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The Relationship Between Antecedent Variables and Collective Organizational Engagement in U.S. Manufacturers

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This is to certify that the doctoral study by

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Abstract

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by

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MBA, Walden University, 2014

BA, Purdue University, 2012

Doctoral Study Submitted in Partial Fulfillment

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Doctor of Business Administration

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Abstract

Manufacturing leaders face challenges that influence organizational outcomes such as, collective organizational engagement. Because of the complexities in the U.S. manufacturing industry, manufacturing leaders must identify resources and strategies that influence collective organizational engagement levels. Grounded in employee engagement theory and resource management theory, the purpose of this quantitative correlational study was to examine the relationship between motivating work design, human resource management practices, strategic implementation, and collective organizational engagement. The sample included 123 participants from large manufacturing organizations within the U.S. Mid-Atlantic region who held non-executive titles. The results of the multiple linear regression were significant, $F(3, 122) = 28.603$, $p < 0.05$, $R^2 = 0.419$. In the final model, human resource management practice ($p < 0.05$; $B = .255$) and strategic implementation ($p < 0.05$; $B = .298$), provided a significant contribution to the model; motivating work design did not demonstrate statistical significance. A key recommendation for business leaders is to leverage human resource management practices such as job rewards, job security, and job performance feedback to enhance or improve collective organizational engagement levels. Implications for positive social change include the potential to promote individual self-worth and positive well-being.

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Dedication

I would like to make this dedication to my husband Nick. Since the day we met, my life was forever changed. You are my better half and bring out my best qualities, and you continuously amaze me every single day. Thank you so much for supporting and pushing me to complete this milestone in my life. I hope the world can see you the way I see you because you represent the best qualities of what humanity has to offer. Because of your kindness, compassion, generosity, and authenticity, you are going to make an excellent medical doctor. Always remember, do not stop believing in yourself just like you do not stop believing in me, and there will be nothing that can stop you.

To my mother, Amelia. Thank you for all the sacrifices you put into raising me and my sister. Without you, I would not have continued to pursue this educational journey. I just wanted you to know that all of your love, sacrifices, and efforts did not go unnoticed. You are beautiful, smart, and hardworking, and no one should ever underestimate you. This is my long-winded way of saying thank you for everything, and I just hope that you are proud of me. We have come so far from a developing country, and I just hope that I have brought honor to our family's legacy.

To my mother-in-law, Jackie. You are an amazing, funny, smart, and beautiful woman. Anybody who knows you is lucky to have you in their life. You have so much light and undying charm. Thank you so much for being my confidant while your son was away at medical school. I cannot begin to express how thankful I am to have such a wonderful mother-in-law, because I truly am blessed and lucky to have you in my life and call you my family.

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I would also like to make a brief acknowledgement to my colleagues and close friends who helped push me along this journey. Specifically, I want to briefly thank and acknowledge the support of Mia Alexander, J'nae Lee, Samantha Viksnins, Priti Patel, Alana Ackard, and Shawna Burson. Each of you has been there to support me throughout major milestones of my personal life and professional career. Anybody would be lucky to call you a friend or colleague because each of you represents excellence and leadership in your respective communities.

Finally, I would like to make a brief acknowledgement of immigrants and members of underrepresented communities. We are here and have a place in the United States. I know that some of us had to sacrifice our authenticity and parts of our identity to meet societal expectations and molds. However, with persistence and grit, let this dissertation be an example of all the possibilities and opportunities that life has to offer.

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Section 1: Foundation of the Study

Contextual factors influence the behavioral responses of individual employees and the working conditions within an organization's operations (Bailey, 2016; Kahn, 1990; Khoreva & van Zalk, 2016). Resource factors such as employees can assist leaders with accomplishing organizational effectiveness and increasing productivity levels within an organization (Jha & Kumar, 2016). Leaders must identify the appropriate strategies and resources to appropriately leverage and influence employees to participate and engage in organizational activities (Cesário & Chambel, 2017). Employees potentially affect engagement and productivity on a collective organizational level, but leaders have the challenge of influencing employees to increase engagement levels.

Some academic scholars and business periodicals (e.g., *Forbes* and *HuffPost*) emphasized the importance of organizational leaders increasing their employee engagement levels in highly competitive environments. Bailey (2016) suggested that employee engagement is a popular and challenging issue for organizational leaders. Although employee engagement is a popular topic, employee engagement literature within academic journals and periodicals still contains knowledge gaps because of the complex contextual factors that affect organizations and individual employee behaviors (Bailey, 2016; Lee et al., 2020; Matthews, 2018). Because of complex contextual factors, opportunities exist for future researchers to close the knowledge gaps within employee engagement literature. One of the objectives of this study was to close knowledge gaps by examining the potential relationship between antecedent variables (e.g., motivational work design, HRM practices, and strategic implementation) and employee engagement.

Researchers who have identified existing knowledge gaps within employee engagement literature have justified and supported future research on employee engagement. Matthews (2018) suggested that employee engagement research lacks progress because there is a lack of consensus and clarity among practitioners. Bailey (2016) and Jha and Kumar (2016) suggested that empirical research might correlate employee engagement with organizational performance levels but include limitations and lack of consensus among scholar practitioners. Thus, the lack of consensus among practitioners and existing knowledge gaps such as consensus on a single definition (Bailey, 2016; Barrick et al., 2015) and the lack of a universal measurement scale for employee engagement (Bryne et al., 2016; Kulikowski, 2017), created an opportunity to pursue this study and add to the body of knowledge.

Background of the Problem

Organizational leaders in industries such as manufacturing face challenges and opportunities that can affect organizational performance outcomes. Because of the highly competitive and complex global market in the manufacturing industry, manufacturing business leaders must attempt to identify strategies and the drivers to overcome market challenges (Santhanam & Srinivas, 2020; Weerasooriya & De Alwis, 2017). Leaders may leverage resources such as employees to overcome challenges through engagement activities and increase performance levels (Bailey et al., 2017; Jha & Kumar, 2016). Employee engagement may lead to organizational benefits, but leaders must overcome the challenge of increasing engagement levels to see the benefits (Barrick et al., 2015; Jha & Kumar, 2016). Bailey et al. (2017) also suggested that employee engagement is a

reoccurring business problem and an opportunity for researchers to conduct empirical studies similar to this study.

Barrick et al. (2015), Jha and Kumar (2016), and Megha (2016) posited that studies on employee engagement are complex because of contextual factors that are diverse and consist of antecedent variables such as, motivation, HRM practices, and strategic implementation. Kumar and Pansari (2016) and Jha and Kumar posited that organizational leaders perceive that employee engagement is a valuable resource and other antecedent variables can contribute to increased individual performance and organizational levels. Some researchers and practitioners suggested employee engagement is one of the key moderating variables that contribute to the organization's and individual performance levels (Bailey, 2016; Barrick et al., 2015; Jha & Kumar, 2016). Therefore, the purpose of this study was to study the relationship, if any, between employee engagement variables and collective organizational engagement.

Problem Statement

Performance levels and competitive outcomes depend on contextual factors such as, organizational strategies, activities, and employee engagement levels (Bailey et al., 2017; Jha & Kumar, 2016). In a Gallup (2017) survey conducted in the United States, the survey estimated that the lack of employee engagement costs the country $483-$605 billion per year (as cited in Nienaber & Martins, 2020). The general business problem is that manufacturing organizational leaders lack the ability to predict the impact of employee engagement antecedent variables on a collective organizational engagement level (Barrick et al., 2015; Weerasooriya & De Alwis, 2017). The specific business problem is that some manufacturing organizational leaders do not have an effective

strategy to predict employee engagement through variables such as motivating work design, HRM practices, strategic implementation, and collective organizational engagement.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship, if any, between motivating work design, HRM practices, strategic implementation, and collective organizational engagement using Barrick et al.'s (2015) survey instrument. The predictor variables were (a) motivating work design, (b) HRM practices, and (c) strategic implementation. The criterion variable was collective organizational engagement. The targeted population included large manufacturing organizations located in the Mid-Atlantic region of the United States; obtained from a paid service via Qualtrics by the researcher in this study. This population was appropriate for this study because according to the U.S. Census Bureau (2017), an estimated population of 3,905 large manufacturing organizations are located in the U.S. Mid-Atlantic region and each organization employs 500 or more employees. The positive social change implications of this study include the opportunity for organizational leaders to increase their understanding of employee engagement and potentially benefit society by increasing their awareness regarding individual psychological behavior and well-being.

Nature of the Study

Quantitative methodologies align with the foundations of the positivist research philosophy (Saunders et al., 2015; Tian, 2019). Positivist philosophical perspectives incorporate concrete and unchanged social observations that can be quantified objectively

through deductive reasoning, statistics, and numerical strategies (Rahman, 2017). The justification to apply quantitative research methods to this study rested on the opportunity to implement a predictive model that captures statistical values pertaining to motivating work design, HRM practices, strategic implementation, and collective organizational engagement through a Likert-type scale survey design. Researchers who apply qualitative methods implement the theoretical tenets of interpretivism to explore business problems through analytical, reflexive, and subjective strategies (Rahman, 2017; Robinson & Kerr, 2015). Mixed research methods reflect a combination of both quantitative and qualitative philosophical perspectives; researchers who adopt mixed methods view each methodology as valuable and important (Tian, 2019). Mixed methods and the qualitative method are types of research designs used by researchers to study a business problem, but did not meet the needs of this study.

Researchers must select a research design that appropriately aligns with the business problem and research question. Saunders et al. (2015) described a research design as the researcher's general plan for how to answer their research question(s). Quantitative research designs can be categorized as quasi-experimental, experimental, and correlational. A correlational research design is appropriate when a researcher desires to examine the relationship between one or more predictor variables and a criterion variable, or predict an outcome using a predictive model (Queirós et al., 2017; Saunders et al., 2015). Researchers who implement quasi-experimental and experimental research designs use control factors to compare means among experimental or control groups (Podsakoff & Podsakoff, 2019; Saunders et al., 2015). This study did not include control factors, and thus a quasi-experimental or experimental research design was not

appropriate. Two or more predictor variables and a criterion variable were examined in this study and aligned with a correlational research design.

Research Question

RQ1: What is the relationship, if any, among (a) motivating work design, (b) HRM practices, (c) strategic implementation, and collective organizational engagement?

Hypotheses

$H1_0$: There is no statistically significant relationship between motivating work design, (b) HRM practices, and (c) strategic implementation with collective organizational engagement.

$H1_A$: There is a statistically significant relationship between motivating work design, (b) HRM practices, and (c) strategic implementation with collective organizational engagement.

Theoretical Framework

The theoretical framework used for this study included the interconnection between two theories, employee engagement and resource management. Kahn (1990) was among the pioneers who defined employee engagement theory as a separate concept from motivation and performance research. Employee engagement researchers who study the relationship between employee engagement and performance outcomes use antecedent variables (e.g., resources) as predictor variables (Barrick et al., 2015; Kahn, 1990; Megha, 2016). Complex industries such as manufacturing may benefit from employee engagement studies to increase performance levels (Latta & Fait, 2016; Santhanam & Srinivas, 2020). Because of complex industries and an increased

competitive environment, employee engagement research remains a popular topic among researchers and business leaders (Latta & Fait, 2016; Megha, 2016).

Barrick et al. (2015) conceptualized that employee engagement theory could be enhanced on a collective level (e.g., collective employee engagement) by using resource management theory. Barrick et al. and Yang and Lirn (2017) demonstrated in their studies that resource management theory included antecedent factors that interconnects with employee engagement theory. Because of the interconnection between resource management and employee engagement theory, both theories were used as foundations in this quantitative study. Similar to Barrick et al.'s study, this study examined the relationship between motivational work design, HRM practices and strategic implementation, and collective organizational engagement.

Operational Definitions

Antecedent variables: The contextual and moderating factors selected by researchers to study organizational outcomes or employee behavior (Kahn, 1990).

Collective organizational engagement: The bundling of resources such as employees, human resources, and strategy used by leaders to influence organization-level engagement and generate valuable capabilities (Barrick et al., 2015; Kleinaltenkamp et al., 2019).

Employee engagement: The degree of positive outcomes related to an employee's psychological state in work-related activities (Cesário & Chambel, 2017; Kahn, 1990).

Assumptions, Limitations, and Delimitations

Researchers who choose quantitative, mixed, or qualitative research designs should consider assumptions, limitations, and delimitations associated with each design.

Barnham (2015) stated that one of the objectives for quantitative research is to provide replicate a copy of reality through data. Quantitative researchers should account for assumptions, limitations, and delimitations to further enforce the reliability and validity of their data analyses (Barnham, 2015; Saunders et al., 2015). The goal of this study was to include potential assumptions, limitations, and delimitations to further increase the reliability and validity of the data collected.

Assumptions

Simon and Goes (2013) defined assumptions as beliefs or statements that are necessary to conduct research but cannot be proven. Quantitative researchers list assumptions to provide a conventional way of understanding experimental processes, acts, and scientific methodology (Barnham, 2015). Althubaiti (2016) stated that researchers who use surveys to collect data should assume that there will be potential biases and interventions associated with survey research instruments and that participants will answer surveys completely and honestly. These assumptions applied to this study because a survey was used to collect data. Consequently, for this study, the goal was to minimize or eliminate risks pertaining to biases and interventions commonly associated with surveys. Moreover, quantitative researchers make assumptions that their proposed models attempt to link and quantify human perceptions, data, and theory, but there are limitations applicable to their models (Barnham, 2015). This study included the assumption that the proposed model would link and quantify human perceptions related to employee engagement theory but also included limitations such as those that follow.

Limitations

Limitations are constraints beyond a researcher's control that could affect research outcomes (Simon & Goes, 2013). Empirical quantitative studies provide helpful insights through numerical and statistical data but possess limitations within findings (Jerrim & de Vries, 2017). Using quantitative research methods in social sciences creates limitations because quantitative survey questions are not open ended and present the risk of not capturing enough detail on the human experience (Jerrim & de Vries, 2017). One of the risks applicable to this study pertained to the limitations typically associated with surveys (e.g., limited details on human experiences).

Queirós et al. (2017) and Podsakoff and Podsakoff (2019) noted that multiple regression and correlational studies are limited to the scope of correlation findings rather than cause-and-effect findings, and findings may not be applicable on a general level within a body of knowledge. Similar to these limitations, this study did not create generalizations pertaining to the body of knowledge because this study did not include cause-and-effect research techniques. This study included the examination of a statistical relationship between predictor variables and the criterion variable and was only limited to the scope of correlational findings.

Delimitations

Simon and Goes (2013) defined delimitations as characteristics derived from limitations in the scope of a study or boundaries consciously selected by the researcher. Researchers who use delimitations describe the boundaries within the scope of their study (Queirós et al., 2017; Saunders et al., 2015; Tian, 2019). One of the delimitations of this study was to only examine large manufacturing organizations within the Mid-Atlantic

region of the United States that elected to participate in this study. Employee engagement studies such as Barrick et al.'s (2015) and Cullinane et al.'s (2014) research examined U.S. small business populations and provided an opportunity to study other business sizes and industries such as the target population identified in this study. Delimitations such as generalizability relate to the boundary of empirical findings and applicability of the findings to a theory (Bailey et al., 2017). This study included empirical findings that applied to the manufacturing industry and employee engagement theory and did not include generalizability concepts because quasi-experimental or experimental research techniques were not implemented for this study.

Saunders et al. (2015) and Podsakoff and Podsakoff (2019) suggested that researchers should implement ethical boundary practices such as corporate proprietary data protection and identity protection to protect human subjects who choose to participate in research studies. Researchers should implement protocols such as data access controls and redacting techniques to protect human participants (Kirilova & Karcher, 2017). To protect sensitive information such as the personal identity of participants, the survey results in this study were not traceable to specific participants, and data access controls such as, password encryption, were applied. Researchers who publish results from a human research should take precautionary measures to limit the sharing of participant information (Kirilova & Karcher, 2017). This study included security measures that included a secured link through Qualtrics via the internet and data encryption to limit the sharing of sensitive data.

Significance of the Study

Prathiba (2016) stated that employee engagement is a popular topic among researchers and business leaders because an organization's competitive environment demands a highly engaged workforce. Conducting studies pertaining to employee engagement antecedent variables could offer solutions to business leaders who seek to increase employee participation and engagement while decreasing employee turnover rates (Hawkes et al., 2016; Prathiba, 2016). The business value of this study was supported by the foundational work of existing literature that indicated the importance of studying antecedent variables related to employee engagement to further understand individual employee behavior and well-being.

Contribution to Business Practice

Bailey et al. (2017) stated that employee engagement research is complex because of the multidimensional variables that could affect individual behavior and organizational outcomes. Barrick et al. (2015) and Kleinaltenkamp et al. (2019) suggested that most engagement studies include an examination of the impact of antecedent factors on an individual level, but there is little to no research on the impact of antecedent variables on a collective organizational level. Studying the relationship between antecedent variables and employee engagement on a collective level could help business leaders with identifying factors that could influence organizational outcomes (Barrick et al., 2015; Kleinaltenkamp et al., 2019). This quantitative study included statistical analyses on the relationship between antecedent factors and collective organizational engagement and contributes to the body of knowledge. Moreover, the results of this study could help

business practitioners and leaders with understanding and identifying the impact of antecedent factors on employee engagement on a collective level.

Implications for Social Change

Consiglio et al. (2016) stated that business leaders need an inspired and motivated workforce to support employee well-being and performance. As indicated in some empirical employee engagement research, leaders could improve the conditions of employee and supervisor relationship dynamics and identify leadership tools to increase engagement within an organization (Bailey et al., 2017). Employee engagement studies include complex psychological and behavioral contextual factors that could impact individuals outside of their work environment (Consiglio et al., 2016; Hawkes et al., 2016; Prathiba, 2016). This study included an examination of potential underlying psychological factors (e.g., motivation) that may influence engagement activities.

Because of the psychological aspects of employee engagement studies, future research is needed to contribute to society. Consiglio et al. (2016) suggested that employee engagement studies go beyond organizations and offers discussions on well-being and creating an environment for a positive mindset of individuals. Researchers such as Hawkes et al. (2016) and Prathiba (2016) presented a comprehensive list of factors such as work-life balance, self-efficacy, and resources that can contribute to an individual's positive psychological mindset inside and outside an organization. Because of the psychological context of employee engagement studies, the results of this study could contribute to the promotion of self-worth and positive well-being of individuals within an organization and beyond.

A Review of the Professional and Academic Literature

The purpose of this quantitative research study was to examine the relationship, if any, between antecedent variables and collective organizational engagement within the U.S. Mid-Atlantic region across multiple large-sized manufacturing organizations. Some researchers argued that increased competition in the global marketplace increases external pressure on manufacturing leaders to retain and attract talent, produce innovation, and increase performance levels (Santhanam & Srinivas, 2020; Stadnicka & Antosz, 2015). Continuous improvement and lean manufacturing are examples of popular strategies used by manufacturing leaders to increase performance levels, but leaders must overcome the challenge of appropriately leveraging resources (e.g., employees) to increase performance levels (Cullinane et al., 2014; Morton et al., 2019). Because of the complex and unique environment present in the manufacturing industry, the manufacturing industry was appropriate for this study. Most of the employee engagement literature reviewed for this study, indicated that most of the literature focused on the manufacturing industries of the European (Cullinane et al., 2014) and Asian regions (Stadnicka & Antosz, 2015).

Organizational leaders continuously seek ways to leverage resources and strategies to increase performance levels on an individual level and organizational level (Adamski, 2015; Jha & Kumar, 2016). Some researchers suggested that employees are among the influential factors that can increase company performance levels, but leaders struggle with identifying comprehensive strategies to retain or increase engagement levels on an individual and organizational level (Adamski, 2015; Barrick et al., 2015; Stoyanova & Iliev, 2017). Employee engagement literature suggested the value of

studying employee engagement to help leaders predict engagement levels. The purpose of this literature review was to offer an analysis and synthesis of existing literature that supported and justified the pursuit of this study.

Critically reviewing literature within a body of knowledge is one of the important processes for empirical research. Effectively reviewing literature provides the context and theoretical framework for a research topic (Saunders et al., 2015). Moreover, a researcher should critically review existing literature to identify what is known and not known about a research topic or to posit justification for a dissertation (Saunders et al., 2015; Torraco, 2016). Review of relevant literature on the selected topic was vital to the completion of this dissertation.

Following the rationale for completing a critical literature review, this study includes a synthesis of published literature obtained from seminal works, books, and the ABI/INFORM and Business Source Complete databases. I used keywords such as *employee engagement, antecedent variables, manufacturing, strategy, leadership,* and *performance* to search for relevant sources for this study. Among the references for this doctoral study, 85% of the sources are literature less than 5 years old, and 15% are literature older than 5 years. The subsections of this literature review address foundational concepts of employee engagement theory, the evolution of employee engagement theory, other relevant theoretical frameworks, relevant empirical studies pertaining to employee engagement, and literature that supports the variables used for this study.

Employee Engagement

Employee engagement research consists of complex concepts that assisted with constructing and defining employee engagement theory. Researchers and scholars have attempted to create clear definitions of employee engagement but lack consensus on a universal definition. One of the definitions of employee engagement pertains to an individual employee's positive psychological state related to active work (Nimon et al., 2016; Shuck et al., 2017). Other researchers attempted to define employee engagement as the degree that employees are willing to participate in work tasks based on multidimensional motivational concepts (Cesário & Chambel, 2017; Saks, 2017; Shuck et al., 2017). Stoyanova and Iliev (2017) stated that varying definitions of employee engagement exist because of the inconsistencies found in academic research articles and the lack of consensus among researchers. Employee engagement theoretical concepts analyzed in this literature review included the tenets developed by academic researchers and the evolution of employee engagement literature to demonstrate that a comprehensive review of the topic was conducted.

Evolution of Employee Engagement Theory

The foundations of employee engagement theory can be traced to a common tenet expressed by Kahn (1990) to demonstrate that employee engagement is an individual experience of a positive psychological state related to an organization and separate from other behavioral studies. In a later published article, Kahn (1992) also described employee engagement as an individual's psychological presence or individual levels of commitment to organizational activities and work-related tasks. Researchers continue to use Kahn's (1990, 1992) ideas as foundational concepts within employee engagement

research and contributed to the expansion of the employee engagement topic (as cited in Bailey et al., 2017). Employee engagement researchers such as Barrick et al. (2015), leveraged the foundational concepts to support Kahn's framework for their study and also synthesized other theories to bridge knowledge gaps.

Analyzing literature related to employee engagement theory created an opportunity to identify salient concepts that supported and related to this study. Cesário and Chambel (2017) stated that organizational-related outcomes potentially manifest in an individual's commitment to and investment in an organization. Shuck et al. (2016) referred to the concept of engagement as an individual's positive psychological state relative to the intensity and direction of cognitive, emotional, and behavioral responses. The underlying themes evoked from Shuck et al. and Cesário and Chambel suggested that employee engagement is a cross-sectional topic that includes layers of complexities. As a cross-sectional topic, employee engagement studies, include support for researchers to include interconnecting theoretical natures and concepts to support empirical research such as this study (Barrick et al., 2015; Kahn, 1990; Shuck et al., 2016).

Kahn (1990) suggested that individuals have multiple dimensions that influence their psychological engagement and presence levels within an organization. Contextual factors such as leadership, available resources, and HRM could influence the degree of individual engagement in organizational activities (Kaur, 2017; Nimon et al., 2016). Cesário and Chambel (2017) referred to the degree of engagement as an individual's work-related state of mind through psychological dimensions known as vigor, dedication, and absorption. As asserted by Kahn (1990), Cesário and Chambel, and Kulikowski (2017), multidimensional facets could affect employee engagement and organizational

outcomes. This study included a similar approach used in previous empirical studies, as outlined above, by examining multiple dimensional factors and their relationship with employee engagement.

Bailey (2016) suggested that positive outcomes of employee engagement create mutual benefits between an organization and an individual. Employee engagement outcomes include a dynamic relationship or exchange between individuals and an organization through individual psychological fulfilment and activities (Khoreva & van Zalk, 2016). As demonstrated by Bailey and Khoreva and van Zalk (2016), some of the benefits outlined by employee engagement researchers can be beneficial, but depend on the exchanges within the employee and employer dynamic. Cesário and Chambel (2017) described employee engagement as benefiting individuals through happiness, job satisfaction, and individual performance levels.

Organizations that leverage engagement may see benefits such as an increase in competitive advantage and improved performance on an organizational level (Kumar & Pansari, 2016). Individuals and organization may receive positive outcomes from employee engagement, but employee engagement theory encompasses complexities that contribute to a lack of consensus among researchers and practitioners (Bailey, 2016; Megha, 2016). Because of the lack of consensus among researchers and practitioners, additional research studies are needed to close knowledge gaps. This study included consideration of existing knowledge gaps for additional support and justification for this research opportunity.

Lack of consensus among researchers stemmed from issues such as, inconsistent empirical results, as well as overlapping theoretical concepts derived from other theories

and competing theoretical frameworks that relate to a specific business industry (Barrick et al., 2015; Kahn, 1990; Nimon et al., 2016). Some researchers suggested employee engagement theory is an extension of psychological and organizational behavioral theories and not a stand-alone theory (Kahn, 1992; Megha, 2016; Nimon et al., 2016). Kahn (1990) acknowledged that employee engagement relates to psychological theoretical concepts (e.g., motivation) but argued that employee engagement theory focuses on individuals' relationship to their work roles combined with contextual factors that affect engagement levels. Employee engagement researchers continue to conduct empirical research in an attempt to address inconsistent results, knowledge gaps, and the complex contextual factors that influence business industries (Kaur, 2017; Megha, 2016; Nimon et al., 2016). One of the objectives of this study was to address and bridge knowledge gaps related to the relationship between antecedent variables and collective organizational engagement.

Competing frameworks related to manufacturing industry research use theoretical concepts related to total quality management styles, continuous improvement, and Lean Six Sigma (Siriattakul et al., 2019; Stadnicka & Antosz, 2015; Weerasooriya & De Alwis, 2017). Because of the complex nature of the manufacturing industry, researchers such as Latta and Fait (2016) and Naeem et al. (2020) have suggested that manufacturing leaders could see positive benefits from applying motivation techniques to increase employee self-efficacy and engagement levels. The rationale behind using employee engagement in the manufacturing industry stemmed from the concept that employee engagement offers manufacturing leaders an alternative technique to analyze antecedent variables and motivational drivers that could affect performance levels (Latta & Fait,

2016) and also supported the need for this study. Other competing relevant theoretical frameworks were analyzed to identify other knowledge gaps and contribute to employee engagement literature.

Resource Management Theory

Analysis of employee engagement literature suggested that a universal definition of employee engagement does not exist (Megha, 2016). Positive organizational outcomes depend on contextual factors, and other conditions identified as influencing employees to increase work engagement vary across research studies (Kahn, 1992; Nimon et al., 2016). Barrick et al. (2015) and Hawkes et al. (2016) suggested that other theoretical frameworks coincide with employee engagement theory or further justify positive performance levels. Employee engagement researchers used other theoretical frameworks and models such as the resource management model to extend and justify employee engagement theory (Barrick et al., 2015; Hawkes et al., 2016; Latta & Fait, 2016). Because of the complexities of employee engagement theory, this literature review includes the resource management theory as an overlapping and interconnecting theory to employee engagement theory.

Resource management theory is relevant to this study because employees are among the resources that leadership may leverage to increase performance levels or reach strategic goals. Researchers who use the resource-based view (RBV) theoretical tenet attempt to study how organizations gain competitive advantage through the bundling of valuable and rare resources (Badrinarayanan et al., 2019). Another tenet used in resource management studies is leadership resource decision making to enhance and create value within an organization (Barrick et al., 2015; Esho & Verhoef, 2020). Resource

management literature includes models such as the resource management model used by researchers to study the relationship between contextual factors such as resources, leadership, dynamic capabilities, and organizational performance (Teece et al., 1997). Barrick et al. (2015) applied the resource management model to conceptualize their theoretical framework and enhance employee engagement theory. Consequently, this study included a similar approach to Barrick et al.'s research.

Resource Management Model

The resource management model is a complex model with salient resource management theoretical concepts applicable to employee engagement studies (Barrick et al., 2015). Models such as the resource management model and the dynamic capabilities model contain RBV theoretical concepts to assist leaders with understanding the management of resources to increase their organization's competitiveness (Rashidirad et al., 2015; Teece, 2018; Teece et al., 1997). The resource management model expands upon employee engagement theory because contextual organizational climate factors such as available resources, leadership, and job demands may influence an individual's willingness to engage in organizational activities (Yang & Lirn, 2017). Within the context of employee engagement theory, the resource management model applied to this study because of the job-demand resources that employees might need to complete and engage in work-related tasks.

The resource management model includes the RBV tenet that involves an organization's ability to leverage resources and capabilities to influence competitive and performance outcomes (Rashidirad et al., 2015; Teece, 2018**;** Teece et al., 1997). Fink (2011) suggested that the resource management model and the RBV theoretical

framework both use a reductionistic approach to study contextual factors such as organizational resources and capabilities relative to performance levels. Some management scholars and practitioners stated that employees are valuable resources and are leveraged by leaders to increase competitiveness (Barrick et al., 2015; Rashidirad et al., 2015). Employees and organizational resources are vital to competitiveness with respect to activities such as idea generation, innovation, supporting strategies, and sustainable operations (Teece et al., 1997). Barrick et al. (2015), Rashidirad et al. (2015), and Teece et al. (1997) demonstrated that employees are among the resources used to support strategies and impact performance levels. Analyzing the resource management model was vital and relevant to this study because researchers may use concepts from the model to understand how leaders influence organizational engagement through leveraged resources.

Leadership

Albrecht et al. (2018) stated that the RBV framework can be used to describe the decision-making process of leadership relative to resource management. Resource management model studies examine a leader's ability to leverage and distribute resources throughout an organization to support set strategies (Albrecht et al., 2018; Teece et al., 1997). Yang and Lirn (2017) suggested that a leader's decisions relative to resource management may be influenced by an organization's external competitive pressures. The manufacturing industry is a complex industry that requires business leaders to overcome competitive challenges and complex environments through resource management and engagement strategies (Friesenbichler & Selenko, 2017). Friesenbichler and Selenko (2017) and Currie et al. (2017) suggested that leaders are critical to the resource

management model to influence organizational outcomes and employee behavior. Because of the critical role of leadership, leadership was one of the contextual factors applied to this study.

The resource management model includes the role of leadership from the RBV theoretical framework because as external pressures increase, leaders should strategically manage resources to sustain competitiveness (Brouer et al., 2015). Fink (2011), Lee et al. (2018), and Torres et al. (2018) suggested that leaders continually analyze and leverage organizational resources and capabilities to align strategies throughout all levels of an organization. Leaders could manage resources through a holistic approach to make an impact on performance outcomes and influence internal organizational dynamics on multiple levels (Rashidirad et al., 2015). As Brouer et al., Fink, and Torres et al. suggested, understanding leadership behavior is important because leaders can influence internal organization aspects such as dynamics, capabilities, and performance levels. Understanding how leaders manage resources related to this study because leaders use resources to influence other organizational drivers such as employee engagement.

Researchers who apply the resource management model in employee engagement studies attempt to understand leadership behavior in respect to the contextual factors that may impact performance (Barrick et al., 2015). Leaders continuously make decisions that relate to resource management and resource distribution throughout an organization in support of operations and competitive strategies (Fink, 2011; Rashidirad et al., 2015). Some of the resources that leaders distribute throughout an organization are information technology (IT), HRs, and job-related resources (Barrick et al., 2015; Torres et al., 2018; Truss et al., 2013). The RBV framework and the resource management model could be

used as tools by business leaders to make resource management decisions and motivate employees to increase their performance and engagement levels (Friesenbichler & Selenko, 2017; Shuck et al., 2017; Truss et al., 2013). One of the reasons that the resource management model was applicable to this study was to further understand the influence of leadership behavior on employee engagement behavior.

Barrick et al. (2015), Friesenbichler and Selenko (2017), and Truss et al. (2013) suggested the role of leadership and the resource management model could be key to supporting strategies and influence organizational capabilities. Leadership and the contextual theoretical concepts of the resource management model applied to this study because leaders make resource management decisions that could influence motivation and employee engagement levels. As Truss et al. and Friesenbichler and Selenko suggested leadership must leverage their resources to create dynamic capabilities or attempt to increase their competitiveness. Studying leadership in the context of the RBV framework was one of the key contributors to studying leadership as a predictor variable in this study.

Human Resource Management (HRM)

The RBV theoretical framework intertwines with the resource management model perspectives and influenced empirical studies related to human resource management (Delery & Roumpi, 2017). Colbert (2004) stated that the RBV theory includes additional contextual factors to explain the relationship between strategy, human resources, and organizational outcomes. HRM scholars and practitioners who use the RBV theoretical and resource management model suggest that HRM practices assist leaders with achieving sustainable competitive advantage (Delery & Roumpi, 2017). As stated by

Delery and Roumpi (2017) and Saridakis et al. (2017), the RBV theoretical framework includes multiple contextual factors that study the relationships between HRM variables and organizational outcomes from a leadership perspective.

Truss et al. (2013) suggested that contextual factors such as HRM practices and systems, assist leaders with influencing employee behavioral responses. Some researchers described HRM practices and systems as viable resources for leaders to influence the social exchange outcomes between employees and their employers (Aktar & Pangil, 2018; Vanhala & Dietz, 2019). Researchers who apply the RBV and resource management model theoretical tenets attempt to explain employee-employer social exchange concepts within HRM and employee engagement studies (Vanhala & Dietz, 2019). As stated by Aktar and Pangil (2018), the social exchange framework applies to employee engagement studies because researchers examine or explain the effect of HRM practices and systems on employer-employee relationships. Truss et al., Aktar and Pangil, and Vanhala and Dietz provided salient concepts in their research from the social exchange and the resource management model framework and demonstrate that HRM practices could influence employer-employee relationship outcomes. Theoretical concepts such as the link between HRM practices and employee engagement levels (Truss et al., 2013; Vanhala & Dietz, 2019), was applied to this employee engagement study.

Guan and Frenkel (2018) and Vanhala and Dietz (2019) suggested that employee engagement outcomes depend on contextual factors such as employee trust, organizational culture, and HRM practices implemented by leaders. Researchers use HRM practices to define how leadership use HRM strategies to influence employee

attitudes and behaviors towards engagement activities (Vanhala & Dietz, 2019). Delery and Roumpi (2017) suggested that the HRM approach to employee engagement studies overlaps with motivation and expectancy theoretical concepts with respect to the relationship between engagement and employee and firm performance outcomes. Applying HRM approaches was used in this study to further understand employee engagement responses to HRM practices.

Job Demand-Resources. Some HRM practitioners and scholars who use RBV theoretical concepts view employees as work role innovators and valuable resources that support the alignment of leadership strategies (Guan & Frenkel, 2018; Landells & Albrecht, 2019; Vanhala & Dietz, 2019). As stated by Landells and Albrecht (2019) and Kahn (1990), employee engagement depends on contextual factors such as job resources and organizational resources that influence individual behavior positively. Gordon et al. (2015) stated that organizations have complex and demanding conditions that affect or influence employee behavior. To overcome demanding environmental conditions leaders should use models such as, the job-demand-resources (JD-R) model, to assist with managing resources and assessing psychological factors that influence employee behavior (Schaufeli, 2017). The JD-R model includes relevant theoretical concepts that supported this study in respect to examination of the relationship between contextual factors and employee engagement behavior.

Van De Voorde et al. (2016) and Wang and Kuan-Ju Tseng (2019) suggested that HRM practices (e.g., employee empowerment and available job resources) may positively influence employee attitudes and employee outputs. One of the tenets of the JD-R model is that every job has demands and the need of resources for employee

(Schaufeli, 2017). Without the necessary job resources to meet job demands, employees may not perform well or burn-out within their organization (Cooke et al., 2019; Dubbelt et al., 2019; Schaufeli, 2017; Van De Voorde et al., 2016). Researchers such as Van Windergerden et al. (2017), and Gordon et al. (2015), suggested that an employee's work demands are just as influential on an employee's work motivation, task performance, engagement levels, and career development regardless of available resources. The JD-R model includes the concept of job resource availability and work environment demands as another dimension of employee engagement behavior and was relevant to this study.

As reflected in resource management model literature, the JD-R applies a similar context as resource management decision-making process, but from an employee level perspective. In Gordon et al.'s (2015) research, the work environment and availability of personal resources may influence an employee's decision-making process. Employees with positive interventions and personal resources such as, positive supervisor feedback, job-crafting, self-efficacy, and optimism could influence performance outcomes (Van Windergerden et al., 2017). As suggested by Dubbelt et al. (2019), positive interventions such as, job-crafting, could affect an employee's motivational levels and assist with decreasing job demands. Examining personal resources such as, job-crafting, lend support to one of the predictor variables, used in this study.

Despite the potential positive outcomes of job resources, researchers such as, Gordon et al. (2015) and Albrecht et al. (2018), suggested that increasing work demands on employees still could negatively influence an employee. Researcher such as, Albrecht et al. (2018), Gordon et al. (2015), and Van Windergerden et al. (2017), suggested complexities within organizational environments should be considered by leaders and

practitioners when examining employee behavior. Van De Voorde et al. (2016) suggested that leaders could leverage the JD-R model to further understand the motivational mechanisms that may influence the degrees of employee engagement levels. This study included theoretical concepts from the JD-R model to examine the relationship between predictor variables and the collective organizational engagement.

Competing Theoretical Framework

Kahn (1990) conceptualized employee engagement from the motivational theoretical framework that included psychological and sociological components that influence individual engagement and disengagement behavioral reactions. Goffman's (1961) conceptualization of the social exchange influences between individuals and their attachment and detachment in social encounters contributed to Kahn's theoretical concept. One of the underlying themes evoked from motivation theory asserts that contextual factors could influence individual behaviors through an emotional link or rewards (Kenrova-Pencheva & Antova, 2018; Latta & Fait, 2016). As stated by Kahn (1992), motivation theory within the context of organizational and business problems contributed to employee engagement studies, but differs from motivation empirical studies. The purpose of including the motivational theoretical framework in this study was to distinguish employee engagement as a separate topic from motivational studies and include contextual similarities between the two theories.

Motivation Theory

Similar to employee engagement theory, motivational theory contains different explanations of the contextual factors that could motivate an individual's commitment and contribution to an organization (Kahn, 1990). Some researchers used affective

psychological components within the motivational theory context to explain the emotional state or experience of happiness within individuals that contribute to work behavior (Reijseger et al., 2017). Engagement activities and job performances are among the processes and outcomes used by some researchers to link motivation theory concepts (Kenrova-Pencheva & Antova, 2018; Latta & Fait, 2016). As suggested by Latta and Fait (2016) and Reijseger et al. (2017), the positive degree of performance and activity outcomes will be affected by the variable degrees of individual motivational drivers. Understanding motivational drivers applied to this study because contextual factors such as motivational drivers could affect an individual's engagement levels.

Components of motivational drivers fit into the categories of intrinsic or extrinsic motivation, that influence an individual's behavior and psychological state of mind (Kuvaas et al., 2017). Deci et al. (1989) defined intrinsic motivation as an individual's desire to perform an activity stemming from pleasure and satisfaction experiences. Deci et al. (2017) defined extrinsic motivation as an individual's desire to perform an activity to obtain tangible rewards or avoid negative consequences. Researchers, such as Kuvaas et al. (2017), attempted to bridge the differences between motivation theory and employee engagement theory by incorporate motivational drivers with employee engagement behavior studies. Despite employee engagement studies interconnecting with the motivation theoretical framework, motivation is a broad psychology application to individual behaviors outside of employee engagement (Deci et al., 2017; Kahn, 1992).

Similar to Kuvaas et al. (2017), Green et al. (2017) synthesized intrinsic and extrinsic motivation theoretical concepts to examine factors that influence individual behavioral outputs such as, work-engagement and performance levels. Intrinsic and

extrinsic motivational drivers such as, job-satisfaction and pay increases, are among some of the drivers applied to employee engagement research studies (Barrick et al., 2015; Green et al., 2017). The categorization of motivational drivers applied to this research study in respect to the different types of motivational drivers that could influence an individual to engage or disengage in work-related activities.

Kahn (1992) suggested an overlap between the motivation theoretical framework and employee engagement theoretical framework exists. Higgins et al. (1995) suggested that intrinsic and extrinsic motivational as multiple driving factors that could influence individual activity engagement and assist with reaching objectives. Czaplicka-Kozlowska and Stachowska (2018) applied a similar contextual concept as Higgins et al. by examining individual motivational drivers that might shape and influence engagement levels within an organization. Kenrova-Pencheva and Antova (2018) intertwined motivational theory concepts with employee engagement theory concepts by using internal branding as an individual activity output to employee to get promoted and increase engagement in organizational activities. As exhibited in Higgins et al.'s, Kenrova-Pencheva and Antova's and Czaplicka-Kozlowska and Stachowska's research, motivation theory and employee engagement theory are vital to performance and activity output, but each theory includes multiple dimensions that influence individual behavior. The contextual dimensions of employee engagement may be vital to studying the statistical relationship, between motivating predictor variables (e.g., motivational work design) and collective organizational engagement and was applied in this study.

Academic scholars and employee engagement practitioners continue to debate whether employee engagement theory and motivation theory are separate topics and

theories (Bailey et al., 2017; Kahn, 1992). Kahn (1990) proposed employee engagement theory as a separate concept from motivation theory because employee engagement examines an individual's psychological attachment and detachment levels during an engagement activity and influenced by multiple dimensional factors outside of motivation theory. Kuvaas et al. (2017) and Reijseger et al. (2017) emphasized the importance of understanding the motivation dimensions that shape or influence an individual's task-related commitment. Despite the difference between motivational theory and employee engagement theory, both theoretical frameworks contain concepts that overlap with one another (Latta & Fait, 2016). As Latta and Fait and Weerasooriya and De Alwis (2017) suggested, industrial manufacturing leaders could benefit from empirical studies containing motivation and employee engagement concepts and was applicable to this research study.

Theoretical Framework Analysis Summary

This study included an analysis of existing theoretical framework that support or conflict with employee engagement theoretical concepts. Motivational theory included concepts that supported grounding for seminal employee engagement researchers such as Kahn (1990). Employee engagement literature included evidence to support employee engagement as a separate topic from motivational studies, but an overlap exists between motivational theory and employee engagement theory concepts (Higgins et al., 1995; Kenrova-Pencheva & Antova, 2018; Latta & Fait, 2016). Other researchers used additional theoretical frameworks to study the complex influences of resources, leadership, resources, HRM practices, and job-demands on employee behavior (Albrecht et al., 2018; Barrick et al., 2015; Yang & Lirn, 2017). As Barrick et al. (2015) suggested

interconnecting the nature of resource management theory and employee engagement theory in could assist practitioners and organizational leaders with understanding drivers that could influence employee engagement behavior. Moreover, the literature review for this study included a synthesis of existing empirical studies to further support and justify the need for this research study.

Employee Engagement Empirical Studies

Empirical research in the employee engagement field continues to be a popular topic among scholar practitioners, consultants, and business leaders to increase an organization's performance levels (Barrick et al., 2015; Kumar & Pansari, 2016; Megha, 2016). Since Kahn's (1990) conceptualization of employee engagement, employee engagement studies still exhibit knowledge gaps and opportunities for future research. Khodakarami et al. (2018) and Shuck et al. (2017) suggested that the variation in measurement scales in empirical employee engagement research demonstrate a lack of consensus among scholar practitioners to measure employee engagement and knowledge gaps. Researchers who analyze existing literature attempt to identify knowledge gaps, definitions, limitations, expansion of topic understanding, and evidence to support research opportunities (Kaur, 2017; Khodakarami et al., 2018).

This study included analyses of existing empirical studies to identify knowledge gaps and limitations. As Khodakarami et al. (2018) and Shuck et al. (2017) suggested, analyzing existing quantitative empirical studies demonstrated limitations resulting from the variation of measurement scales used by researchers. Quantitative empirical research typically includes a measurement scales to study the relationship between employee engagement on individual or organizational outcomes (Barrick et al., 2015; Khodakarami

et al., 2018; Nimon et al., 2016). This study included a synthesis of existing measurement scales applied by some researchers in existing employee engagement research.

Employee engagement researchers who use predictive variables may include antecedent factors such as, motivation, job resources, HRM practices, and leadership to predict performance outcomes (Barrick et al., 2015; Megha, 2016). Similar to existing empirical studies, this study included measurement scales to study the relationship, if any, between motivating work design, HRM practices, strategic implementation and collective organizational engagement. Moreover, empirical researchers such as Shuck et al. (2017) and Nimon et al. (2016) suggested that measurement scales are vital to understanding to the potential effects of antecedent factors on employee engagement behavior. This quantitative research study included a selected measurement scale that aligns and supports the framework for this study.

Measurement Scales

Existing empirical studies include a variety of measurement scales used by employee engagement practitioners to produce findings for their topic **(**Nimon et al., 2016; Shrotryia & Dhanda, 2019). Researchers and practitioners such as, Bryne et al. (2016) and Nimon et al. (2016), identified some of the most common measurement scales used in empirical studies. Despite the variety of measurement scales, employee engagement researchers must overcome the challenge of finding valid measurement scale, controlling for error, and conceptualizing engagement as a construct (Bryne et al., 2016; Shrotryia & Dhanda, 2019). Analyzing common measurement scales in employee engagement studies assisted with the justification and selection of an appropriate measurement scale for this research study.

Khodakarami et al. (2018) and Kulikowski (2017) posited that several employee engagement studies apply the Utrecht Work Engagement Scale (UWES) as a common measurement tool for studying employee engagement. Components of the Maslach's Burnout Inventory Survey (MBIS) intertwines with the UWES and measure the spectrum of engagement behavior; with engagement on one side of the spectrum and burnout on the other (Bryne et al., 2016; Ceschi et al., 2017; Schaufeli et al., 2002). Saks (2017) stated that Maslach and Leiter's (2008) MBIS posits that burnout and engagement are the same state of mind in an employee, but other practitioners argue that burnout and engagement are different states of mind for an employee. The counter argument evoked by Saks exists throughout empirical studies, but researchers who use the UWES attempt to measure multiple dimensions of employee engagement attitudes (Bryne et al., 2016; Saks, 2017; Schaufeli et al., 2002). The UWES is a valuable measurement scale within the employee engagement research, but is only successful to measuring the burnout and engagement of individuals (Bryne et al., 2016; Saks, 2017).

Among the first researchers to apply the UWES to employee engagement empirical studies are Schaufeli et al. (2002). According to Schaufeli et al.'s (2002) research, the UWES used within their research to compare the burnout and engagement levels of employees within an organization. Using confirmatory factor analyses, the UWES includes three dimensions: vigor, dedication, and absorption (Kulikowski, 2017; Schaufeli et al., 2002; Shrotryia & Dhanda, 2019). According to Schaufeli et al. (2002), the dimensions: vigor (high activation), dedication (high identification), and absorption (high engagement) correlate with the positive work-related state of mind and align with engagement. As suggested in existing empirical research, there are multiple-item versions

of the UWES exist to explain the relationship between the three dimensions on burn-out and engagement levels (Kulikowski, 2017). Synthesizing existing UWES research in this study was necessary to further understand the competing measurement scales in the employee engagement field and to determine if the UWES would be applicable to this study.

Bryne et al. (2016) and Kulikowski (2017) stated the UWES is a popular measurement tool among practitioners because of the validity found in its variable constructs. The UWES include limitations because the item-measurement scales are limited to the three-dimension and the factorial construct parameters (Kulikowski, 2017). The UWES limitations found in existing empirical studies also include a lack of broad-measurement spectrum and a clear definition of employee engagement (Bryne et al., 2016; Shuck et al., 2017). Kulikowski (2017), Bryne et al. (2016), and Shuck et al. (2017) posited that the UWES is a useful tool for employee engagement studies, but also stated that other scholar practitioners continue to lack consensus and contest the validity of the scale because of the limitations. The UWES is a popular tool used among practitioners, but the limitations of the measurement dimensions found in UWES empirical studies assisted with the decision to not use the UWES for this study. Moreover, the UWES was not appropriate for this study because the instrument only measured burn-out and engagement.

The job engagement scale (JES) is an alternative measurement tool found in employee engagement literature. Shrotryia and Dhanda (2019) credited Saks (2017) as a seminal researcher to develop the earlier versions of the JES measurement tool. Shuck et al. (2017), Shrotryia and Dhanda (2019), Hakanen et al. (2018) and Barrick et al. (2015)

listed Rich et al. (2010) as the primary researchers who developed the constructs for the JES. Saks (2017) and Rich et al. (2010) used Kahn's (1990) theoretical concepts to measure cognitive, emotional and physical engagement dimensions within employee behavior. The JES differs from the UWES as the tool primarily measures job tasks as a means to measure engagement rather than burnout and engagement levels (Rich et al., 2010; Saks, 2017; Shuck et al., 2017).

Rich et al. (2010) applied Kahn's (1990) theoretical concepts to develop the antecedent constructs within the JES; in respect to the employee's job involvement levels. The dimensions of the JES include the measure antecedents relative to the following dimensions: cognitive, emotional, and physical engagement (Hakanen et al., 2018; Rich et al., 2010; Shrotryia & Dhanda, 2019). As stated by Bryne et al. (2016) the JES includes validity evidence for assessing Kahn's (1990) conceptualization of engagement. Rich et al. also stated that the JES included the theoretical tenet of value congruence upon which the employee experiences psychological meaningfulness in their work role. Bryne et al.'s (2016) research suggested that the JES should be used to assess engagement levels rather than associated attitudes. This study included the examination of the relationship between antecedent variables and collective organizational engagement outcomes and therefore aligned more with the JES rather than the UWES.

Employee Engagement and Antecedent Factors

Existing employee engagement studies include antecedent factors that may influence employee engagement behavior. The construct of antecedent variables included in quantitative research studies stem from researchers who applied qualitative methods such as, interviews and observations (Bailey et al., 2017; Kaur, 2017; Megha, 2016).

Megha (2016) and Kaur (2017) analyzed research articles that include antecedent variables to demonstrate the diverse factors that may affect and drive employee engagement behavior. Megha (2016) identified popular antecedent factors used by quantitative researchers in employee engagement and performance outcome studies such as, motivation, job resources, job demand and organizational support.

According to Kaur (2017), industry is another important antecedent factor that could affect a researcher's selection of antecedent factors in employee engagement studies. Akingbola and van den Berg (2019) suggested that the evolution of employee engagement studies intersects with multiple theoretical concepts that shaped the constructs and conceptualization of antecedent factors by researchers. This research study also included analyses and synthesis of existing empirical studies related to antecedent variables.

Motivation. Intrinsic and extrinsic motivational factors that influence an individual's engagement behavior encompass overlap between theoretical concepts found in existing studies. Intrinsic motivational factors are inner individual factors such as, meaningfulness and passion for a job that drive an individual's behavioral responses such as, engagement and participation activities (Kordbacheh et al., 2014; Mayo, 2019). Extrinsic motivational factors are external factors such as, organizational climate and extrinsic rewards that influence an individual's willingness to engage and participate in work activities (Latta & Fait, 2016; Mayo, 2019; Reijseger et al., 2017). Regardless of the motivation type, motivation is an important antecedent factor that could impact an employee's behavioral responses and contributions to performance levels (Kordbacheh et al., 2014; Mayo, 2019). As suggested from Kordbacheh et al.'s (2014) and Reijseger et

al.'s (2017), organizational leaders need to understand the value and an individual's motivation to increase engagement and performance levels.

Employee engagement and motivation research include intrinsic, extrinsic or both motivational factors that influence individual behavior. Kordbacheh et al. (2014) included intrinsic factors such as, enjoyment and challenges, associated with job related task relative to the statistical relationship with engagement. Latta and Fait (2016) incorporated intrinsic and extrinsic motivating factors with their research instrument to study their impact on work engagement. Motivation and employee engagement researchers such as, Mayo (2019), suggested the important value of understanding both intrinsic and extrinsic factors that influence engagement behavior. Mayo and Latta and Fait suggested combining both motivation factor types within an instrument yields value in understanding the unique cognitive behavior of employees. This research study included intrinsic motivation and extrinsic motivation antecedent factors that may affect employee engagement outcomes.

Despite the value placed on motivation and employee engagement research, researchers such as Mayo (2019) and Latta and Fait (2016), suggested each type of motivational factor drive individual decisions to engage and participate differently. As Reijseger et al. (2017) suggested, because individual psychological profiles differentiate from other individuals within an organization, employee engagement and motivation studies are limited. Kordbacheh et al. (2014) suggested the sources of motivation are not universally applicable to all employees and organizations should consider this limitation when seeking to boost engagement. The lack of universal framework or application of motivational drivers in employee engagement studies demonstrated limitations within

studying antecedent motivation factors and posit challenges for future research including this research study.

The limitations identified in existing studies revealed the motivation sphere of engagement behavior creates opportunities for future research to bridge knowledge gaps (Kordbacheh et al., 2014; Reijseger et al., 2017). Reijseger et al. (2017) identified the limitations within their research study demonstrated that they lacked sufficient data to support their moderating variable (open-mindedness) and the difficulty of applying a cross-sectional design of their model. One of the limitations identified within Latta and Fait's (2016) research prevented the extrapolation of data results to create generalized conclusions of their study and suggested future research that include longitudinal analysis and factorial designs to study causal effects of motivational sources. Limitations such as the ones identified within Latta and Fait's and Reijseger's research posit the need for future research to close gaps within motivation and employee engagement literature.

Job-Demand Resources. As pressures increase on organizations to sustain competitive performance levels, leaders must create appropriate conditions for employees to meet job demands (Farndale & Murrer, 2015; Van De Voorde et al., 2016). Cooper-Thomas et al. (2017) emphasized the importance of leadership to recognize the need of job resources for employees to retain or increase engagement levels. Some employee engagement researchers who study the relationship between job resources and employee engagement apply the job-demand resource (JD-R) model (Schaufeli, 2017). The underlying concept of the JD-R model relates to the individual resources relevant to job tasks that could influence or motivate employees to increase their engagement efforts

(Van De Voorde et al., 2016). The JD-R model is a popular model used by employee engagement researcher, but was applicable to this study.

Van Windergerden et al. (2017) suggested that the JD-R model is inclusive of personal resources increase engagement, performance, and help individuals achieve work goals. JD-R and employee engagement studies such as, Van De Voorde et al.'s (2016) research, used the JD-R model to study the relationship between job resources, task engagement, and demands. Other researchers such as, Gordon et al. (2015) and Dubbelt et al. (2019), included the JD-R model to explain other behavioral outputs such as, decision-making, career satisfaction, and motivation job crafting. Researchers such as, Gordon et al., Dubbelt et al., and Van De Voorde, demonstrated that the JD-R model as an impactful model to employee behavior and engagement, but there are limitations to the model.

Gordon et al. (2015) identified that their JD-R and employee engagement study had limitations and suggested future researchers explore other resources relative to decision-making processes and engagement. Dubbelt et al. (2019) expressed that one of their limitations pertained to the reliability of their measurement of internal consistencies between employees seeking resources and organizations decreasing demands. Farndale and Murrer (2015) included only single items for their scales and could affect the reliability and validity of their instrument. The limitations identified in Farndale and Murrrer and Dubbelt et al.'s research could posit potential challenges for JD-R and employee engagement researchers. Limitations and challenges such as the reliability and validity of research instruments do not apply just the JD-R model but are applicable to other employee engagement research similar to this research study.

Cooper-Thomas et al. (2017) stated that the JD-R model offers researchers flexibility, but only on an aggregate level and could limit and yield limitations in empirical studies. Factors such as: (a) job autonomy, (b) feedback, (c) opportunities, and (d) rewards and recognition are among the common variables used by JD-R and employee engagement researchers (Albrecht et al., 2018). As stated by Cooper-Thomas, the JD-R model is limited to only a small set of resources and may explain why some of the empirical results leave out important details. Albrecht suggested that JD-R and employee engagement studies could be improved by adding more resource variables such as, HRM practices and organizational climate. This research study included predictor variables such as HRM practices to overcome similar limitations.

Leadership

Business management leaders suggested that leaders and their leadership approaches and styles are critical factors in organizational performance (Holland et al., 2017; Jena et al., 2018). Saad et al. (2018) stated that employee engagement studies may include the impact of leadership effectiveness, internal cooperation, and employee development on employee engagement. Leadership styles and approaches such as ethical leadership and transformational leadership are noted to influence employee attitudes, well-being, and behaviors (Ahmad & Gao, 2018; Jena et al., 2018). As suggested by Jena et al. (2018), Saad et al., and Ahmad and Gao (2018), leadership and other critical contextual factors could influence individual behavior such as engagement.

Leaders have critical functions and roles within an organization such as, decision-making and resource management. Simultaneously, leaders may possess a leadership style to influence employee behaviors through organizational trust and positive individual

psychology (Holland et al., 2017; Jena et al., 2018). As stated by Ahmad and Gao (2018), leadership style may affect work engagement levels and dedication. Holland et al. (2017) and Jena et al. (2018) emphasized the importance of leadership roles in facilitating support and employee voice to build trust among employees through the use of strategies. Barrick et al. (2015) emphasized the importance of transformational leadership style and leadership behavior to create effective strategies to leverage employees.

Holland et al. (2017) and Jena et al. (2018) stated that leadership behavior and leadership style play a vital role with producing organizational trust, support, and engagement behavior. Studies focusing on the relationship between leadership and employee engagement are known to be multi-dimensional and complex (Holland et al., 2017; Saad et al., 2018). Some studies such as Ahmad and Gao's (2018) study and Jena et al.'s study demonstrated that leadership and employee engagement relationship studies could be improved through the use of mediating variables such as, trust and empowerment. This study does not specifically focus on the aspect and relationship between leadership style and employee engagement, but focused more on leadership behavior.

Some leadership and employee engagement studies include additional mediating factors that may affect employee engagement. Ahmad and Gao (2018) and Saad et al. (2018) both included the aspect of psychology (e.g., trust and empowerment) as mediating variables in their studies. Trust is repetitively and popular use by leadership and employee engagement researchers because employee perceptions of leadership may affect engagement behavior (Holland et al., 2017; Jena et al., 2018). As stated by Holland et al., the value of mediating variables such as trust is to demonstrate the quality of

organizational relationships, cooperation, and stability. Ahmad and Gao (2018) used psychological empowerment as a mediating and motivational resource variable in their study. Perceptions of leadership rather than mediating variables such as trust, was included in this research study.

Researchers who include mediating variables and leadership attempt to expand statistical results between predictor variables and dependent variables within the employee engagement research field. Ahmad and Gao's (2018) research results included a positive relationship between ethical leadership behavior and employee engagement, and used empowerment as a moderating variable to enhance their results. Jena et al. (2018) suggested a positive relationship between positive leadership perceptions and positive feelings towards work. Holland et al. (2017) included similar positive predictive results as Jena et al.'s research regarding the relationship between senior management and supervisor support, and employee engagement. Based on empirical results such as Holland et al.'s and Jena et al.'s research, leadership or positive perceptions of leadership may impact on employee engagement, but there are limitations.

The limitations identified within existing leadership and employee engagement research included issues such as bias and research design. Holland et al. (2017) and Saad et al. (2018) identified similar limitations regarding concrete and accurate statistical results and the need for future longitudinal studies. As stated within Jena et al. (2018)'s and Holland et al.'s research, self-reported data collected include common method bias that may influence generalizability of empirical results. Jena et al. and Ahmad and Gao's (2018) research included a limitation related to the generalizability of their findings and an opportunity for future researchers to collect data from multiple organizational levels

and industries. Despite generalizability and bias limitations, researchers such as Barrick et al. (2015) and Holland et al. suggested the influential role of leadership on engagement levels. Because leadership and employee engagement studies demonstrated the influential role of leadership, leadership behavior was one of the dimensions of employee engagement included within this study.

Organizational Culture and Industry. Leaders create an organization's culture and abilities to navigate through unique industrial challenges and positive performance outcomes (Sadaf et al., 2019). Mercy and Choudhary (2019) stated that organization culture may influence work environments for employees and impact employee perceptions and engagement levels. Simultaneously external factors such as, region, external parties, and cultural norms and values may influence an organization's culture (Nahar & Nigah, 2019). Researchers such as Friesenbichler and Selenko (2017) and Nahar and Nigah (2019) stated that regional factors and cultural norms may influence the relationship between organizational culture and employee engagement activities.

Dimensional facets of organizational culture include shared identity, work environment, psychological mechanisms used by leaders to influence individual behavioral responses (Friesenbichler & Selenko, 2017; Sadaf et al., 2019). Fiesenbichler and Selenko and Sadaf et al. suggested that external factors such as economic development, industry standards and practices, regional and geographic culture may impact the limitations and interpretation of empirical findings. Employee engagement studies such as Nahar and Nigah's (2019) research were limited to specific geographic regions, industry, and generalizability of empirical findings, but suggested the need for future research to close knowledge gaps across different populations. This subsection

included an examination of employee studies across different industries to further justify the examination of employee engagement within the manufacturing industry for this research study.

Differences among employee engagement research studies include factors such as, predictor variables, geographic area, and industry. Aktar and Pangil (2018) selected the banking industry for their employee engagement study because the Bangladesh economy is dependent on banking and other financial institutions. Similarly, Ahmad and Gao's (2018) employee engagement research focused on the Pakistani banking industry because of economic crises and the rise of ethical expectations within the region. Holland et al. (2017) focused on Australian health care organization because of the increasing demands placed on nurses to meet advanced-market economy expectations. There are underlying rationales for the targeted populations and may depend on external factors such as economic conditions and industrial trends as exhibited in Ahmad and Gao's and Holland et al.'s research. This research study included the consideration of limitations (e.g., economic, and industrial conditions) associated with a target population.

Employee engagement research focused on singular industries and specific target populations produce generalizability limitations and the need for multiple industry studies (Ahmad & Gao, 2018; Barrick et al., 2015; Holland et al., 2017). Existing cross-sectional studies such as, Latta and Fait (2016) compared employee engagement across education and manufacturing industries in Northwest Pennsylvania, but the researchers acknowledged a generalizability limitation. Albrecht et al.'s (2018) cross-sectional employee engagement research focused on Australian professionals across multiple industries, but prevented the researchers from determining a causal relationship in their

data analyses. Cross-sectional studies such as Albrecht et al.'s and Latta and Fait's research demonstrated the need for future longitudinal research to further strengthen causal relationship conclusions within employee engagement. This study did not include a cross-sectional examination of multiple industries, but the limitations identified by Latta and Fait and Albrecht et al. applied to this study.

The Manufacturing Industry

The manufacturing industry is among the popular industries used by employee engagement researchers. Cullinane et al. (2014) and Guan and Fenkel (2019) suggested the manufacturing industry includes challenges and complexities related to sustaining manufacturing production. Manufacturing organizational leaders must continuously compete in an increasing global market using improved value chains and green sustainability practices (Morton et al., 2019). The manufacturing industry contributes to a nation's gross domestic product (GDP) and requires complex strategies to engage employees to sustain production levels and reduce employee turnover rates (Johari et al., 2013). Because of the complex facets and challenges identified by researchers such as Johari et al. and Cullinane et al., the manufacturing industry was appropriate for this study.

Employee engagement studies related to the manufacturing industry focused on specific geographic regions and manufacturing practices. Morton et al. (2019) focused on employee engagement behavior related to the continuous improvement program at a multi-national firm. Cullinane et al. (2014) included the JD-R model and engagement relative to lean manufacturing conditions and environments in Europe. Johari et al.'s (2013) study highlighted the importance of HRM strategies and practices in the

manufacturing setting to increase engagement within Malaysian manufacturers. As suggested by Morton et al.'s, Cullinane et al.'s, and Johari et al.'s, employee engagement research could assist manufacturing leaders with understanding and increasing engagement behavior. This research study included predictor variables such as, HRM practices and motivational work design that could be applied to the manufacturing industry.

Key Variables

Existing employee engagement literature included in this study assisted with constructing key variables for this study. Quantitative researchers must select appropriate predictor variables to manipulate and measure as they relate to a dependent variable (Saunders et al., 2015). The predictor variables selected for this study were motivational work design, HRM practices, and strategic implementation. The dependent variable is collective organizational engagement as related to Barrick et al.'s (2015) construct and conceptualization of the variable through existing literature. Each variable selected for this study included underlying theoretical concepts and existing literature as additional support.

Motivational Work Design

The JD-R model encompasses motivational drivers that may be used leaders to motivate employees to increase engagement levels and meet job demands (Cullinane et al., 2014; Guan & Frenkel, 2018; Sakuraya et al., 2017; Zhang & Parker, 2019). JD-R literature includes individual employee resource dimensions such as job crafting and work design (Guan & Frenkel, 2018). As an intrinsic motivational driver, job crafting and work design, provide resources to employees to reduce work demands, encourage

employee involvement, and improve work performance (Barrick et al., 2015; Cullinane et al., 2014; Guan & Frenkel, 2018;). Job crafting and work design are among the motivational drivers that can be leveraged by leaders to influence an employee increase their engagement across multiple levels, increase positive psychological attitudes, and job satisfaction (Barrick et al., 2015; Sakuraya et al., 2017). Because of the positive aspects related to job crafting and work design, motivational work design was an appropriate predictor variable for this study.

Empirical results within existing employee engagement research indicate a strong link between job crafting or work design and an individual's psychological experience. Morgeson and Humphrey (2006) emphasized the importance of work characteristics such as autonomy, skills, and tasks may affect an individual's motivation to participate and individual performance levels. Guan and Frenkel's (2018) empirical findings indicated a statistically significant relationship between job crafting and job and extra role performance. Sakuraya et al.'s (2017) indicated in their research that there was a positive relationship between job design, job resources, and work engagement. Empirical statistical results found in research such as Guan and Frenkel's and Sakuraya et al.'s research provided further support and justification to include motivation work design as a predictor variable in this study.

HRM Practices

HRM practices implemented by leaders encompass multiple dimensions that may influence individual behavior (Guan & Frenkel, 2018; Khoreva & van Zalk, 2016). Barrick et al. (2015) described HRM practices as a leadership's secondary resource to enhance employee-organization relationships. Vanhala and Dietz (2019) and Muduli et

al. (2016) suggested that HRM practices influence and shape employee attitudes and behaviors to meet strategic objectives and obtain high worker performance levels. As suggested by Barrick et al. and Vanhala and Dietz HRM practices may produce a wide variety of outcomes related to employee performance, commitment, and engagement. Because of the complex dimensions associated with HRM practices, HRM practices was included as an appropriate predictor variable for this research study.

HRM practices may include extrinsic motivation drivers used by leaders to facilitate and introduce social exchanges between organizations and employees (Khoreva & van Zalk, 2016). Barrick et al. (2015) suggested that HRM practices within the context of employee engagement fall into two-dimension categories: firm expectations of employees and employee expected rewards or outcomes. Researchers such as, Guan and Frenkel (2018) and Khoreva and van Zalk suggested employee perceptions of HRM practices may influence or encourage engagement among researchers. Guan and Frenkel also suggested leaders implement strong HRM practices and systems to communicate expectations across organizational levels and to encourage an increase in engagement activities from employees. As suggested by Barrick et al. and Vanhala and Dietz (2019), HRM practices demonstrate a complex and multiple dimensional relationship between employers and employees, but can impact outcomes such as job satisfaction and engagement levels. This research study included HRM practices as a predictor variable to examine the statistical relationship between antecedent variables and collective organizational engagement.

Existing employee engagement literature inclusive of HRM context demonstrated the value of HRM practices for organizational leaders. Vanhala and Dietz (2019)

included significant statistical results demonstrating a positive relationship between HRM practices and unit-level performance. Aktar and Pangil (2018) demonstrated a statistically significant relationship between HRM practices (e.g., compensation) and employee engagement. In other research such as Khoreva and van Zalk's (2016) research the statistical relationship between HRM practices and high-level engaged individuals within an organization was complex. Aktar and Pangil and Khoreva and van Zalk's research also included questions related to job security and leadership development to measure HRM practices. This research study included survey items related to job security, compensation, and performance feedback.

Strategic Implementation

Leaders make decisions used to guide the direction of the organization and influence employees to participate in operational activities (Jena et al., 2018). Holland et al. (2017) suggested that employee perceptions of leaders and organizational culture are among the factors that influence employee behavior and attitudes. Employee engagement researchers examine leadership dimensions such as, style and strategy, to measure employee perceptions and value chains (Barrick et al., 2015; Jena et al., 2018). As suggested by Barrick et al. (2015) strategic choices are essential to leaders who combine resources to form competitive and valuable capabilities. Because of the value of strategy in respect to leadership perceptions, this research study included strategic implementation as one of the predictor variables.

One of the linkages to strategic implementation and strategic choices specifically relates to a leader's leadership style. Saad et al. (2018) stated that leadership styles such as transformational leadership exhibit multiple construct dimensions to measure the

relationship between leadership and employee engagement. Transformational leadership behavioral traits encompass strategic choices implemented by leaders to synchronize employees and resources to reach desired outcomes (Barrick et al., 2015; Saad et al., 2018). Because of the social exchange perspective leadership style are used as predictor variables by employee engagement researchers to measure the relationship between strategy and employee engagement (Barrick et al., 2015; Jena et al., 2018; Saad et al., 2018).

Leadership decision-making processes such as strategic choices and implementation may be used to influence individual behavior (Barrick et al., 2015; Jena et al., 2018). As suggested by Saad et al. (2018) and Holland et al. (2017) tools such as, voice, strategy, and other communication techniques may be used by leaders to influence employee commitment to organizational goals. Jena et al. (2018) included empirical findings demonstrating leadership communication techniques as a positive association with higher employee engagement levels. Holland et al. (2017) stated that supervisor support and employee voice demonstrate a positive relationship with employee engagement. Because of the positive association of communication techniques such as strategy within employee engagement research, this research study included strategic implementation as one of the predictor variables.

Collective Organizational Engagement

Collective organizational engagement includes psychological dimensions related to behavioral, emotional, and cognitive dispositions on an organizational collective level (Kleinaltenkamp et al., 2019). Barrick et al. (2015) described collective organizational engagement as an organizational wide process where individual perceptions and

comparisons of their job-related to others within the firm. As suggested by Barrick et al. and Gracia et al. (2013) contextual factors such as job resources and shared perceptions may impact collective engagement levels, firm performance, and value creation. Because of the impact of contextual factors on engagement levels and the value chain related to collective organizational engagement, this study included collective organizational engagement as the criterion variable.

Reviewing existing literature revealed limited to no research available related to collective organizational engagement. Within the frame of RBV theory and the resource management model, collective organizational engagement is known as a value creating organizational capability (Barrick et al., 2015). Gracia et al. (2013) suggested collective engagement as a value construct and may impact service quality or performance levels within an organization. To measure collective organizational engagement levels Barrick et al. (2015) conceptualized survey items based on shared perceptions. In a similar vein, Kleinaltenkamp et al. (2019) suggested shared psychological perceptions amongst individuals are important as other contextual factors on performance outcomes. Barrick et al.'s (2015) conceptualization of the collective organizational engagement survey was applicable to this study because of the limited research.

Literature Review Summary

This subsection included a review of existing literature related to employee engagement. Because of the nature of this study, this literature review included a synthesis of resource management and employee engagement theory literature to support the theoretical framework. Researchers such as Barrick et al. (2015), Sakuraya et al. (2017), and Schaufeli et al. (2002) suggested leaders and practitioners use the resource

management theory to interconnect the impact of resources on employee behavioral responses, well-being, and engagement levels. Empirical employee engagement research includes wide range of dimensions (e.g., leadership, work design, HRM practices, and other JD-R) that could impact employee engagement levels and organizational outputs (Kleinaltenkamp et al., 2019; Vanhala & Dietz, 2019). Employee engagement researchers identified limitations such as generalizability and causal-relationships and the need for future research to close knowledge gaps (Holland et al., 2017; Jena et al., 2018). The review and syntheses of employee engagement research also assisted with supporting the key variables used in this research study.

Transition

The manufacturing industry is a complex and competitive environment and manufacturing leaders must appropriately leverage resources and tools to sustain competitiveness. Johari et al. (2013) stated manufacturer problems encompass issues related to production levels and high employee turn-over rates. Researchers suggested that manufacturing leaders could leverage employee engagement predictor models to understand their employees' behavior and assist with sustaining production levels and reduce employee turn-over rates (Cullinane et al., 2014; Morton et al., 2019). As suggested by the synthesized literature in Section 1, employee engagement levels within manufacturing organizations may be impacted by contextual factors such as HRM practices, work designs, and leadership.

Section 1 also included a synthesis of existing literature identifying limitations, knowledge gaps, and grounding concepts for the theoretical framework used in this study. Moreover, the key points of Section 1 included a discussion about employee engagement,

resource management, HRM practices, motivational work design, strategic implementation, collective organizational engagement. The literature synthesized in Section 1 also supported the need for future research in employee engagement and the manufacturing industry such as this research study. Section 2 includes a discussion on participants, research methods and design, population and sampling, ethical research, data collection, data analytical techniques, and study validity.

Section 2: The Project

Section 1 included an introduction to the body of knowledge, the business problem, and the foundations of this study. Increased globalization pressures organizations to retain or increase their competitive performance levels (Megha, 2016; Mercy & Choudhary, 2019). To sustain competitiveness, business leaders leverage and allocate resources such as employees to create dynamic capabilities (Teece, 2018). Employees are a valuable intangible asset to an organization because of their contributions to production levels and other organizational outcomes (Albrecht et al., 2018; Cooper-Thomas et al., 2017). As stated in Section 1, organizational leaders such as those in the manufacturing industry must identify tools to predict the relationship between antecedent variables and employee engagement. Section 2 included a discussion on the purpose of this research study, role of the researcher, the participants, the research method and design, the population and sample, ethical research, data collection techniques, data analysis, and study validity.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship, if any, between motivating work design, HRM practices, strategic implementation, and collective organizational engagement using Barrick et al.'s (2015) survey instrument. The predictor variables were (a) motivating work design, (b) HRM practices, and (c) strategic implementation. The criterion variable was collective organizational engagement. The targeted population included large manufacturing organizations located in the Mid-Atlantic region of the United States; obtained from a

paid service, Qualtrics, by the researcher in this study. This population was appropriate for this study because according to the U.S. Census Bureau (2017), an estimated population of 3,905 large manufacturing organizations are located in the U.S. Mid-Atlantic region and each organization employs 500 or more employees. This study may contribute to positive social change by providing an opportunity for organizational leaders to increase their understanding of employee engagement and implement programs to improve employee engagement on a collective organizational level.

Role of the Researcher

The roles of business researchers include analyzing and solving business problems through the retrieval of common features and numerical information (O'Gorman & MacIntosh, 2015). Researchers who implement quantitative research designs traditionally collect data using surveys (Crane et al., 2018). As suggested by O'Gorman and MacIntosh (2015) and Crane et al. (2018), quantitative researchers use specific numerical methodologies to measure specific variables, models, or relationships. The role of the researcher in this study included the usage of surveys to collect data and numerical techniques to measure variables and relationships.

Business management research may also include the consideration of experiences of participants, experiences of the researcher, and the intersection of multiple theoretical disciplines (e.g., sociology, economics, and psychology; Crane et al., 2018; O'Gorman & MacIntosh, 2015). My personal experiences related to this study encompassed managerial experiences, participation in previous employee engagement surveys, and experience in the supply chain and manufacturing industry. Because of my experience and interest in

the employee engagement topic and the manufacturing industry, I selected this topic. The researcher's experiences may be less impactful in a quantitative research design than in a qualitative design because quantitative research designs include data collection techniques using numerical values (O'Gorman & MacIntosh, 2015).

With respect to ethical guidelines and regulations concerning research with human subjects, a researcher's responsibilities include the use of ethical practices. Ethical human research guidelines can be found in the Belmont Report and include the following principles: respecting participants (autonomy), beneficence (well-being), and justice (fairness; U.S. Department of Health, Welfare, and Education, 1979). The Belmont Report included guidelines to ethical practices such as, informed consent, comprehensive designs, risk and benefits assessments, and fairness in the selection of subjects (U.S. Department of Health, Welfare, and Education, 1979). This study included ethical practices such as the ethical practices listed in the Belmont Report.

Participants

Globalized competition increases pressure on manufacturing leaders to build sustainable performance strategies, create dynamic capabilities, and retain talent (Yang & Lirn, 2017). Employees or the human aspect in the manufacturing industry are critical to retaining customer satisfaction, reaching desired organizational outcomes, and increasing production levels (Ahmed et al., 2020; Johari et al., 2013; Morton et al., 2019). From a social exchange perspective, manufacturing leaders need to identify employee motivation drivers to increase engagement and production levels (Cullinane et al., 2014; Morton et al., 2019). Because of the dynamic and complex environment of the manufacturing

industry, the manufacturing industry was identified as the target population for this study to obtain participants.

Using service providers such as Qualtrics offers researchers advantages in terms of flexibility, participant convenience, and time spent to collect data from participants (Kilinç & Firat, 2016; Lowry et al., 2016). Because of the advantages listed by Kilinç and Firat (2016) and Lowry et al. (2016), Qualtrics was used in this study to obtain access to its panel database and to collect data. Additional parameters such as employee title were used to collect data. Employee perceptions and attitudes are perceived as important factors for understanding employee engagement behaviors and collective organizational values (Ahmed et al., 2020; Morton et al., 2019). The purpose of the title criterion was to collect data from participants who held nonexecutive titles and were from the manufacturing industry to appropriately capture employee perceptions (Ahmed et al., 2020).

Research Method and Design

Researchers who study social sciences and other sciences must select the appropriate research method and design to fit their studies (Tobi & Kampen, 2018). Selecting the appropriate research method and design assists with research question development and planning (Saunders et al., 2015). Qualitative research methods include interpretivist theoretical perspectives, and quantitative research methods include positivist theoretical perspectives to explore a research problem (Rahman, 2017; Saunders et al., 2015). Mixed research methods include a combination of quantitative and qualitative theoretical perspectives (Tian, 2019). This research study included a synthesis

of literature sources to further support and justify the use of quantitative research method and design.

Research Method

Quantitative research methods involve a systematic and empirical approach using numerical and statistical data to verify hypotheses or test a theory (Basias & Pollalis, 2018). Researchers who select quantitative research methods apply deductive approaches to develop hypotheses to test an existing theory or measure concepts quantitatively (Nardi, 2018; Saunders et al., 2015). Basias and Pollalis (2018) suggested that researchers who apply quantitative methods include observational analyses of numerical data through data analysis techniques. Because of the nature of this study, quantitative research methods were used to test hypotheses and measure concepts related to employee engagement.

Researchers who select quantitative research approaches must identify the appropriate type of research method. Correlational research methods may be used by researchers to determine if a relationship exists between two or more variables within a target population (Apuke, 2017). Researchers may use cause-and-effect research methods to establish that a causation relationship exists between variables throughout an observed period of time and to eliminate other plausible explanations (Apuke, 2017; Nardi, 2018). Experimental research methods used by researchers, implement experimental approaches within a research study to control groups, variables, or other factors (Apuke, 2017; Nardi, 2018). This study included the examination of the relationship, if any, between motivating work design, HRM practices, strategic implementation, and collective

organizational engagement. Because of the nature of this research study the correlational research method was determined to be the appropriate method.

Research Design

Within the context of research methods, quantitative research methods include a researcher's data analysis plan for using variable data analyses, data reduction and modeling techniques for data collected from participants (Tobi & Kampen, 2018). Researchers who apply quantitative research methods attempt to describe the topic and respondents involved or explain relationships using an appropriate research design such as a survey or meta-analysis (Apuke, 2017; Nardi, 2018; Saunders et al., 2015). Nardi (2008) described surveys as instruments to summarize or quantify responses to questionnaires for a target population. Researchers who use surveys to collect and observe data relative to their participants' behaviors, opinions, and attitudes must create appropriate questions to capture and collect data (Apuke, 2017; Nardi, 2018). One of the objectives of this study was to determine if a relationship exists between antecedent variables and collective organizational engagement among manufacturing organizations. Therefore, a survey research design was appropriate for this study.

Population and Sampling

The target population for this study was large manufacturing organizations within the Mid-Atlantic region of the United States. The use of this target population for this study was supported by the U.S. Census Bureau's (2017) estimation of 3,905 large manufacturing organizations located in the Mid-Atlantic region with each organization employing 500 or more employees. Manufacturing organizations must overcome

complex challenges and sustain productivity levels within an increasingly global competitive environment (Cullinane et al., 2014; Johari et al., 2013). Because of the complexities within the manufacturing industry, this research study targeted manufacturing organizations.

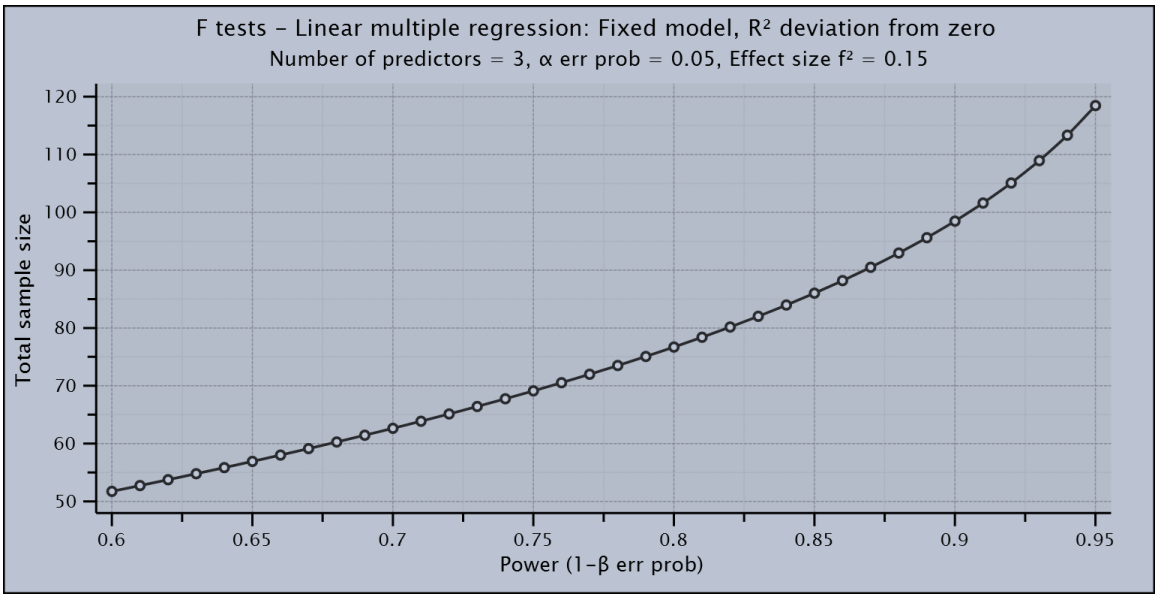
Once researchers select a target population, they must select an appropriate sampling method for their target population and research topic. Sampling methods may be categorized as probability sampling or nonprobability sampling (Lohr, 2019; Rahi, 2017). Probability sampling methods include randomized sampling techniques such as simple random, systematic random, cluster, and stratified random sampling (Rahi, 2017; Saunders et al., 2015). Nonprobability sampling methods include nonrandomized sampling techniques such as convenience, snowball, quota, and judgment sampling (Rahi, 2017; Saunders et al., 2015). Simple random sampling is a process in which each unit of the population has an equal probability of inclusion in the sample (Rahi, 2017). This research study implemented simple random sampling techniques to collect data from the identified target population.

To determine an appropriate sample size for a quantitative study, there are statistical software packages such as G*Power available for researchers. G*Power is a statistical software package for quantitative researchers to conduct an a priori sample size analysis (Creswell & Creswell, 2018). The G*Power version used in this study was 3.1.9.4 to determine the appropriate sample size. An a priori power analysis, assuming a medium effect size ($f^2 = .15$), $\alpha = .05$, and three predictor variables, identified a minimum

required sample size of 77 participants to achieve a power of .80 (see Figure 1). Increasing the sample size to 161 would increase the sample power to .99.

Figure 1

*G*Power Calculation of Sample Size*



Therefore, the target sample size ranged between 77 and 161 for this study. A medium effect size (f^2= .15) was appropriate for this study to avoid a Type II error, or false negative, and to support the null hypothesis (Albers & Lakens, 2018).

Ethical Research

Online survey panels and service providers such as Qualtrics and Survey Monkey offer flexibility and anonymity to volunteer participants and reduce time spent on collecting data for the researcher (Lowry et al., 2016; O'Gorman & MacIntosh, 2015). Because of these benefits, the target population was accessed through a paid service provider, Qualtrics. Qualtrics offers businesses and researchers premium services to distribute surveys and access to a desired target population. As part of Qualtrics'

commitment to confidentiality, Qualtrics (2020) uses transport layer security (TLS) encryption for all transmitted data and helps protect the confidentiality and privacy of participants (i.e., participant names and organizations).

The survey developed for this research study included an informed consent form. The informed consent form included disclosed practices to ensure human protection, data security, and confidentiality among participants. Coffelt (2017) suggested any information provided by a participant, such as participant name, e-mail and organization, should be removed or modified from the data collected to ensure anonymity and confidentiality. Per Coffelt's suggestion, any sensitive or personal information was removed from the data collected. Participants were given the opportunity to print the informed consent form and opt out of participation. Participants who chose to opt out of participation could voluntarily opt out at any time throughout the survey. The data that I collected from participants will be stored for 5 years and destroyed after 5 years. The Walden IRB approval number used for this research study was 10-09-20-0384918.

Data Collection Instruments

The researcher used Qualtrics's online platform services to construct the survey included in this research study (see Appendix A). The publisher granted permission to use Barrick et al.'s (2015) survey questionnaire (see Appendix B) for this study. The survey constructed for this study collected data using a 5-point Likert-type scale. Barrick et al. also incorporated separate instruments to measure the following variables: motivating work design, HRM practices, strategic implementation, and collective organizational engagement. This research study included a description of the instruments

used for the data collection survey applied to this study and the reliability and validity of the survey items.

The five items included under the motivating work design predictor variable, are derived from Morgeson and Humphrey's (2006) Work Design Questionnaire (WDQ) instrument. The original WDQ instrument included 25 items using a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*) and was designed in an attempt to capture the link between employee job designs and work environments (Morgeson & Humphrey, 2006). The WDQ instrument also includes dimensions such as variety, autonomy, identity, significance, and feedback as they relate to job design and engagement (Barrick et al., 2015; Judge et al., 2017; Morgeson & Humphrey, 2006). Cronbach's alphas for each of the instrument's items ranged from .74 to .90; with a composite alpha of .92 (Barrick et al., 2015).

Barrick et al. (2015) constructed the 10 items under the HRM practices predictor variable using Messersmith et al.'s (2011) instrument to assess HRM inducements, investments, and expectation-enhancing practices. Barrick et al.'s decision to use Messersmith et al.'s instrument for HRM practices was rooted in the item designs. Messersmith et al. created their instrument using HR indexes to capture the following dimensions: job satisfaction, commitment, and employee psychological empowerment. The instrument also included a 7-point Likert-type scale (1 = *strongly disagree*; 7 = *strongly agree*). Cronbach's alpha for each of the items used in Barrick et al.'s (2015) survey instrument ranged from .70 to .81.

For the strategic implementation predictor variable, Barrick et al. (2015) constructed the items from Mathieu et al.'s (2000) measurement of team processes. Mathieu et al. (2000) defined team process as the monitoring of progress toward goals, goal specification, and monitoring resources. The survey items under Mathieu et al.'s instrument used a 5-point Likert-type scale (1 = strongly disagree; 5 = strongly agree). Barrick et al. obtained a Cronbach's alpha of .92 for strategic implementation using the items derived from Mathieu et al.

Collective organizational engagement was the dependent variable used for this research study. Barrick et al. (2015) created the 6-items corresponding to Rich et al.'s (2010) scale measuring three dimensions of physical, cognitive, and emotional of collective organizational engagement. The purpose of creating the items for the collective organizational variable was to assess discriminant validity between aggregated individual-level engagement and collective organizational engagement. Barrick et al. also asked individual participants to evaluate the items within the context and theoretical construct of collective organizational engagement. Using a 5-point Likert-type scale (1 = strongly agree; 5 = strongly disagree) with a Cronbach's alpha of .82.

Data Collection Technique

Quantitative researchers use numerical data collection techniques such as surveys via mail, telephone, or online (Story & Tait, 2019). Online surveys are becoming increasingly popular among researchers in the social sciences field because of low costs and convenience (Boas et al., 2020). Despite the convenience of online surveys, online surveys typically have poorer response rates than mailed surveys (Story & Tait, 2019).

Mailed surveys may be time consuming and increase costs for the researcher and include characteristics such as a cover letter and appropriate formatting (e.g., font and spacing) (Boas et al., 2020; Story & Tait, 2019). As stated by Kilinç and Firat (2016) online surveys offer convenience, flexibility, and cost reduction, and thus was an appropriate data collection technique for this study.

The data collection for this study did not begin until approval was received from the Walden University IRB. Approval was received from the IRB and data collection began through the use of an online research panel dashboard platform provided by Qualtrics. Qualtrics offered premium services to advertise the survey link on their online research panel dashboard platform to potential participants who met specific criteria (i.e., non-executives, large manufacturer background, and the Mid-Atlantic region). To alleviate the risk of non-responses, Qualtrics was paid a service fee to ensure the appropriate sample size was obtained from Qualtrics' research panel over the course of a 6-week time period or until reaching the target sample size.

Data Analysis

Once data collection from participants was complete, data analysis techniques were implemented to answer the following researcher question and test the hypotheses listed below.

RQ1: What is the relationship, if any, among (a) motivating work design, (b) HRM practices, (c) strategic implementation, and collective organizational engagement?

$H1_0$: There is no statistically significant relationship between motivating work design, (b) HRM practices, and (c) strategic implementation with collective organizational engagement.

$H1_A$: There is a statistically significant relationship between motivating work design, (b) HRM practices, (c) strategic implementation, with collective organizational engagement.

The survey constructed for this study included an ordinal scale for each of the variables to collect data from respondents. Researchers who implement an ordinal scale (e.g., Likert-type scales) include steps between the values and the values are equal in size (O'Gorman & MacIntosh, 2015). If the data collected includes missing responses, the researcher may delete the missing or non-response data (relatively small) or enter an estimated data response (O'Gorman & MacIntosh, 2015). These techniques were used in this study for any missing or non-response data.

The benefits of using ordinal scale relate to the data analysis techniques available for researchers. Statistical analysis techniques such as, multiple regression, include the exploration of the relationship between one dependent variable and more than one predictor variable (O'Gorman & MacIntosh, 2015). Because this study included more than one predictor variable, a multiple regression data analysis was determined to be appropriate. SPSS was the statistical software used in this study to assist with analyzing the data collected from respondents.

Study Validity

Quantitative research designs include statistical analysis such as, validity and reliability, to support the inferences that arise out of data (Gundry & Deterding, 2018). Internal validity, construct validity, and external validity are among the types of validity and each type, features different threats to a selected quantitative research design (Gundry & Deterding, 2018). Internal and construct validity relate to the threats (e.g., selection bias and reactivity) to experimental research designs (Gundry & Deterding, 2018; O'Gorman & MacIntosh, 2015). Because of the nature and the non-experimental design of this research study, internal and construct validity did not apply.

External validity relates to the observed correlations across other populations and the generalization of results sampling (Gundry & Deterding, 2018). Saunders et al. (2015) suggested sampling method selected by the researcher are critical to determining external validity through the use of probabilistic and non-probabilistic sampling methods. Probabilistic sampling methods such as simple random sampling techniques likely increase the external validity of results (O'Gorman & MacIntosh, 2015). As O'Gorman and MacIntosh suggested, this study implemented a simple random sampling technique to strengthen the external validity of the results.

Statistical conclusion validity includes threats such as, type I and type II errors to the findings or conclusion of research. A type I error is known as a false positive or error of rejecting a null hypothesis and accepting the alternative hypothesis and may be avoided by the researcher by decreasing the p-value (Saunder et al., 2015). Another threat to statistical conclusions occurs when a researcher commits a type II error or false

negative. A type II error includes the acceptance of the alternative hypothesis as a result of a low sample size, but the risk may be reduced by increasing the sample size (Saunders et al., 2015). Per Creswell and Creswell's (2018) suggestions, G*Power was used to determine an appropriate sample size for this study to avoid type II errors.

This study includes other statistical tests to improve the statistical conclusion validity of this study. The SPSS software includes the reliability coefficient function to test for internal consistency of the instrument used for this study. Multiple regression analysis assumptions such as, outliers, normality, linearity, multicollinearity, homoscedasticity, and independence of residuals may be tested by using additional statistical testing (Saunders et al., 2015; Zientek et al., 2016). The assumptions associated with multiple regression statistical analyses applied to this study. SPSS includes other functions to test the multiple regression analysis assumptions that were applicable to this study. Some of the functions featured in SPSS includes, scatterplot used to test for outliers, and normal probability plot of the regression standardized residual and was used to test for multicollinearity, linearity, homoscedasticity, and normality.

Transition and Summary

Section 2 of this study included a brief discussion and expansion of Section 1. The purpose of this research study was to examine the relationship, if any, between motivating work design, HRM practices, strategic implementation, and collective organizational engagement. To examine this relationship, a quantitative research design was determined to be the appropriate research design for this study. The researcher used Qualtrics to randomly distribute an on-line survey throughout the U.S. Mid-Atlantic

region for data collection purposes. This study included ethical research practices such as, IRB approval, confidentiality security throughout the data collection process. This section also included a discussion of the potential risks and threats related to the validity and reliability of the research. SPSS was used for this study to assist with statistical analyses and testing associated with multiple regression analysis assumptions. This concludes the project section of this study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this quantitative correlational study was to examine the relationship between motivating work design, HRM practices, strategic implementation, and collective organizational engagement. The predictor variables were motivating work design, HRM practices, and strategic implementation. The dependent variable was collective organizational engagement. After analyzing the data, the null hypothesis was rejected and the alternative hypothesis was accepted.

This section includes a presentation of findings, applications to professional practice, implications for social change, recommendations for action, and recommendations for future research. The subsection containing the presentation of findings includes a detailed review of the statistical tests performed using SPSS version 25. The statistical tests performed for this study were descriptive statistics, test of assumptions (e.g., normality, multicollinearity, homoscedasticity, and independence of error), and a multiple regression analysis. Also included in this section are a reflection on my experience throughout my journey in this doctoral program and the conclusion of this study.

Presentation of the Findings

Qualtrics was used to generate an online survey (see Appendix A), which was posted to Qualtrics' online research panel dashboard. Statistical testing of assumptions associated with multiple linear regression analyses is also included in this subsection. An a priori power analysis for this study assumed a medium effect size ($f^2 = .15$), $\alpha = .05$,

and three predictor variables, identified a minimum requirement sample size of 77 participants to achieve a power of .80. Data collection occurred over the course of 20 days, and 123 research panel members voluntarily participated through the Qualtrics platform. Out of the 123 survey responses received from Qualtrics, I accepted all 123 responses.

Descriptive Statistics

According to the U.S. Census Bureau (2017), large manufacturing businesses includes an estimated population of 3,905 organization in the U.S. Mid-Atlantic region and each organization employs 500 or more employees. The initial target range for an appropriate sample size for this study was 77-161 participants to conduct statistical analyses. 123 surveys were received from the Qualtrics research panel dashboard using a data export function. Zero surveys were eliminated because all survey responses received from Qualtrics were complete, resulting in 123 records for analysis. The descriptive statistics from the 123 records are included in Table 1.

Table 1

Descriptive Statistics

Variables	*N*	*M*	*SD*	Min.	Max.
Motivating work design	123	19.87	2.98	11.00	25.00
HRM practices	123	17.26	3.99	5.00	25.00
Strategic implementation	123	21.88	4.45	10.00	30.00
Collective org. engagement	123	22.62	3.82	12.00	30.00

Note. $N = 123$.

Table 1 includes a summary of the sample size (N = 123) and the minimum and maximum scores, mean, and standard deviation for each of the predictor and dependent variables of this study.

Test of Assumptions

SPSS Version 25 was used in this study to assist with statistical analyses and conduct testing of assumptions. Zientek et al. (2016) stated that the following statistical tests of assumptions—(a) multicollinearity, (b) normality, (c) linearity, and (d) homoscedasticity—are typically associated with multiple linear regression analyses. Thus, the tests conducted for this study were (a) multicollinearity, (b) normality, (c) linearity, and (d) homoscedasticity.

Multicollinearity

Multicollinearity in social science research occurs when there is a high correlation among predictor variables or interdependence between predictors in a regression model (Thompson et al., 2017). To test for multicollinearity among predictors, researchers such as Thompson et al. (2017) suggested reviewing the tolerance value (>.10) and the variance of inflation factor (VIF). To test for these assumptions multicollinearity, I selected diagnostic functions in SPSS version 25.

Table 2

Multicollinearity Statistics

Variable	Tolerance	VIF
Motivating work design	.61	1.63
HRM practices	.48	2.10
Strategic implementation	.43	2.34

As seen in Table 2, each of the predictor variables included tolerance values > .10 motivating work design (.61), HRM practices (.48), and strategic implementation (.43). Thompson et al. (2017) suggested a VIF value of > 10 to indicate the presence of multicollinearity. The VIF for each of the predictor variables (motivating work design [1.63], HRM practices [2.10], and strategic implementation [2.34]) did not meet the VIF cutoff (> 10) threshold requirements. Based on the VIF and tolerance values of the predictor variables, the multicollinearity assumption was not violated.

Normality and Linearity

The test of assumption, normality, is the testing of normal distribution of data to ensure that the residual plots are normally distributed (curve) and exclusion of outliers (Flat & Jacobs, 2019). As suggested by Flat and Jacobs, probability-probability (P-P) plots provide a visual comparison between error distribution and distribution around a fitted model line to test for violations of the linearity assumption. Figure 2 is the normal P-P plot created in SPSS to test for violation of the linearity assumption, while Figure 3 is a histogram of normal distribution with a bell-shaped curve to test for violations of the normality assumption. Based on statistical analyses, the tests of assumptions for normality and linearity were not violated, which demonstrated that there was not a need to exclude any outliers.

Figure 2

Normal Probability Plot for Collective Organizational Engagement

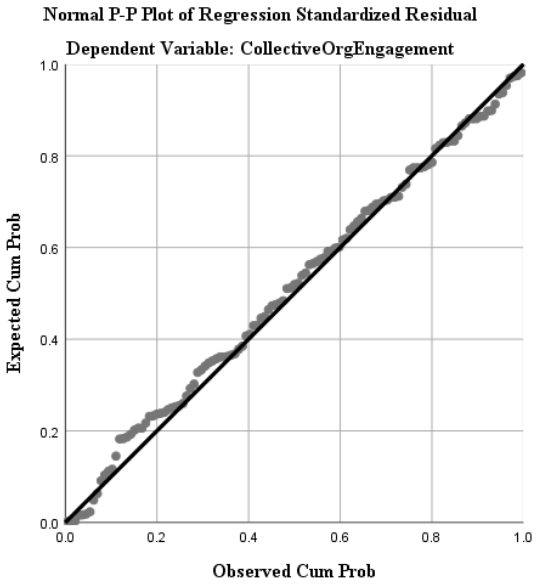
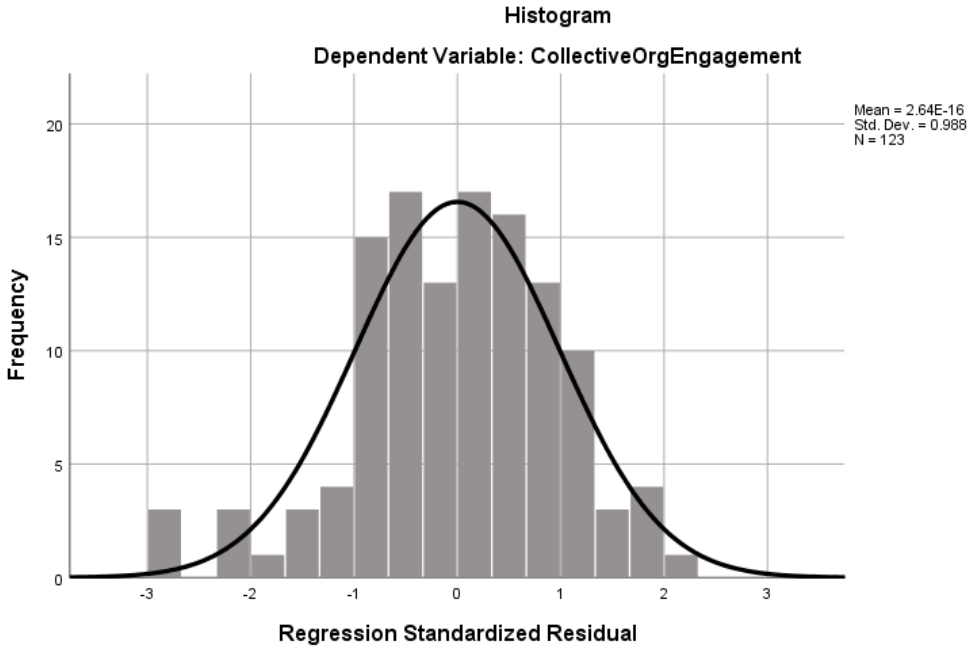


Figure 3

Normality Test for Collective Organizational Engagement

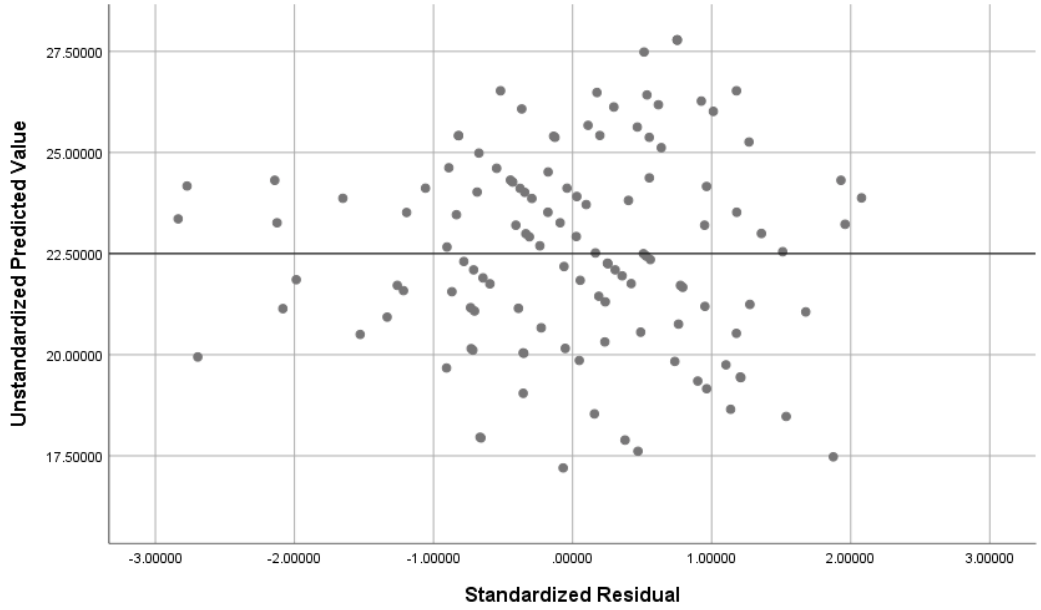


Homoscedasticity and Independence of Residuals

Homoscedasticity is used to test for the balance of data or data that are equally distributed around the mean or a best fit line (Yang & Mathew, 2018), as a rectangular shape. A residual scatterplot was created within SPSS for testing the homoscedasticity assumption (see Figure 4). As seen in Figure 4, one of the data analysis results included a best fit line to divide the data points of the residual values into equal parts to test the homoscedasticity assumption. Because the data points included equal distribution and were plotted around the best fit line, the homoscedasticity assumption was not violated.

Figure 4

Residual Scatterplot for Homoscedasticity



Multiple Linear Regression

The results of the multiple regression analysis of the dependent variable and the predictor variables are featured in Table 3. The *F* test is statistically significant at the

alpha level of 0.05 ($\alpha = 0.05$; $F = 28.603$; $df = 3, 119$; $p < 0.05$). The decomposition effects within the regression model can proceed. The coefficient of determination (R^2) is 0.419 or 42% and accounts for the proportion of variation between the dependent variable of collective organizational engagement and the predictor variables of motivating work design, HRM practices, and strategic implementation.

Table 3

Multiple Linear Regression of Dependent Variable Onto the Predictor Variables [a]

Variables	*B*	*SE*(B) [b]	β	*p*-value
Motivating work design	.151	.114	.118	.188
HRM practices	.255	.096	.266	.009
Strategic implementation	.298	.092	.347	.002

[a] Dependent variable: collective organizational engagement. [b] *SE*(B) = coefficients standard error.

As seen in Table 3, the results indicated two of the independent variables were statistically significant predictors of the dependent variable, collective organizational engagement. The predictor variable motivating work design indicated a *p*-value of 0.188 (or $p = 0.188$) and unstandardized coefficient ($B = .151$) and did not indicate a statistically significant predictor of collective organizational engagement. Respectively, HRM practice ($p < 0.05$; $B = .255$) and strategic implementation ($p < 0.05$; $B = .298$) demonstrated a statistically significant relationship with collective organizational engagement, which indicates that as HRM practices and strategic implementation increase, collective organization engagement increases.

Analysis Summary

Although motivating work design does not have a statistically significant relationship with the dependent variable, the model summary analyses demonstrate an overall statistically significant model to test the hypothesis for this study. As seen in Table 4, the model summary is statistically significant and is able to predict collective organizational engagement, $F(3, 122) = 28.603$, $p < 0.05$, $R^2 = 0.419$ (or 42%). The results overall indicated a statistically significant relationship between motivating work design, HRM practices, and strategic implementation. Because the overall model summary demonstrated a statistically significant model, the null hypothesis (p-value < 0.05) was rejected.

Table 4

ANOVA

	SS	*df*	*MS*	*F*	*p*-value
Regression	745.373	3	248.458	28.603	.000
Residual	1033.667	119	8.686		
Total	1779.041	122			

Note. SS = sum of squares; *MS* = mean square.

Applications to Professional Practice

The objective of this study was to determine if there was a statistically significant relationship between motivating work design, HRM practices, strategic implementation, and collective organizational engagement in the manufacturing industry within the United States. The findings from this study include a statistically significant relationship between

the predictor variables and collective organizational engagement. Because the null hypothesis was rejected, the results of this study could help business leaders with obtaining data to improve or predict employee engagement on an organization-wide level. As Barrick et al. (2015) suggested, antecedent variables such as resources and individual employee engagement are vital to enhancing employee engagement on an individual level and an organization-wide level.

The findings of this study are relevant to improving the business practices of manufacturing leaders who seek to understand the effects of antecedent variables such as motivating work design, HRM practices, and strategic implementation on creating and sustaining collective organizational engagement. As Kleinaltenkamp et al. (2019) suggested, studies on the effect of antecedent variables are vital to improving and enhancing employee engagement levels on an individual level. Moreover, understanding the underlying motivating drivers of individual employees is essential to creating sustainable collective organizational engagement levels and improving performance (Barrick et al., 2015; Guan & Fenkel, 2019). Leaders may benefit from this study because the study includes motivational predictor variables such as motivating work design and HRM practices to measure employee perceptions and predict collective organizational engagement.

Implications for Social Change

Practical applications of this study for business leaders include empirical results that leaders may use to enhance the motivation and performance levels in competitive and complex industries such as the manufacturing industry. Leaders who understand

employee well-being in hazardous environments such as the manufacturing industry demonstrate a positive relationship with work engagement (Ge, 2020). The findings from this study may provide manufacturing leaders with a better understanding of how motivational drivers, such as organizational (e.g., strategies and HRM practices) and job-related resources (motivating work design), influence employee engagement on an individual and an organization-wide level.

Similar to Barrick et al.'s (2015) discussion within their research, the survey instrument used in this study should be applied to other industries (e.g., the manufacturing industry) to obtain additional empirical data. Morton et al. (2019) also suggested that manufacturing leaders should continue to examine employee-supervisor relationships and other antecedent variables to understand their effects on strategies such as employee engagement and continuous improvement. Manufacturing leaders may find added benefits from employee engagement research findings, such as the results listed in this study to improve their understanding of employee behavior and individual well-being. Business leaders and practitioners beyond the manufacturing industry could also leverage the findings from this study to promote individual self-worth and positive well-being on a societal level.

Recommendations for Action

Although, motivating work design did not show a statistically significant relationship with collective organizational engagement, the overall data model demonstrated a statistically significant relationship between the three predictor variables and the criterion variable. The statistical analyses included in this study demonstrated that

antecedent variables such as motivating work design, HRM practices, and strategic implementation have a statistically significant relationship with collective organizational engagement. Recommendations for action include the use of the results from this study to improve and enhance collective organizational engagement levels.

Other existing studies demonstrated that employee perceptions are essential to executing effective strategies and improving organizational performance (Barrick et al., 2015). However, in physically demanding and hazardous work environments such as the manufacturing industry understanding psychological drivers are essential to work engagement and performance level enhancement (Ge, 2020; Morton et al., 2019). Because this study focused on the manufacturing industry, manufacturing leaders should use employee engagement research findings such as this study to understand and promote positive well-being to reduce employee turn-over and improve overall organizational performance.

The findings from this study will be disseminated to other business professional and academic scholars through journals and professional organization publications. To reach manufacturing leaders, the results of this study will be featured on my personal professional website and posted within LinkedIn professional groups. By using these types of methods to disseminate the findings of this study, the intent is to focus on helping manufacturing and other business leaders with understanding how antecedent variables may affect engagement levels on a collective organizational level.

Recommendations for Further Research

Recommendations for further research include examining other complex and competitive industries (e.g., hospitality and retail) to expand upon empirical evidence related to the employee engagement and collective organizational engagement fields. A limitation of this study includes the use of an on-line survey and does not capture the full perceptions of manufacturing professionals that can be found in interview data collection techniques. Recommendations for future researchers include the consideration of conducting a case study research in a manufacturing organization to study the predictive effects of motivating work design, HRM practices, strategic implementation, and collective organizational engagement on firm performance.

Other limitations of this study include the targeted population (i.e., manufacturing), geographic region (U.S. Mid-Atlantic region), and use of quantitative techniques. Thus, future researchers should target other geographic regions and industries to understand and enhance the empirical results related to the survey instrument used in this study. A limitation of this study includes the use of a quantitative research design to collect and analyze numerical data related to answer the research question for this study. As seen in Figure 3, outliers were observed outside the normal distribution of the data. Future researchers might consider the use of other research methods to further understand the meaning of outliers outside of the normal distribution range and what this perspective might contribute to the field. A qualitative or mixed-methodology research design may be used by future researchers to assist with understanding the outliers as observed in this

study's findings to further enhance employee engagement and collective employee engagement body of knowledge.

Because quantitative research is limited to a specific set of predictive variables controlled by the researcher, other predictor variables such as, trust and supervisor support, may be worth exploring or included in this survey instrument. Future researchers could also include additional motivational drivers and psychological well-being dimensions such as, safety, to examine the predictive and statistical relationship between the dimensions and collective organizational engagement. By studying other predictor variables may assist business leaders with predicting the influence of antecedent variables on individual employee behavior and collective organizational engagement, even if the empirical results are from a pilot study.

Reflections

This doctoral study in business administration challenged the researcher on their own personal biases and pre-existing perceptions. Entering this doctoral program challenged my personal perceptions of the manufacturing industry, leadership theory, and technical expertise in academic writing. Throughout this doctoral journey, I challenged myself not to take critiques from faculty members personally and to develop each re-iteration of the dissertation draft with patience. This program was a humbling experience because prior knowledge, experiences and skills were not applicable to the technical writing aspects of a rigorous doctoral program.

Similar to other business doctoral student experiences, I learned that each business problem is unique and includes complex factors that may impact an empirical

study. Therefore, as scholar practitioners we are tasked with adding more dimensions to a theoretical body and to approach complex business problems with an open-mind and willingness to learn. Despite the several challenges of reaching the finish line of this doctoral journey, I emerged on the other side as a better technical writer, humbled professional and scholar, and a better leader.

Conclusion

The purpose of this quantitative correlative study was to study the relationship, if any, between motivating work design, HRM practices, strategic implementation, and collective organizational engagement. An a priori power analysis for this study assumed a medium effect size ($f^2 = .15$), $\alpha = .05$, and 3 predictor variables, identified a minimum requirement sample size of 77 participants to achieve a power of .80. SPSS version 25 was used to assist with conducting statistical analyses on the data collected from 123 completed on-line surveys distributed through the Qualtrics research panel dashboard. One of the objectives for this study was for the researcher to test assumptions related to multiple linear regression analyses to ensure that no assumptions were violated and to test the hypotheses for this study. The testing of the assumptions for this study demonstrated that no assumptions were violated, and then additional analyses were conducted to test the hypotheses for this study.

The main purpose of this study was to test the hypotheses related to the research question posited by the researcher. The findings of this study demonstrated that there is a statistically significant relationship between motivating work design, HMR practices, strategic implementation, and collective organizational engagement. Because the

predictive model demonstrated a p-value lower than the threshold (p-value < 0.05), the null hypothesis ($H1_0$) was rejected and the alternate hypothesis ($H1_a$) was accepted. The findings also from this study further supported the statistical significance of the predictor variables used in Barrick et al.'s (2015) collective organizational engagement study. Based on the results of this study, this study added value to the body of knowledge, added additional empirical findings focused on the manufacturing industry, and provided future opportunities for researchers to explore.

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Appendix A: Survey Instrument

Motivating Work Design

Q1 The job involves doing a number of different things.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q2 The job allows me to plan how I do my work

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q3 The job provides me the chance to completely finish the pieces of work I begin.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q4 The job itself is very significant and important in the broader scheme of things.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q5 The job itself provides me with information about my performance.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

HRM Practices

Q1 Providing employment security to our employees is a priority in this organization.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q2 As long as a person does their job, they can expect to stay in their job.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q3 Employees regularly receive feedback regarding their job performance.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q4 Employees regularly receive formal performance feedback, often from more than one source (i.e.,
from several individuals such as supervisors, peers, etc.).

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q5 Employees routinely receive developmental feedback assessing their strengths and weaknesses.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q6 The rewards employees receive are related to the performance and effort they put into their jobs.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q7 Promotions are primarily based upon merit or performance as opposed to seniority.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q8 My organization provides rewards based on job performance.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q9 Total pay for the typical job in this firm is competitive to the “market wage” for the type of
work in the area.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q10 Employee pay is fair compared to others doing similar work in this company.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Strategic Implementation

Q1 The senior management team ensures that everyone on the team clearly understands our organizational goals and strategies.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q2 The senior management team relies on clearly defined metrics to assess progress on organizational goals and strategies.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q3 The senior management team links senior management team goals with the strategic direction of the organization.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q4 The senior management team monitors events and conditions outside the team that influence progress on organizational goals and strategies.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q5 The senior management team seeks timely feedback from stakeholders about how well the team is meeting organizational goals and strategies.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q6 The senior management team regularly monitors how well we are meeting our organizational strategies and goals.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Collective Organizational Engagement

Q1 My coworkers and I really "throw" ourselves into our work.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q2 I find nearly everyone devotes a lot of effort and energy to our work.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q3 My coworkers and I gain considerable pride from performing our jobs well.

- 1=Strongly Disagree (1)
- 2=Disagree (2)
- 3=Neither Agree or Disagree (3)
- 4=Agree (4)
- 5=Strongly Agree (5)

Q4 Nearly everyone at work feels passionate and enthusiastic about our jobs.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q5 Performing work in my work area (as a whole) is so absorbing that we often forget about the time.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Q6 My coworkers and I tend to be highly focused when doing our jobs.

- ○ 1=Strongly Disagree (1)
- ○ 2=Disagree (2)
- ○ 3=Neither Agree or Disagree (3)
- ○ 4=Agree (4)
- ○ 5=Strongly Agree (5)

Appendix B: Survey Instrument Permission

From: permissions@aom.org <permissions@aom.org>
Sent: Wednesday, October 10, 2018 2:44:08 PM
To: Kristoffer Garringer
Subject: RE: Survey Instrument Permission Request

Dear Kristoffer,

We are happy to grant you permission to use the instrument in our proposal and in your dissertation. Please indicate that it is being used with the permission by the Academy of Management and please make sure to include the original source of publication.

However, should your work be published in a commercial source, please contact us again for different terms of use.

Best wishes,

Irina

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From: Kristoffer Garringer <kristoffer.garringer@waldenu.edu>
Sent: Saturday, October 6, 2018 5:19 PM

To: permissions@aom.org <permissions@aom.org>
Subject: Survey Instrument Permission Request

Good Afternoon,

I'm trying to obtain permission to use a survey published in the original email request that I sent to Dr. Barrick, Dr. Smith, Dr. Thurgood, and Dr. Courtwright below. As you can see Dr. Barrick has referred that I obtained permission from the Academy of Management. Thank you very much for your response and information that you may provide in advance.

Sincerely,

Kristoffer Garringer, MBA, DBA Candidate

(c) 765-543-6989

kristoffer.garringer@waldenu.edu

From: Barrick, Murray <mbarrick@mays.tamu.edu>
Sent: Saturday, October 6, 2018 5:08:03 PM
To: Kristoffer Garringer
Cc: Courtright, Stephen Hyrum; 'Gary Thurgood'; Troy Smith
Subject: RE: Survey Instrument Permission Request

I appreciate the request Kristoffer. However, I believe AMJ holds the copyright to the survey. Thus, while I encourage you to use the survey, I cannot give you "permission". I think this can only be obtained from the Academy of Management.

Regards,

Murray Barrick

From: Kristoffer Garringer <kristoffer.garringer@waldenu.edu>
Sent: Saturday, October 6, 2018 12:33 PM
To: Barrick, Murray <mbarrick@mays.tamu.edu>

Cc: gthurgood@mays.tamu.edu; tsmith@mays.tamu.edu; Courtright, Stephen Hyrum <scourtright@mays.tamu.edu>
Subject: Survey Instrument Permission Request

Hello Dr. Barrick, Dr. Thurgood, Dr. Smith, and Dr. Courtright,

My name is Kristoffer Garringer and I am currently enrolled in a Doctorate of Business Administration Program at Walden University. I conducted several analyses on existing literature pertaining to employee engagement and quantitative research and in my analyses I found your research and survey really valuable to my proposed study within my program pertaining to large-sized organizations in the United States. I want to extend the limitations of your research listed on your published article *Collective Organizational Engagement: Linking motivational antecedents, strategic implementation, and firm performance*, by distributing your survey instrument to large-sized organizations in the United States and potentially modify your survey instrument to fit my research problem.

As part of the requirement of Walden University's policies and the APA's rules, we must obtain permission from the original researchers and/or publishers of a published and validated survey instrument. Therefore, I am requesting permission to use your survey instrument in my proposal. Do I have your permission to use your survey and if you do give your permission, then can either of you provide any other applicable information (e.g., publisher processes, your institute's process, etc.) to approve the use your instrument? Thank you so much for your time and I look forward to hearing from each of you.

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Sincerely,

Kristoffer Garringer, MBA, DBA Candidate

(c) 765-543-6989

kristoffer.garringer@waldenu.edu