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CONTENTS

Vol. 22, No. 182 - June 2021

GENERAL MANAGEMENT

- Alla KASYCH, Jakub HORAK, Valentyna GLUKHOVA, Svitlana BONDARENKO, *The Impact of Intellectual Capital on Innovation Activity of Companies* 3
- Róbert ŠTEFKO, Peter GALLO, Peter GALLO Jr., Nella SVETOZAROVÁ, Anna BURDOVA, *Strategic Planning as a Managerial Tool in Practice: A Case of Slovak Tourism Sector* 12
- Alexey TIKHONOV, Lidiya ZELENTSOVA, *Analysis of External and Internal Factors of Business Competitiveness* 16
- Cicero Eduardo WALTER, Manuel AU-YONG-OLIVEIRA, Cláudia Miranda VELOSO, *Innovation in Brazilian Micro and Small Enterprises: A Systematic Literature Review* 20
- Waddah Kamal Hassan OMER, Khaled Salmen ALJAAIDI, *Inventory Management and Performance in Energy Industry in Saudi Arabia: Empirical Evidence* 25
- Flura KAZAKOVA, *Development of Methodical Instrumentation in Enterprises Economic Safety Estimation* 32
- Ratih PRATIWI, WIDODO, *Coercive Intellectual Leadership Antecedent towards Organizational Performance* 35

QUALITY MANAGEMENT

- Katarína TEPLICKÁ, Andrea SEŇOVÁ, Soňa HURNÁ, *FMEA – A Preventive Tool of Risks Assessment and Detection of Processes Failures* 41
- Ľepan CHALUPA, Martin PETRICEK, Karel CHADT, *Improving Service Quality Using Text Mining and Sentiment Analysis of Online Reviews* 46
- Robert Walter Dumisani ZONDO, *Effectiveness of the Design of Experiments (DoE) on Variation Reduction: Empirical Evidence for the Automotive Component-Manufacturing Sector in South Africa* 50
- Oleg Jakovlevich KRAVETS, Svetlana Aleksandrovna OLEINIKOVA, Son Lam NGUYEN, *Fundamentals of Optimal Quality Management in a Multiphase Multichannel Service System for Heterogeneous Channels and Incoming Flow of Requests in Construction Project Management Systems* 56
- Adhila IDZNI, Ardhianiswari Diah EKAWATI, *Application of Kano Model Based on Servqual Dimension in Efforts to Improve the Service Quality of Jakarta Mass Rapid Transport* 59
- Miriam ANDREJIOVA, Daniela MARASOVA, *The Analysis and Evaluation of the Quality of Semi-Finished Steel Products in the Steel-Producing Company* 63
- Tatyana CHERNYSHOVA, Karmah Ahmed Naji HAMEED, Alexander GARKUSHIN, Tatyana ANDREEVA, Victoria GARNOVA, Elena AGIBALOVA, *Risk-Oriented Approach to Constant Improvement Processes at QMS Enterprises in Gas Distribution System* 69
- Nguyen Thi Nhu MAI, Lan-Huong Thi PHAM, Nguyen Ngoc HIEN, *How Relational Bonds Influence Consumers' Loyalty: An Empirical Analysis in Vietnam Commercial Banks* 74
- Marie SLABÁ, *Influence of Sociodemographic Characteristics on Customers' Price Sensitivity* 84
- Sultan Alaswad ALENAZI, *Determinants of Pre-Service Failure Satisfaction*

- and Post-Service Recovery Satisfaction and their Impact on Repurchase and Word-of-Mouth Intentions* 88
- Yury V. LYANDAU, Maria G. UMNOVA, *Development of Management System of Public Procurement Participation in Supplier Companies* 95
- Arnis Budi SUSANTO, Purnamie TITISARI, Dyah Ayu PARWITASARI, *The Impact of Organization Communication and Competence on the Quality of Employees Performance through Organization Citizenship Behavior* 102
- Mohamed Eid Kilase AJOUD, Tahar Ammar JOUILLI, *Healthcare Service Quality in Government Hospitals: Evaluating Patients' Satisfaction* 106
- Alberta TAHIRI, Idriz KOVAČI, BislimLEKIQI, Aziz REXHEPI, *Tourism and Hotel Industry: Definition, Concepts and Development – The Case of Kosovo* 110
- Igor V. SUDAREV, Sevara D. MARCHENKO, Anatoly E. KRASHENINNIKOV, Natalia L. ORSCHEVA, Dilbar M. ANDREEVA, *Method for Determining The Full Set of Negative Factors Influencing the Production of Medical Services* 116
- Yana CHEREZOVA, Sergei KHALIMANENKO, *Development of a Pharmacy Staff Motivation System: Competition as a Combination of Tangible and Intangible Incentives* 120
- Diah YULISETIARINI, Dewi HUSNAWIYAH, Mochammad Farid AFANDI, *The Effect of Trust, Competitive Price, and Application Quality on Repurchase Intention of Online Travel Agent Traveloka* 124
- LD Gadi DJOU, Fitri LUKIASTUTI, *The Influence of Competence and Locus of Control on Government Internal Auditor Performance: The Role of Job Satisfaction* 127

ENVIRONMENTAL MANAGEMENT

- JAFI, Qurotul UYUN, *Green HRM (GHRM) and Business Sustainability: The Mediation Role of Environmental Management Strategy (EMS)* 133
- Dini Hariyati ADAM, Zulkifli Musannip Efendi SIREGAR, ELVINA, Yudi Nur SUPRIADI, ENDE, *Environmental Concern and Environmental Knowledge, Attitude toward Pro-Environmental Behavior as Predictors of Pro-Environmental Behavior: Evidence from Textile Industry in Indonesia* 138

FOOD SAFETY MANAGEMENT

- Flavio BOCCIA, Bruna DI PIETRO, Daniela COVINO, *Food Waste and Environmental-Sustainable Innovation: A Scenario for the Italian Citrus Market* 145
- Georgi ALEKSIEV, Dora DONCHEVA, *Organic Production Impact on Consumers: The Case of Bulgarian Organic Honey* 154

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

- Tengiz VERULAVA, Givi BEDIANASHVILI, *Work Inclusion of Persons with Disabilities: Employers' Perspectives* 159
- Gabriel Bujor BĂBUT, Roland Iosif MORARU, *Improving the Occupational Safety and Health Management in Military Structures and Public Bodies employing Civil Servants with Special Status. A Romanian Perspective in the COVID-19 Pandemic Context* 164

2 Green HRM (GHRM) and Business Sustainability: The Mediation Role of Environmental Management Strategy (EMS)

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Abstract

This study wants to test and analyze the role of environmental management strategy (EMS) as a mediator in analyzing the influence of green human resources management (GHRM) on business sustainability (operational performance, environmental performance, and social performance) on batik SMEs in Klaten, Central Java, Indonesia. The data collection uses purposive sampling technique by giving questionnaires to batik SME owners/managers respondents who use natural, synthetic, or mixed coloring. Furthermore, the data is processed using AMOS 23 statistical techniques. The results conclude that Green HRM improve business sustainability in operational, environmental, and social performance mediated by environmental management strategy (EMS).

Keywords: green human resources management (GHRM); environmental management strategy (EMS); business sustainability; operational performance; environmental performance; social performance.

1. Introduction

Long-term corporate sustainability and environmental friendly management practices have become corporate strategy issues around the world. This condition has forced companies to learn and adopt environmental initiatives in any organizational activities. Company interest to learn and adopt environmental initiatives continues to increase because the company goal's is preserve the environment (AnuSingh & Shikha, 2015; Arqawi, et al., 2019; Yong et al., 2019). The term greening continues to be famous along with the increasing business growth and development (Albort-Morant, 2016; Yong et al., 2019; Al Romeedy, 2019). When company considers the important of practice and human resources function in environmental preservation, it means the company has begun to move towards green business practices. Likewise, there is a necessity to integrate green management with human resource practices known as green HRM (Al Romeedy, 2019).

Indonesia (with 260 millions population) has a high poverty rate. One of the poverty areas is Klaten, Central Java. In alleviating poverty, one of the local government efforts is to empower creative MSMEs such as batik. The batik industry in Klaten is growing from year to year but this growth has not been too significant with its green management business orientation, including in GHRM practices. Whereas GHRM has enormous benefits for business efficiency, productivity sustainability, management awareness, and environmental preservation so that it can create a better climate for employee participation in achieving long-term business sustainability (Al Romeedy, 2019; Yong et al., 2019).

In general, based on field observation, there are some important points that need to immediately find solution and followed up on batik MSMEs in Central Java, among others; mixing synthetic dyes and natural colors, price competition regardless of quality, hazardous waste, inadequate employee

wages, ignoring occupational safety and health (e.g. dangerous canting fumes), and lack of pro-environment behavior (Muafi and Sugarindra, 2019; Krisdiyanti, 2011). Therefore, this study wants to focus on the importance of analyzing GHRM practices related to business sustainability (operational, environmental, and social performance) by considering the role of mediation environmental management strategy (EMS) in MSMEs. This is important to remember:

1. HR strategic must always be compatible with EMS. It is important to consider that if there is compatibility, it would increasingly improve business sustainability (operational, environmental, and social performance) (Ullah & Jahan, 2017);
2. MSMEs need an environmental management strategy so that they do not further aggravate environmental damage (Hendra, 2013; Yong et al., 2019);
3. Studies which is relate with GHRM in Asia is increasing rapidly, but the study focuses on EMS is still relatively limited, especially study which is implemented at MSMEs. (Singh, et al., 2020).

2. Green HRM Practices (GHRM) and Environmental Management Strategy (EMS)

Anu Singh and Shikha (2015; Berry & Rondinelli (1998; Rondinelli & Berry, 1998) explain that the green management study has great interest to large, medium, and small companies, because practitioners and academics are increasingly aware of the importance of learning and implementing the green concept in all activities, including human resource activities. They believe that implementing green management will provide benefits in the short and long term. Green Human Resources Management (GHRM) arises as a result of global environmental concern and company's need to establish standards for environmental

preservation. GHRM activities may include: online recruitment and interviews, online job sharing, recycling, telecommuting, online video conferencing and training and other similar activities (Yong et al., 2019; Dumont et al., 2017).

All of which require continuous improvement and system development so that employees have a strong attachment and friendly to the environment (Mehta & Chugan, 2015; Yong et al., 2019). It is well known that HRM will always have an association with strategic management (Allen & Wright, 2006; Boxall & Purcell, 2003; Noe et al., 2006). One of strategic management purpose in organizations is allocate the owned resources optimally in order to provide competitive advantage (Covin & Slevin, 1989; Baker III & Feldman, 1991). Two groups of resources namely the organization (structure, planning, control, coordination systems, and inter-group relations), and human resources (experience, expertise, and employee intelligence) will directly relate to the human resources function. In order to achieve maximum effectiveness, the HR function must be integrated with the company's strategy management process. According to Noe et al. (2006), human resource management is closely related to the strategic management process. There are three important components in the strategic process of human resource management, namely; (1) strategy formulation, (2) strategy implementation, and (3) evaluation and control.

Das and Singh (2016) explain that if a company already has a commitment to improve company performance related to profit, social, and environment, the company had to make the formulation and implementation of strategies designed for long-term sustainability. This can be done by involving employees in every business practices by implementing an EMS implementation so that long-term sustainable performance can be achieved (Rohilla, 2017). Schuler (1992; Sheehan, 2005; Muafi et al., 2020) concludes that there is a very close relationship between business practices, HR, organizational strategy, and organizational performance. The more suitable the business practices, HR and organizational strategy, the more organizational performance improve. Valle, et al. (2000) emphasize more on approaches that centered on HRM policies such as the corporate training model. The results of his study conclude when companies choose the defenders strategy, the company should implement a mechanical training policy. Conversely, when companies choose prospector strategy, companies should implement organics training policies. Likewise, Muafi et al. (2019) explain when an organization runs routine work process, it should use a defender strategy and mechanic structure so that organizational performance is improved. Muafi et al. (2020) adds when the personality of a company leader is reactive, it tends to choose a imitation strategy in true external environment. Mishra (2017) asserts that in GHRM practice in India is used as a way to improve orientation and behavioral strategies related to the environment so that it can have an impact on sustainable organizational development.

H1. GHRM has a positive influence on EMS

3. Environmental Management Strategy (EMS) and Business Sustainability

Studies related to ESM have expanded not only in the context of micro-enterprises, but also in the context of managing an industrial area. Industrial areas need to success in managing a green environment. Alrasyid (2016) proves that the EMS implementation is influenced by external factors outside the area's management, namely: the government policies commitment and community participation in environmental management. On the other hand, in the micro context, the EMS studies have drastic increase (Alrasyid, 2016; Berry & Rondinelli, 1998; Rondinelli & Berry, 1998; Hardeep, 2014). Padash (2015) defines EMS as a process that integrates environment, health, and safety (EHS) in developing long term sustainability. Hardeep (2014) concludes that green management orientation

influence the improvement of company performance. This result reinforced by Cing and Yu (2013) who state when organizational identity has been perceived by the green community, it will be able to improve innovation performance. However the mediating role of management's commitment to the green environment and the organization's environment is still needed. This mediating role is important because the company must indirectly have a commitment to the green environment in addition to success in manage the organizational environment. It can be used to improve business, environmental, and social performance. This means that the company has been thinking about long-term business sustainability (Velasquez et al., 2011; Das & Singh, 2016).

H2. EMS has a positive influence on operational performance

H3. EMS has a positive influence on environmental performance

H4. EMS has a positive influence on social performance

H5. EMS mediates the influence of GHRM on operational performance

H6. EMS mediates the influence of GHRM on environmental performance

H7. EMS mediates the influence of GHRM on social performance

4. Research Model

The research model proposed in this study is Green HRM improve business sustainability which includes operational, environmental, and social performance and mediated by the Environmental Management Strategy (EMS). The proposed model is based on literature and previous studies.

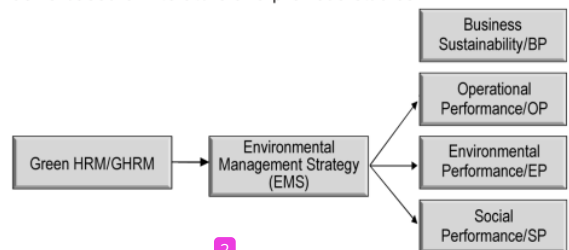


Figure 1. Model of GHRM and Business Sustainability: The Role of EMS Mediation

5. Research Method

The survey was conducted at MSMEs batik which is oriented to the coloring process of natural, synthetic, and mixed colors in Klaten, Central Java. These MSMEs are joined in two large communities in the Bayat District, namely the Banyuripan and Kebon Indah Communities. The population in this study is the whole MSMEs with a target sample of 200 MSMEs. The purposive technique was chosen with some criteria, namely; MSMEs that have been established for a minimum 3 years and have used at least 5 colors. These criteria were selected by researchers because they want to see the extent of GHRM practices were able to be understood by the respondents in influencing EMS so they could improve operational, environmental and social performance. Respondents were given choices of 5 Likert Scale to answer the questionnaire namely: 1 (strongly disagree) to 5 (strongly agree) for the GHRM and EMS variables. For operational, environmental, and social performance, scale of 1 (very low) to 5 (very high) is compared to competitor ownership. The number of indicators and sources of indicators are respectively modified and adopted as follows:

1. GHRM with 7 items from Al Romeedy (2019; Arqawi et al., 2019);

2. EMS with 5 items from Alrasyid (2016; Padash, 2015);
3. Operational performance (BP) with 6 items from Abdul Wahab et al. (2016; Yadav et al., 2019);
4. Environmental performance (EP) with 7 items from Lucato et al. (2017); Shahedul Quader et al. (2016);
5. Social performance (SP) with 7 items from Kusyk and Lozano (2007; Kraus, et al., 2017).

Each MSME is represented by the owner, manager or owner as well as the manager. Furthermore, the researchers selected the questionnaire. The questionnaire that fulfilled the criteria were 180 questionnaires. The research model uses Structural Equation Modeling (SEM) and processed with AMOS 23. Then, the researchers tested the model, validity, and reliability with Goodness of fit (Gof) criteria as suggested by Hair et al. (1998). The results of the validity and reliability of the questionnaire are valid and reliable.

6. Research Result

6.1. Characteristics of Respondents

Characteristics of respondents in this study are MSME who majority has their own businesses as well as managing their MSMEs, uses natural colors, has > 10 variations batik, has batik staining > 10-15, does not have waste disposal yet, women, and age of owners and managers is 40 years.

6.2. Analysis with SEM Model

The results of data normality testing and outlier prove that the data are normally distributed and do not contain outlier.

6.3. Confirmatory Analysis

			Estimate
GHRM7	<---	GHRM	.838
GHRM6	<---	GHRM	.627
GHRM5	<---	GHRM	.799
GHRM4	<---	GHRM	.803
GHRM3	<---	GHRM	.802
GHRM2	<---	GHRM	.774
GHRM1	<---	GHRM	.780
BP1	<---	BP	.768
BP2	<---	BP	.793
BP3	<---	BP	.556
BP4	<---	BP	.543
BP5	<---	BP	.544
BP6	<---	BP	.591
EP1	<---	EP	.773
EP2	<---	EP	.769
EP3	<---	EP	.731
EP4	<---	EP	.753
EP5	<---	EP	.755
EP6	<---	EP	.757
EP7	<---	EP	.537
SP7	<---	SP	.741
SP6	<---	SP	.676
SP5	<---	SP	.651
SP4	<---	SP	.743
SP3	<---	SP	.506
SP2	<---	SP	.589
SP1	<---	SP	.506
EMS5	<---	EMS	.732
EMS4	<---	EMS	.834
EMS3	<---	EMS	.763
EMS2	<---	EMS	.745
EMS1	<---	EMS	.754

Table 1. Loading Factor Value

In the confirmatory analysis, the loading factor value of each indicator is seen firstly. It should be in the range of values ≥ 0.5 or ≥ 0.7 (ideal value). The results of loading factor values can be seen in Table 1 and all of them produce values > 0.5 .

Next, the researchers conduct the GoF analysis confirmatory test and the results can be seen in Table 2. The Gof test result shows that all criteria had been fulfilled.

Fit Index	Goodness of Fit	Criteria	Cut-off value	Description
Absolute Fit	RMSEA	≤ 0.08	0.048	Fit
	CMINDF	≤ 2.00	1.421	Fit
Incremental Fit	TLI	≥ 0.90	0.947	Fit
	CFI	≥ 0.90	0.942	Fit
Parsimony Fit	PGFI	≥ 0.60	0.703	Fit
	PNFI	≥ 0.60	0.769	Fit

Table 2. GoF Analysis Confirmatory Test Results

6.4. GoF Results

The GoF test result has shown that all the criteria have been fulfilled and the model is Fit as shown in Table 3.

Fit Index	Goodness of Fit	Criteria	Cut-off value	Description
Absolute Fit	RMSEA	≤ 0.08	0.056	Fit
	CMINDF	≤ 2.00	1.559	Fit
Incremental Fit	TLI	≥ 0.90	0.929	Fit
	CFI	≥ 0.90	0.923	Fit
Parsimony Fit	PGFI	≥ 0.60	0.688	Fit
	PNFI	≥ 0.60	0.763	Fit

Table 3. Goodness of Fit Test

6.5. Hypothesis Test

Regression weight test results can be seen in Table 4. If the test results have a CR value > 1.96 and a probability value (P) < 0.05 then the proposed hypothesis is supported. It can be concluded that hypothesis 1,2,3, and 4 are supported (CR > 1.96 ; P < 0.05).

		Estimate	S.E.	C.R.	P	Label	Hypothesis
EMS	<---	GHRM	.846	.077	11.057	***	H1: Supported
BP	<---	EMS	1.026	.110	9.321	***	H2: Supported
EP	<---	EMS	1.040	.100	10.420	***	H3: Supported
SP	<---	EMS	.962	.104	9.284	***	H4: Supported

Table 4. Regression Weight Test Results

6.6. Mediation Test

The result of indirect influences analysis can be seen in Table 5. Based on Table 5, it can be concluded that H5, H6 and H7 are supported because the overall relationship between variables produces a significance value < 0.05 .

	GHRM	PE	SP	EP	BP	Hypothesis
IS	...	...	...	...	...
GHRM → EMS → BP	.010*	...	...	...	...	H5. Supported
GHRM → EMS → EP	.016*	...	...	...	...	H6. Supported
GHRM → EMS → SP	.021*	...	...	...	...	H7. Supported

Note: *sign 0.05

Table 5. Mediation Test Results

7. Discussion

It is known that GHRM is a new management practice that implements all HR activities related to green orientation in preserving the environment. The study results prove that GHRM is able to influence EMS. This means that it supports the study results and theory from Noe et al. (2006; Das & Singh, 2016; Schuler, 1992; Sheehan, 2005). In the case of batik MSMEs, all MSMEs have realized the importance of implementing GHRM at

recruitment, selection and performance management but they don't have and implement a good GHRM and EMS.

They still use a conservative approach and cannot apply it professionally, even though it does not happen on all MSMEs. Some MSMEs have conducted a simple GHRM practices, for example; socializing and training employees to live clean, saving water and electricity, maximizing the use of natural resources, applying bonuses to employees using green rewards, green rewards and other simple practices. This practice should also be used when implementing an EMS to be efficient and effective but they cannot do this condition because they have limited capital, technology, skills, knowledge and abilities although the natural resources are very supportive. Commitments from leaders and employees also do not support sustainable GHRM practices. Mishra (2017) recommends that companies must have a green strategy orientation so that organizational develop sustainability. Strategy orientation should also be adjusted to external environmental pressures and other contingency conditions such as organizational culture, role behavior, and organizational structure (Muafi et al., 2019; Muafi et al, 2020; Schuler, 1992; Sheehan, 2005).

The study results prove that ESM influences operational, environmental, and social performance. Likewise, this study proves that ESM is able to mediate the influence of GHRM on operational, environmental, and social performance. These results support Alrasyid (2016; Berry and Rondinelli (1998; Rondinelli & Berry, 1998; Hardeep, 2014). GHRM practices in the MSMEs context can be a process that integrates environmental management strategies with regard to the organizational strategy formulation (vision, mission, goals, SWOT analysis, and strategies selection) which must be implemented in a green strategy (program-policies, procedures, allocation of resources and organizational structure). All of which will be able to continuously improve the company's long-term performance (Hardeep (2014). Cing and Yu (2013) provide suggestions for companies to consider the mediating role of environmental and organizational environmental commitments. When companies think about sustainability, companies should also think and act strategically to follow up on environmental and social issues and incorporate them into strategic planning (Aras & Crowther, 2008; Svensson & Wagner, 2011), besides the economic issues (Salimath & Jones III, 2011).

Bonn and Fisher (2011) suggest that organizations must carry out thinking and long-term system maintenance in accordance with environmental, economic, and social considerations. Some of these reasons can be included in the EMS process, so when company implementing the strategy, the company has planned it very well. Improving operational performance can be conducted by increasing efficiency in each operating activity, including improving the quality of the service process for its customers. Environmental performance which is focus on environmental conservation behavior is a compliance with regulations and policies related to environmental management and maintenance. Furthermore, social performance focuses on community empowerment and social services. This also supports the recommendations of Das and Singh (2016).

8. Managerial Contribution

This study has managerial contributions, namely:

1. Experience in managing a business is very important in the readiness to implement GHRM and ESM practices. The commitment from MSMEs and preparation of capital and established technology is needed so that the GHRM and ESM run efficiently and effectively;
2. When planning and implementing all work activities, ESM is needed. It is always integrated with a green orientation so it can improve organizational performance, especially operational, environmental and social performance in the future;

3. Business sustainability can be started from organizations such as MSMEs to train them to be able think strategically going forward so they are expected to create a sustainable green industry;
4. Attending workshop/training related with EMS to MSMEs is important in order to develop green-oriented strategic planning (formulation, implementation and evaluation) so that the company has a target to be able to produce long-term green industry oriented areas in a sustainable manner.

9. Limitation and Suggestions for Future Research

The limitations of this study are:

1. The number of MSMEs who are able to understand GHRM practices is slightly. Especially if it is associated with ESM which is still difficult to implement at MSMEs;
2. The population in this study is still limited because it consists of MSMEs which are only joined in two MSME associations. It is feared that this study less able to generalize batik MSMEs respondents in Central Java, Indonesia;
3. Studies about GHRM at MSMEs need to be classified to MSMEs who really have readiness. It is very important in order to recommend an ideal GHRM practice in improving the ESM implementation;
4. This study only analyzes the GHRM in improving operational, environmental and social performance mediated by ESM. There are some other mediating roles such as green transformational leadership (Singh et al., 2020) and psychological green climate (Dumont et al., 2017) that need to be consider in future research.

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