A Multi-Industry Study of Sustainability, Total Quality Management, Organizational Culture, and Performance

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Lillian Y. Fok

Western Washington University
(fokl@wwu.edu)

Yun-Chen Morgan

Susan M. L. Zee

Southeastern Louisiana University
(ymorgan@selu.edu)
(susan.zee@selu.edu)

This study examines the impact of green initiatives across four industries: retail, manufacturing, healthcare, and other services. Specifically, it analyzes the relationships among green/sustainability orientations, organizational culture, Total Quality Management (TQM), organizational success, and company initiatives to operate more sustainably. The authors evaluated surveys from 331 full-time employees in the four industries described above. Results showed that employees' perceptions of green initiatives and impact of the initiatives differed significantly based on the industry type. Results also showed that QM maturity and organizational culture were mitigating factors that affect the positive relationships between green orientation and green impact.

Keywords: Green Movement; Sustainability; Total Quality Management; Organizational Culture; Manufacturing; Retail; Healthcare

1. Introduction

Pressures to increase profitability, enhance reputation, improve operations, and take care of the environment have propelled companies to become more aware of their responsibility to operate with clear sustainability goals in mind. What goes in the effort of providing sustainability initiatives and what works in conjunction with the company vision and strategy are all areas worth exploring in order to align various goals within organizations. Organizations within different industries face different challenges and are motivated by the same needs to pursue sustainability goals. In this research, we examine organizations from four industries — manufacturing, retail, healthcare, and other service industries — to gain understanding of what different environmental and organizational factors may affect the impact by green practices. We explore each industry individually and draw comparisons from them. The objective is to understand what decisions are being made within the process of balancing organizational success and the desire to address environmental/sustainability issues. Due to the nature of the differences in these four industries, we expect to find vastly different factors being attributed to different organizational factors in each industry when it comes to the impact of sustainability initiatives. These factors include quality management methods (basic and advanced), organizational culture, perception of organizational success, and

general organizational environmental initiatives, which are companies' green orientation.

In this research, we examine green movement issues to consider organizational culture, employee perceptions of organizational commitment to the green movement, and the relationships which may exist between organizational commitment and the QM Maturity of the organization. Additionally, where there is a higher level of perceived commitment to the green movement and where more mature QM systems are in place, we expect that, in the overall, the organization itself will be seen as "doing better" and the impact of the green movement will be perceived as favorable. Thus, QM and perceptions of the organization's green movement will be seen as having positive impacts upon organizational outcomes. Specifically, how different industry types affecting the relationships between green practices and outcomes will be examined.

2. Literature Review

2.1 Industries

2.1.1 Retail

Due to the shift in consumer consciousness in protecting our environment and the need for companies in this industry to respond to such consciousness, it is natural to expect different green practices and outcomes compared to other industries such as manufacturing and healthcare. Studies show that green brand awareness and responsible retailing methods and decision-making have a positive impact on business relations (Kangoyou, 2017). Companies with an environmental-friendly image have enhanced perceptions of their products. (Yang, 2017). Reusable coffee cups and grocery bags, energy-efficient light bulbs, and biodegradable and environmentally safe products are all examples of how the retail industries are paying attention to demands from consumers (Laddha & Malviya, 2015). Current consumer behavior studies indicate that customers are much more interested in protecting the environment compared to times past (Schlossberg, 1990; Fisher, 1990) and they also understand consumption behavior has direct effects on the environment (Sujith, 2017).

2.1.2 Manufacturing

The manufacturing industry has a much longer history in responding to the need to have greener operations than industries such as retail. Green manufacturing models that have been used in the manufacturing industry are more consistent across companies due in part to legal requirements and governmental sanctions. The current standard of green manufacturing strategies includes technological and innovative methods that are incorporated into companies' overall strategies and techniques (Deif, 2011). Based on past research, greener manufacturing practices increase economic benefit (Ma et al., 2016) and green strategies help push forward innovation and job creations (Timm, 2014). Different branch areas of manufacturing practice efficient and eco-friendly manufacturing, including informational technologies (Kabirah et al., 2010), petroleum (Liu et al., 2014), fossil fuel and byproducts (Darapu & Darapu, 2014; Ben-Salem et al., 2016).

2.1.3 Healthcare

While it is easier for the manufacturing and retail industries to try new technologies and strategies to promote sustainability, healthcare entities must find solutions that work uniquely for this industry in the healthcare environment. These organizations take steps to make progress in ensuring greener operations in order to increase sustainability. Healthcare organizations are also thinking strategically about incorporating sustainability measures to save resources (Krista et al., 2016). Over the last few years it has been much more apparent that healthcare stakeholders including employees, patients, and patrons, are demanding healthcare organizations to manage care with sustainability in mind. In Cohen's (2017) study, results show that hospitals are beginning to realize the need to consider offering care from a corporate responsibility lens. Healthcare facilities in the future are going to have to become socially conscious entities in order to compete.

What we see in the three industries — retail, manufacturing, and healthcare — mentioned above is that they all have strong motivations to operate greener and utilize sustainability practices and translate those practices into greater impact in performance. Yet, they have unique challenges and different focuses based on the industry needs. Previous studies failed to identify green orientation and sustainability practices and the impact it results from could differ, and how they differ based on the industry type.

Research Question 1: Employees' perception of organizational green orientation, organizational culture, QM maturity, organizational performance, and impact of the green movement are different based on the industry type.

2.2 Management Tools and Organizational Culture

In addition to the differences in characteristics and circumstances each industry faces, there are also mitigating factors which influence how sustainability practices are carried out and the resulting impact. In this study, we examine two particular areas which are measures of quality management approaches and organizational culture.

2.2.1 Total Quality Management (TQM)

The idea behind Total Quality Management (TQM) is an integrative approach to pursue customer satisfaction (Chin et al., 2001). The retail industry, the manufacturing industry, and the healthcare industry are all facing intense pressure to incorporate sustainability into organizational strategies. TQM is a part of corporate strategy that could ensure companies meeting adequate social and economic performance (Khan & Asim, 2020; Nahas & Chandrasekar, 2019). We suggest that maturity in quality management related issues is important in understanding the impact of going green based on Fok et al.'s study (2000).

2.2.2 Organizational Culture

Having a corporate culture that is in sync with corporate objectives is important to organizational success. Values and attitudes are part of organizational culture, and in this research we examine how culture relates to the impact of green initiatives in different industries. The Seow et al. (2017) study has pointed out that manufacturing performance measures and organizational culture have substantial impact on organizational success. Additionally, environmental knowledge and product quality

have significant relationship with organizational culture which has been found to be important factors to organizational success (Sun et al., 2018). Research also suggests the role of top management and organizational culture are vital in engaging commitment for environmental performance across industries (Dubey et al., 2017).

While there is abundant research in the functionalities of quality management techniques and organizational culture, previous research does not show how different industry types affect the relationships between green practices and outcomes, and they do not explicitly examine how quality approaches and culture within an organization influence the impact and perception of companies’ green initiatives.

Research Question 2: Organizational Green Orientation, Organizational Culture, and QM Maturity are positively related to the impact of the green movement. Different industry types affect these relationships.

3. Methodology

3.1 Subjects of the Study

The sample included 331 companies in manufacturing, retail, healthcare, and other service industries, with 12.7%, 22.1%, 20.8%, and 44.4%, respectively, in the southern part of the United States (Table 1). Based on their experiences while working in the companies, subjects responded to survey questions that asked about their perceptions regarding the green movement, quality management, and organizational culture. The sample contained roughly 51.8% male and 48.2% female with an average age of 40.86. In this study, we focus on four industry types – manufacturing, retail, healthcare, and other services – and compare their relationships among green orientation and organizational culture, impact of green movement, QM maturity and organizational performance.

Table 1 Number of Respondents from each Industry

	Frequency	Percent
Manufacturing	42	12.7
Retail	73	22.1
Health Care	69	20.8
Others	147	44.4
Total	331	100.0

3.2 Instrument

3.2.1 Organizational Green Orientation

Based on the previous research (Li et al., 2009), we measured the Organizational Green Orientation by measuring the perceived levels of use of twenty-one organizational green initiatives with a 5-point Likert’s scale. When running a factor analysis, we obtained a 5-factor solution and the total variance explained was 63.07% which is acceptable (Table 2a). Based on Hair et al. (2010) and Peterson (2000), if the total variance explained in a factor solution is above 60% (and in some instances even less in the social sciences setting), the result is satisfactory. Upon examining the factor loadings for each factor in the Pattern Matrix, (Table 2b), the first factor included the questions that measured how sensitive top management, managers, and employees

were regarding green issues, and therefore was labeled “Green Stakeholders.” The second factor was termed “Green Materials” which included the initiatives of using lighter and less harmful materials for green products/processes. The third factor was named “Green Production” since the items loaded on this factor were related to production processes that reduced energy, material waste, and efficiency. We called the fourth factor “Green Products” because the initiatives that made the products more recyclable, easy to remanufacture and disassemble were included in this factor. The fifth factor was named “Safety Concerns” which focused on producing a safe product and providing a safe working environment for employees.

Table 2a Factor Analysis on Organizational Green Orientation

Total Variance Explained			
Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	5.643	31.349	31.349
2	1.732	9.624	40.974
3	1.448	8.043	49.016
4	1.326	7.366	56.382
5	1.204	6.690	63.073

Table 2b Factor Loadings of Organizational Green Orientation Factors

Pattern Matrix	Component				
	1	2	3	4	5
Produce/provide safe products/services					0.799
Provide safe working environment for employees					0.825
Our products are recyclable				0.632	
Our products are easy to remanufacture				0.849	
Our products are easy to disassemble				0.832	
Use recycled parts/materials in products/services				0.434	
Use lighter components/materials in products/services		0.358			
Use less harmful ingredients in our products/services		0.524			
Eliminate environmental damage from using our products		0.908			
Eliminate environmental damage from our production/services processes		0.899			
Have eco-labels on our products		0.398			
Minimize waste of energy in production and services			0.815		
Minimize waste of material in production and services			0.928		
Increase cost-effectiveness in production and services			0.702		
Top management is green-sensitive	0.851				
Managers are green-sensitive	0.965				
Employees are green-sensitive	0.876				
Being green has been considered as an important quality characteristic	0.787				

3.2.2 Quality Management (QM) Maturity

Previous research (Ahire & Golhar, 1996; Flynn et al., 1994; Fok et al., 2000, 2001; Patti et al., 2001; Saraph et al., 1989) has shown that QM maturity can be measured by examining the perceived use of various QM programs. These ideas assume that if “quality is indeed everyone’s job” and QM is more fully embraced by the company, employees should be aware of the various QM tools and techniques that are being used.

To gauge QM maturity, the QM maturity instrument was adopted based on earlier research (Fok et al., 2000, 2001; Patti et al., 2001). The instrument asked respondents, based on their experience, whether certain programs were in use in the organization, with a 5-point Likert’s scale from “low usage” to “high usage.” We conducted a factor analysis to identify the underlying dimensionality. Two factors emerged from the “QM Usage” questions explaining 67.39% of the variance (Table 3a). The factor analysis solution is satisfactory based on Hair et al. (2010) and Peterson (2000). Based on the factor loadings in the Pattern Matrix (Table 3b), the first factor appeared to include all the traditional quality management programs and was termed “Basic TQM Tools.” The second factor was termed “Advanced TQM Tools” which includes programs like Six Sigma programs and Black Belt training.

Table 3a Factor Analysis on Quality Programs Usage

Total Variance Explained			
Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.275	37.915	37.915
2	1.768	29.475	67.39

Table 3b Factor Loadings of Quality Programs Usage Factors

Pattern Matrix	Component	
	1	2
Quality management (QM) program	0.643	
Employee suggestion channels	0.724	
Employee quality training programs	0.859	
Quality improvement seminars	0.775	
Six sigma programs		0.905
Black belt training		0.955

3.2.3 Organizational Culture

Based on previous research (Fok et al., 2000, 2001; Hartman et al., 2009), we measure Organizational Culture by constructing a series of paired opposite items which asked whether the organization’s climate should be described as open vs. closed, soft vs. tough, competitive vs. collaborative, and the like. We obtained a two-factor solution in case of the Organizational Culture items and 44.53% of the variance was explained by these two factors (Table 4a). The result is acceptable even though it is below the

60% threshold. The low percentage could be due to the highly subjective nature of the organizational cultural dimensions. We have labeled Factor 1 as “Continuous Improvement Culture” and Factor 2 as “People-Friendly Culture” based on the factor loadings in Table 4b.

Table 4a *Factor Analysis on Organizational Culture*

Total Variance Explained			
Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.128	26.596	26.596
2	1.435	17.933	44.529

Table 4b *Factor Loadings of Organizational Culture Factor*

Pattern Matrix	Component	
	1	2
Open	0.775	
Team-Oriented	0.647	
Personal	0.386	
Participative	0.666	
Proactive	0.608	
Informal		0.639
Decentralized		0.622

3.2.4 Organizational Performance

The Organizational Performance questions were primarily adapted from the Malcolm Baldrige National Quality Award outcome assessment measures. The Baldrige criteria were used to form a scale which asks respondents to provide perceptions about their organizations along Baldrige lines. The resulting scale has been used and reported in previous work (Fok et al., 2000, 2001; Hartman et al., 2009). The instruments included are questions such as “Overall, my company is performing well,” “Overall, morale in my company is high,” “Overall, my company is productive,” and the like. Factor analysis results showed that 56.205% of the variance was explained producing one factor, and we named the factor as “Organizational Success.” The factor is satisfactory because it is slightly under the 60% threshold.

3.2.5 Impact of Green Movement

The instruments included questions such as “Provide better products,” “Provide better services,” “Have better relationship with customers,” “Have better relationship with suppliers,” “Have better reputation,” “Provide better working environment,” “Increase profits,” “Reduce costs,” and “Improve productivity.” 70.987% of the variance was explained by a single-factor solution and we named it “Impact of Green Movement.” The high percentage of the variance explained has indicated the factor has excellent representation of the questions measuring the impact of green initiatives.

4. Results

Our first research question suggested that manufacturing, retail, healthcare and other service organizations will have different levels of organizational green orientation, organizational culture, organizational performance, and impacts of the green movement.

Table 5a reports the MANOVA results indicating the overall significance. Table 5b reports the significance for individual factors, and Table 6 reports Multiple Comparisons for each pair of industries with significant group differences. As shown in Table 5a, the MANOVA (Multivariate Analysis of Variance) results are significant with a p-value of .000, which suggests that overall, manufacturing, retail, healthcare, and service organizations were significantly different from each other, and that respondents in different industries reported different perceptions in some variables.

Among the eleven factors, six factors had significant group differences due to industry types. Of the five organizational green orientation dimensions, three were found to have significant group differences – “Green Production”, “Green Products”, and “Safety Concerns” (Table 5b). Manufacturing companies have reported significantly higher levels of “Green Production” than retail and other service companies (Table 6). They also have higher levels of “Green Products” than do those companies in healthcare and other services. This is in line with the notion that most companies in the manufacturing industry are subject to more environmental rules and regulations (Rehman et al., 2016). It is also congruent with previous findings which suggest that companies in the manufacturing industry have adopted green supply chain and green manufacturing practices for an extended period of time (Choi & Hwang, 2015; Eltayeb et al., 2011; Srivastava, 2007).

Compared with other service industries, retail industries reported higher levels of “Green Products” which is consistent with the green packaging and green distribution practices used in the retail industry. In comparison with companies in other service industries, healthcare companies demonstrated higher levels of “Safety Concerns,” which is consistent with the Biason and Dahl (2016) argument that healthcare companies must have reliable and resilient systems and practices to ensure safety for all patients.

Table 5a MANOVA Results-Overall Significance

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	0.025	.723	11	314	0.717
	Wilks' Lambda	0.975	.723	11	314	0.717
	Hotelling's Trace	0.025	.723	11	314	0.717
	Roy's Largest Root	0.025	.723	11	314	0.717
Industry	Pillai's Trace	0.264	2.769	33	948	.000
	Wilks' Lambda	0.758	2.773	33	925.806	.000
	Hotelling's Trace	0.293	2.774	33	938	.000
	Roy's Largest Root	0.132	3.805	11	316	.000

Table 5b MANOVA Results-Significance of Individual Variables

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Green Stakeholders	2.345	3	0.782	0.779	0.506
	Green Materials	4.684	3	1.561	1.566	0.197
	Green Production	9.498	3	3.166	3.239	0.022
	Green Products	15.565	3	5.188	5.4	0.001
	Safety Concerns	7.841	3	2.614	2.775	0.041
	Continuous Improvement Culture	9.914	3	3.305	3.368	0.019
	People Friendly Culture	2.994	3	0.998	0.994	0.396
	Basic Quality Improvement Tools	8.352	3	2.784	2.816	0.039
	Advanced Quality Improvement Tools	14.833	3	4.944	5.111	0.002
	Impact of Green Movement	3.747	3	1.249	1.252	0.291
	Organizational Success	1.408	3	0.469	0.467	0.705

Table 6 Summary of Multiple Comparisons for Variables with Significant Group Differences due to Industry Types

Multiple Comparisons				
Dependent Variable	(I) Industry2	(J) Industry2	Mean Difference (I-J)	Sig.
Green Production	Manufacturing	Retail	0.570	0.016
	Manufacturing	Others	0.453	0.046
Green Products	Manufacturing	Health Care	0.501	0.046
	Manufacturing	Others	0.555	0.007
	Retail	Others	0.411	0.020
Safety Concerns	Others	Health Care	-0.354	0.013
Continuous Improvement Culture	Retail	Others	-0.388	0.034
	Manufacturing	Others	-0.394	0.024
Basic Quality Improvement Tools	Health Care	Retail	0.468	0.027
Advanced Quality Improvement Tools	Manufacturing	Retail	0.630	0.006
	Manufacturing	Others	0.608	0.003

In terms of organization culture, we found that different industries had significantly different levels of “Continuous Improvement Culture,” but not the “People Friendly Culture” (Table 5b). For “Continuous Improvement Culture,” the mean factor scores of manufacturing and retail organizations were significantly lower than other service organizations (Table 6). The results imply that other service organizations have a much substantial tendency to embrace cultures that are team-oriented, participative, and proactive than that of manufacturing and retail organizations.

“Use of Basic Quality Improvement Tools” and “Advanced Quality Improvement Tools” are statistically significant at the levels of 0.039 and 0.002, respectively (Table 5b). The healthcare organizations have reported higher levels of use of basic quality improvement tools, such as employee quality training and general quality seminars (Table 6). For “Advanced Quality Improvement Tools,” the mean factor score of manufacturing organizations is greater than those of other service organizations and retail organizations. The results suggest that manufacturing organizations use more advanced TQM tools, such as Six Sigma programs and Black Belt training, than those in retail and other service organizations.

Our second research question suggested that due to the industry differences in manufacturing, retail, healthcare, and other service industries, it will change how Organizational Green Orientation, Organizational Culture, and QM Maturity affect the perceived impact of the green movement. We found that most factors have significant relationships with the factor “Impact of Green Movement” and the relationships among the research variables are quite consistent across industries, with a few minor exceptions. Results are summarized in Table 7. The factor “Continuous Improvement Culture” has significant positive relationships with “Impact of Green Movement” in all four types of industries, whereas the “People-Friendly Culture” factor has no significant relationships with “Impact of Green Movement” in any industry. Regarding TQM tools, the use of “Basic TQM Tools,” but not the use of “Advanced TQM Tools,” has a significant relationship with “Impact of Green Movement” in all four industries. A possible explanation is that when organizations are embracing quality improvement with the implementation of basic QM tools, the employees will have more positive impressions towards the organization which include the perceived impact of the green initiatives. “Organizational Success” has significant positive relationships with “Impact of Green Movement” in manufacturing, retail, and healthcare industries, but not with other service organizations. Of the five Green Orientation dimensions, “Green Stakeholders” and “Safety Concerns” had significant positive relationships with “Impact of Green Movement” in all industries. Variables that have significant positive relationships with “Impact of Green Movement” in a single industry only include “Green Materials”, “Green Production”, and “Green Products”. The significant industry in the case of “Green Materials” and “Green Products” is the Other Services industry, the significant industry in the case of “Green Production” is the healthcare industry. Overall, regardless of the industry, in order for the green initiatives to be effective, organizations must embrace a culture that is participative and proactive. They must use basic quality improvement tools, be perceived by employees as successful in their sustainability efforts, develop green-sensitivity from all stakeholders, and focus on the safety concerns of the products and employees.

Table 7 *Summary of Correlations of the Factors Affecting Impact of Green Movement by Industry Types*

Predictors	Manufacturing	Retail	Healthcare	Others
Continuous Improvement Culture	0.001	0.000	0.000	0.000
People-Friendly Culture	NS*	NS	NS	NS
Basic TQM Tools	.004	0.000	0.000	0.000
Advanced TQM Tools	NS	NS	NS	NS
Organizational Success	0.002	0.039	0.000	NS
Green Stakeholders	0.021	0.012	0.000	0.015
Green Materials	NS	NS	NS	0.001
Green Production	NS	NS	0.001	NS
Green Products	NS	NS	NS	0.037
Safety Concerns	.013	0.005	0.000	0.001

*NS= not significant

5. Discussion and Conclusions

Now more than ever, an important focus for virtually all businesses is to balance their competitive advantages and their social responsibilities. Different industries may have the natural tendency to exhibit different desired trajectories of strategic focuses and different emphases on certain aspects of social responsibilities such as sustainable production process and product packaging. Our study aims to understand how different environmental and organizational factors affect sustainability practices and the impact from these practices. We further explore the relationships among organizational culture, quality maturity, and how they impact performance within different industries. We focused on four industries in our comparisons—manufacturing, retail, healthcare, and other services. In this research, we found that all four industries have different levels of green orientation, organizational culture, and organizational performance. These factors lead to different levels of impact from the green movement. Manufacturing companies were found to be “greener” in production than retail companies and companies in other service industries. They were also found to be more likely to produce “greener” products than companies in healthcare and companies in other service industries. These results could be attributed to the condition that most companies in the manufacturing industry are subjected to more environmental rules and regulations and are under stricter governing guidelines. They are under more pressure to adhere to these guidelines in order to avoid negative consequences. We also point out that the manufacturing industry as a whole has a longer history of adopting green supply chain practices and the length of time and exposure is the impacting factor for our results. In relation to the other three industries, the retail industry reported higher levels of consciousness and investments into selling greener products, which is logically sound, given that that retail industry has a legitimate incentive to do well in this area. Packaging that is more eco-friendly, distribution practices that reflect companies’ social consciousness and their dedication to protect the environment, and a reputation that they care about sustainability, are all excellent reasons of which substantiate our results.

All four industries were found to have significant differences in their ways of prioritizing and cultivating an organizational culture with sustainability in mind. Moreover, we discovered that other service organizations are much more likely to be embedded in team-oriented culture with participative decision-making models more often deployed and tend to be more proactive in different aspects involving sustainability. Cooperation and teams contribute to better business-client relationships, better working environments, and higher organizational reputations. Due to the apparent differences between manufacturing companies and other services companies, and the differences between retail companies and other services companies, it is not by any means a stretch we see that it is much easier for companies in other service industries to cultivate a more participative and proactive culture with successful results. In environments that tend to be operating under more rigid structures, and for good reasons, manufacturing and retail companies understandably embrace a more individualistic culture with more reactive modes within its operating structures.

Healthcare organizations were reported to have a higher likelihood of using basic quality improvement tools. Examples of these tools are quality training provided to employees and general seminars made available to employees regarding quality issues. This is in comparison with retail organizations. Manufacturing organizations were reported to have a higher likelihood of employing advanced quality management tools. Examples include Six Sigma programs and Black Belt training. This is in comparison with retail and other services organizations. Less complex quality improvement tools tend to be used more widely perhaps due to the already complex environment coupled with rigid and traditional views within the industry. The use of more advanced quality control tools in the manufacturing industry could be explained by the need for manufacturing facilities to adopt procedures beyond the more basic and traditional ones, due to more intense competition and taller organizational structures with less span of control.

The authors found that most factors in this study have significant relationships with employee perception of impact of companies' green orientation. The relationships among the green variables are consistent across industries. In all four industries — manufacturing, retail, healthcare, and other services — a continuous improvement culture, the use of basic TQM tools, stakeholders' awareness of green practices, and safety concerns all have significantly positive relationships with employees' perceptions of positive impact from companies' green initiatives. Perceptions of organizational success, use of sustainable materials, greener production and environmental-friendly products have various positive significant relationships with employee perception of impact in various industries. It is logical to conclude that in order for company sustainability initiatives to be effective, organizations in the four industries in this study should build a team-oriented environment that promotes proactivity and participative decision-making models. In addition, quality management tools should not be neglected. Especially when basic quality improvement tools are prevalent and proven effective in many settings. All stakeholders should be encouraged to develop a sense of deeper understanding of the importance of sustainable practices. A focus on safety in all aspects of the day-to-day operations could propel important growth and increase competitive advantages. Work

environments encompasses these characteristics and have a higher likelihood of enjoying fewer negative effects and health and longevity for the organization itself.

For future research, we recommend conducting follow-up studies to increase the sample size. A larger sample size would allow the development of general best practices and industry specific sustainability strategies. In addition, a study being carried out in different geographical locations in the United States or even in different countries may be beneficial in analyzing the results and thus determining whether the original findings can be generalized across locations.

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About Our Authors

Lillian Fok received her doctorate degree from Georgia State University. She was teaching in the Department of Management at University of New Orleans from January 1989 to August 2018 and she is currently teaching in the Department of Decision Sciences at Western Washington University. She has actively participated in the development of various undergraduate, graduate, as well as executive programs.

Her research interests include ERP system implementation success and failure, quality management and improvement, Green Supply Chain Management, green manufacturing and green consumers, and organizational culture.

Yun-Chen Morgan received her Ph.D. in Management from Louisiana State University. She has been a faculty member at Southeastern Louisiana University since 2015. Her research interests include organizational behavior, green movement, negotiation, and employee performance.

Susan Zee received her Ph.D. in Quantitative Business Analysis from Louisiana State University in 1991. She is a Professor of Supply Chain Management at Southeastern Louisiana University since 2007. Her research interests include sustainability, quality management, organizational performance, and green initiatives.