanding health

- protection and health risk behaviors. *Social Science & Medicine*, 195, 140-148.
- Crutzen, N., Zvezdov, D., & Schaltegger, S. (2017). Sustainability and management control. Exploring and theorizing control patterns in large European firms. *Journal of Cleaner Production*, 143, 1291-1301.
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13:3, pp.319-339.
- Davis, F.D., Bagozzi, R.P., & Warshaw, P.R. (1992). Extrinsic and intrinsic motivation to use computer in the workplace. *Journal of Applied Social Psychology* 22:14, pp.1111-1132.
- Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures – a theoretical foundation. *Accounting, Auditing & Accountability Journal*, Vol. 15 Issue: 3, pp.282-311,
<https://doi.org/10.1108/09513570210435852>.
- Doane, A. N., Kelley, M. L., & Pearson, M. R. (2016). Reducing cyberbullying: A theory of reasoned action-based video prevention program for college students. *Aggressive behavior*, 42(2), 136-146.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison–Wesley.
- Fishbein, M., & Ajzen, I. (2011). *Predicting and changing behavior: The reasoned action approach*. Taylor & Francis.
- Harms, R., Luck, F., Kraus, S., & Walsh, S. (2014). On the motivational drivers of gray entrepreneurship: An exploratory study. *Technological Forecasting & Social Change*, <http://dx.doi.org/10.1016/j.techfore.2014.08.001>.
- Hart, C. (2018). *Doing a literature review: Releasing the research imagination*. Sage.
- Head, K. J., & Noar, S. M. (2014). Facilitating progress in health behaviour theory development and modification: The reasoned action approach as a case study. *Health Psychology Review*, 8(1), 34-52.
- Henri, J. F., & Journeault, M. (2010). Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society*, 35(1), 63-80.
- Journeault, M., De Ronge, Y., & Henri, J-F. (2016). Levers of eco-control and competitive environmental

- strategy. *British Accounting Review* 48 pp.316-340.
- Johnstone, L. (2018). Theorising and Modelling Social Control in Environmental Management Accounting Research. *Social and Environmental Accountability Journal*. DOI: 10.1080/0969160X.2017.1422778.
- Kruis, A. M., Speklé, R. F., & Widener, S. K. (2016). The Levers of Control Framework: An exploratory analysis of balance. *Management Accounting Research*, 32, 27-44.
- Law, P.K. (2010). A theory of reasoned action model of accounting students' career choice in public accounting practices in the post-Enron. *Journal of Applied Accounting Research*, Vol. 11 Issue: 1, pp.58-73.
- Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligence and Planning*, 26: 573-586.
- Lee, I. H., Lin, S. P., Wu, C. M., Lin, Y. C., & Huang, C. (2018). The study of the influencing factors for ethical behavior intention of HR professionals: the evidence for the theory of reasoned action. *International Journal of Organizational Innovation* (Online), 10(3), 285-299.
- Lin, C. Y., & Ho, Y. H. (2010). The influences of environmental uncertainty on corporate green behavior: an empirical study with small and medium-size enterprises. *Social Behavior and Personality: An International Journal*, 38(5), 691-696.
- Lindsey, L. (2015). Simulation of a Dynamic Theory of Reasoned Action. *Simulation and Gaming*, v.45, no.6, pp. 700-731. <http://hdl.handle.net/10945/56703>.
- Lujja, S., Mohammad, M. O., & Hassan, R. (2016). Modelling public behavioral intention to adopt Islamic banking in Uganda: The theory of reasoned action. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(4), 583-600.
- Luo, Y., & Deng, J., (2008). The new environmental paradigm and nature-based tourism motivation. *Journal of Travel Research*. 46 (4), 392-402.
- Maas, K., Schaltegger, S., & Crutzen, N. (2016). Integrating corporate sustainability assessment, management accounting, control, and reporting. *Journal of Cleaner Production*, 136, 237-248.
- McEachan, R., Taylor, N., Harrison, R., Lawton, R., Gardner, P., & Conner, M. (2016). Meta-analysis of the reasoned action approach (RAA) to understanding health

- behaviors. *Annals of Behavioral Medicine*, 50(4), 592-612.
- Mishra, D., Akman, I., & Mishra, A. (2014). Theory of reasoned action application for green information technology acceptance. *Computers in human behavior*, 36, 29-40.
- Naranjo-Gil, D. (2016). Role of management control systems in crafting realized strategies. *Journal of Business Economics and Management*, 17 (6): 865-881.
- Said, A.M., Ahmadun, F.R., Paim, L.H., & Masud, J. (2003). Environmental concerns, knowledge and practices gap among Malaysian teachers. *International Journal of Sustainability Higher Education*, 4: 305-313.
- Simons, R. (1995). *Levers of control: How managers use innovative control systems to drive strategic renewal*. Harvard Business Press.
- Simons, R. (2000). *Performance measurement and control systems for implementing strategy*. Prentice Hall.
- Stern, P.C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*, Vol 56, No. 3, pp. 407-424.
- Sulehri, N. A., & Ahmed, M. (2017). Theory of reasoned action and retail agglomerations buying behavior for urban consumers. *The Business & Management Review*, 9(2), 263-266.
- Untaru, E. N., Ispas, A., Candrea, A. N., Luca, M., & Epuran, G. (2016). Predictors of individuals' intention to conserve water in a lodging context: the application of an extended Theory of Reasoned Action. *International Journal of Hospitality Management*, 59, 50-59.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Widener, S. K. (2007). An empirical analysis of the levers of control framework. *Accounting, Organizations and Society*, 32(7-8), 757-788.
- Zarzuela, P., & Antón, C. (2015). Determinants of social commitment in the young. Applying the Theory of Reasoned Action. *Revista you Española de Investigación de Marketing ESIC*, 19(2), 83-94.
- Zhang, X., Guo, X., Lai, K. H., Guo, F., & Li, C. (2014). Understanding gender differences in m-health adoption: a modified theory of reasoned action model. *Telemedicine and e-Health*, 20(1), 39-46.