Does Business Excellence Impact Business Performance? Business Excellence Model Validation using PLS-SEM

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Abstract

An extensive review of the literature revealed that there has been little discussion and investigation of leadership and BE in the Malaysian context. Moreover, the importance of the E&E industry to Malaysia's economy but the expected low contribution in the national award is necessary to be addressed promptly. The purpose of the study is to examine the 2019-2020 Baldrige Excellence framework criteria that affect the performance of Malaysia's Electrical and Electronics (E&E) companies. The seven criteria in the Baldrige Excellence framework comprised of leadership, strategy, customers, Measurement, Analysis, Knowledge Management (MAKM), workforce, operations, and results. A cross-sectional survey was conducted in this study and the respondents are from managerial levels identified as responsible for running production operations. The response rate obtained was 32% with 156 usable returned survey questionnaires. A Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was used for data analysis. Moreover, an embedded two-stage approach was applied to evaluate the high-order construct which included all seven constructs. The results revealed that strategy and operations criteria have a significant influence on performance. The study outcomes also found that leadership influences strategy, MAKM, and workforce. The significance of the sought results is beneficial to policymakers of Malaysia in framing a new BE framework and encouraging more E&E organizations to fully adopt the Malaysia Business Excellence Framework (MBEF) that moving forwards to participate in national excellence awards. The findings of this study may assist a new theory building, particularly in the field of BE domain. The composite performance index of the economic and non-economic metrics was validated. This instrument can be reused in the context of other manufacturing sector studies.

1. Introduction

Everyday business organizations are confronted with increased and accelerated turbulence and change in a global environment. The majority of these changes are deriving from customers who expect more, become less loyal to specific brands since they have more choices. Hence, building a sustained approach for development becomes essential to achieve long-term and sustain the success of termed "organizational excellence" [1]. The importance

of organizational excellence as it makes the organization superior in its performance over competitors, continuous development that contributes to their long-term continuity. Organizational excellence implies the ability of an organization to excel or attain superior performance by focusing on key pillars that are key components of "business excellence" [2]. In 1980, the first emerged concept of BE was based on total quality management (TQM) principles [3][4] and established as a concept for three main reasons. Firstly, the managers adopting TQM desired to see improvements and tangible results in a shorter time. Secondly, small companies found it difficult to allocate the required budget and resources for TQM projects. Thirdly, there were difficulties implementing TQM in small and medium organizations [5][6]. In contrast, Floris et al. [7] suggested that invest in TQM to thrive in internationalization strategies. Some researchers have argued that management theory served as the theoretical foundation for BE. However, the most common business excellence models (BEMs) such as Malcolm Baldridge Award and the European Foundation for QM (EFQM) have been designed as management frameworks to help organizational leaders determine their current "level of excellence" and where they need to improve [8].

Measuring BE initial system was from the days of Juran [9], and Deming [10] who developed around statistical measures to assess productivity and efficiency. Conversely, Dahlgaard-Park [11] suggested that understanding excellence is more complex than statistical measures. Dahlgaard-Park explained excellence is not a stage, but a way of doing, a way of living, a process of becoming based on common activities and common everyday events. This is aligned with the initial concept of excellence introduced by Peters et al. [12], in which they recognized two key elements to excellence included the hardware (structure and strategy) and software (skills, systems, and values). Many researchers argued the importance of a more holistic approach and proposed a framework that integrates performance measurement systems with more comprehensive [8][13]. For example, the Baldrige excellence framework or model helps the organization examine its strengths and opportunities for improvement against the most important features of organizational performance excellence, which comprised all aspects of an organization that contains leadership, strategy, customer focus, people, information management, and processes. Hence, pursuing excellent business results is a final goal [14]. This study adopted the latest 2019-2020 Baldrige excellence framework criteria to investigate the perceived performance gap in pursuing BE by Malaysia's E&E organizations.

In Malaysia, the E&E industry is a key driver of Malaysia's industrial development and contributes significantly to GDP growth, export earnings, investment, and employment. In the past decades, Malaysia's E&E industry is facing substantial challenges in sustaining growth with rising competition from Taiwan, China, Singapore, Thailand, Vietnam, and remaining countries in Asia. Therefore, Malaysia's E&E organizations must strengthen the available set of competencies and capabilities to continue growing in the market compared to their competitors. Moreover, they urged taking a closer look at why BE is important to support long-term business [15]. In contrast, the E&E industry in Malaysia is confronting its major economic challenge that is trapped between high innovation economies of the world and the cost-effective manufacturing economies such as Vietnam and Myanmar [16]. Acting as a long mainstay of Malaysia's exports, the E&E industry of Malaysia should continue to rise the value-added chain and reach the level of competitiveness.

There are more than 4,100 organizations in Malaysia that adopted the Malaysia Business Excellence Framework (MBEF) [17]. A recipient of the Industry Excellence Award or locally known as the Anugerah Kecemerlangan Industri (AKI) award will distinguish the recipients against other companies for implementing best practices and recording significant

productivity achievements. The Ministry of International Trade and Industry (MITI) introduced this AKI award in 1991 to recognize excellent Malaysian companies and promote continuous improvement in products and services offered. However, the extremely low participation rate of E&E in the Industry Excellence Award have been discovered in recent years (every two years), which recorded one percent or lower if compared with a total of 2,235 E&E companies that have been registered under the Federation of Malaysian Manufacturers (FMM) [18]. The low participation rate may lead to current research to explore the gap of BE practices in E&E organizations.

In a nutshell, the overall objectives of this research aim to measure how well Malaysia's E&E companies engaged with BE criteria deployment and how it has a significant influence on the performance of organizations. Besides, organizational leadership drive to achieve better results through strategy, customers, MAKM, workforce, and operations improvement.

2. Problem statement

Malaysia's largest export earner for decades was the E&E sector. In 2019, the sector contributed RM 372.7 billion in export value, representing 37.8% of manufactured goods exported value. It also accounted for a noteworthy 6.3% of Malaysia's GDP in 2019. In the same year, the E&E sector total approved an investment of RM207.9 billion in 2019, a 1.7% increase compared to 2018. However, in the past two decades, E&E sector exports decreased dramatically from the year 2000 as high as 61.7% to 37.8% in the recent year 2019. While facing challenges maintaining the largest share of Malaysia's export composition, the E&E's companies have to fully utilize their resources effectively either in supply-chain or operations to secure the sustainability of growth. Managers in a company need to enhance their internal abilities to confront the company at strategies, changes, and issues in pursuing excellence in their operations. In the present study, the authors are willing to verify to what extent the 2019-2020 Baldrige excellence framework can help the organization to achieve superb performance and to find out how far the leadership will drive the E&E company to achieve BE. By analyzing large-scale data collected from Malaysia's E&E companies, this work also fills a gap in the literature.

In most manufacturing performance evaluations, the four common variables are used to measure the operational performance including cost, quality, speed/time, and flexibility [19][20]. Today, almost all four variables are still used to measure the performance of manufacturing companies focusing on economic measures of company performance [21]. Conversely, it still found limited research in the scope of non-economic performance Shafiq et al, Muogboh et al. and Simboli et al. [22][23][24] concluded a gap still exists concurrently that meet both economic and non-economic objectives. The professional literature suggested that it should include both economic and non-economic performance measures when managers design new performance measurement systems. On top of convention operational performance measures, the authors attempt to composite both economic and non-economic adopted from the latest 2019-2020 Baldrige excellence framework to measure E&E Company towards BE in the present study.

Even though E&E is a major manufacturing sector in the country and detained the largest share of Malaysia's export composition in 2019, this sector had less than 10 companies been shortlisted in AKI 2018 awards with a total of 40 participating companies. There will be less than a 1% participation rate compared with a total of 2,135 E&E companies registered under the Federation of Malaysian Manufacturers (FMM) [18]. The low participation rate may be due to either the organization not meeting the AKI entry requirements, being rejected during

the assessment stage by using MBEF assessment criteria, or maybe did not understand the benefits of BE awards. Thus, it would be interesting to explore the greatest need for improvement in this study and perhaps can help E&E companies to close this gap towards the achievement of BE.

Leadership is viewed as a core component for any firm, and excellent firms typically have good leadership. Vartiak et al. [25] defined leadership is the specific behaviour of setting required in the pursuit of excellence. In past studies, most leadership is drawn from common leadership behavior [26]. However, the specific style or behaviors is essential to lead a continuous improvement initiative that has yet to be well-defined [27]. Following a literature search, limited research seems to have been done on Baldrige's leadership setting and its effects upon BE in the Malaysian context, especially in the E&E companies. Therefore, this study tends to explore how leadership from the Baldrige system perspective drive BE elements because Baldrige has been globally recognized as the leading edge of validated leadership and performance practice for more than 3 decades [28]. This paper also brings new perceptions into the debate on leadership as a key enabler of BE in Malaysia's E&E industry.

3. Literature review and theoretical framework

3.1. Business Excellence Models (BEMs)

The Business Excellence Models (BEMs) are claimed more comprehensive compared to early TQM models. However, the greatest approaches to excellence can refer back to the origins of TQM of its excellence concept. The numerous BE Models were established in providing a framework for BE. According to [26], the most prominent business models are Deming Prize (DP) model, MBNQA, EFQM, Kanji's Business Excellence Model (KBEM), and Balanced Scorecard (BSC). By focusing and comparing MBNQA and EFQM, which led to at least 76 countries worldwide, developing national BE awards based on the principles of both awards [29]? Muhammad at al. [30] compared DP model, MBNQA, EFQM which represent Japanese, American, and European excellence models respectively. The research found significant differences exist in these models and none of these models is perfect.

The MBNQA was first developed in America in 1987. MBNQA has represented the initial defined TQM model on which the award was based on performance excellence. Following in 1991, EFQM model with the purpose to promote quality through Europe followed by their western counterparts. In the Western countries, formerly termed "Quality or TQM Models" being renovated as BEM in mid-1990, which resulted from a change in terminology from "quality" and "TQM" to business excellence [3]. Many authors used it in quality management literature [26]. In short, BE is a development of TQM since it is constructed on similar values. The recently released 2019-2020 Baldrige excellence framework has seven dimensions of excellence, i.e., Leadership, Customers, Strategy, Operations, Workforce, MAKM, and Results. The seven criteria will assist Malaysia's companies in planning, executing, and measuring scopes linked to the dimensions of excellence. Thus, leadership theory and BEMs will be able to guide the current study.

3.2. Leadership theory

Leadership is defined as motivating, influencing, or empowering others to contribute to the achievement of an organization or task, which they are followers [31]. According to Laureani et al. [32] and Yukl [33], leadership could be classified into the five leadership theories derived from most of the literature review, i.e., behavioural perspective, contingency

perspective, competency perspective, transformational perspective, implicit leadership perspective. In the current study, the theory is based on a behavioural perspective. Under the patronage of the Baldrige foundation, a set of leadership behaviours has been acquired to strengthen the core values in high-performing organizations. The behaviours represent the role-model leaders that configure the foundation for senior leadership team design and leadership development.

In addition to the executive board, everyone needs to agree that leaders exist everywhere in the organization, regardless of which theory one wants to follow [34]. Successful leaders are considered those who are flexibly and accurately adapt their behaviour to the various situational constraints on the choice of a leadership style [35]. A good leader must be flexible and adjust the plan to change circumstances in today competitive business environment. Furthermore, the area of quality management has often been emphasized the importance of leadership [27]. Despite such thought, little research has been championed concerning the theoretical mechanisms by that leadership behaviour and BE are linked. This study provides attention to similar issues with the expectation of inspiring more literature review efforts. Attention is focused on the influence of Leadership based construct on the BE dimensions.

3.3. Business excellence evolution

In 1951, the Deming Prize was the first globally-recognized BEM created by JUSE [36]. Next was the introduction of the CAE Quality Award in 1984 in Canada [37]. Then in 1987, the US Congress created the MBNQA. Later, followed by the European Excellence Award in 1991, it was created following the European Foundation for Quality Management (EFQM) model [38]. Likewise, in Asia, several counties have established their home countries' quality awards in the 1990s by referring to the MBNQA and EFQM model. Those Asian counties included Malaysia in 1992, India in 1994, Japan and Singapore in 1995, the Philippines in1997, and Thailand in 2001.

Ghafoor et al. [39] conducted a bibliometric and thematic review of journal papers from the years 1990 to 2020. All papers are concerned with business excellence frameworks that are applied for national BE awards and supported by the Global Excellence Model Council. The research found that the peak and most popular journal publications for BE papers were the year 2019, and Total Quality Management and Business Excellence. Studying 'Design of Business Excellence Framework' is the most common research area. Moreover, the researchers suggested that future research is to explore the 'Impact of BE'. Therefore, it is fully recommended that researchers keep posted or develop their frameworks timely since this will allow the firms to be best placed in the evolving trends. Thus, the present study is to bring new insights into the discussion on the impact of BE was tested in Malaysia's E&E industry.

BEMs are often viewed as paths to excellence and good practice within quality management. However, the organizational value of using excellence models is debated. Critique has been put forward that using the excellence models can be very resource-demanding, and those model criteria are too specific and detailed.

3.3.1. Results of company performance

Ferdowsian [40] highlighted that existing BE, National Quality Awards, and TQM approaches start with leadership and end with results. In general, BE models granted a structured and systematic method toward enablers of total quality along with the business results obtained. Hence, this research aims to fill up the gaps by including both economic

(e.g. market and financial results) and non-economic (e.g. customer-focused, workforce-focused, product & process, and leadership & governance results) performance measures [21][41]. [28] that have a significant effect on the long-term sustainability of an organization and sustainable excellence of a long-term process [15]. This study also considers wide perspectives by giving empirical evidence on the impact of the driver in manufacturing excellence are not limited to operational performance.

BE can be defined as excellence in business practices, strategies, and stakeholder-related achievement results that have been assessed and validated by utilizing proven BEM [42]. Eventually, BE represents best practices in managing organizations by constantly improving value to stakeholders and customers, supporting organizational sustainability. The results of firm performance lie in the improvement and performance of the organization in all important areas including leadership and governance results, financial, market, and strategy results, product and process results, workforce results, and customer results. Moreover, Leadership excellence has a positive relationship with employee outcomes, organization outcomes, and customer results [43]. Thus, predicting BE results is not limited to the relationship between leadership and BE results but each element of the Baldrige excellence framework in the present study.

3.3.2. Leadership

Given past studies in BE, leadership is a key enabler field for research across different industries. It is anticipated that the leadership style and employee involvement in the firm will express some consistent themes as a global model, the EFQM Excellence Model [44]. There was a positive linkage between the leadership excellence level and performance. The findings also portrayed that leadership excellence positively affects three main stakeholder groups, i.e., organization outcomes, employee outcomes, and customer results but not for the society stakeholders.

Effective leader behaviour and altitude have been considered and shown as one of the main drivers towards enhancing organizational achievement and attaining total quality [9][44]. Rao [45] quoted that firms should discover the role of soft leadership in attaining organizational excellence and effectiveness. Before implementing a future vision, the leader must translate into strategic planning, communicate, embrace change, develop plans and establish an operating model in their organization. Soft leadership skill is essential to translate vision into reality. A recent study by Lasrado et al. [2] stated that transformational leadership positively affects organizational excellence even though the relationship is weak. Another study by Hijjawi [1] specified that visionary leadership had a significant impact on organizational excellence.

Brown [46] described that the top management team often develops strategic plans, and its effectiveness depends on the extent of engagement throughout the organization. For example, once the strategy has been developed, senior management needs to communicate and engage employees with that strategy. Moreover, the leader must educate people and work with them to align their behaviours and thinking with the redesigned management approaches, systems, and processes to pursue significant changes. Simultaneously, the leader must recognize the requirements and expectations first of their internal customers (employees). Because employees will enhance processes and dedicate the highest-quality service to the external customers once they are satisfied. Hence, employees are involved in setting numerous operational procedures and making the company profitable [47]. Hence, it is hypothesized

that good leadership would drive performances of each Baldrige criteria as specified in the following hypotheses:

H_{1a}: *Leadership has a causal positive effect on Strategy.*

H_{1b}: *Leadership has a causal positive effect on Customers.*

H_{1c}: *Leadership has a causal positive effect on MAKM.*

H_{1d}: *Leadership has a causal positive effect on the Workforce.*

H_{1e}: *Leadership has a positive effect on Operations.*

H_{1f}: *Leadership has a positive effect on the Results of company performance*

3.3.3. Strategy

Strategic planning emphasizes business planning, company strategy, and the deployment of plans. Likewise, the organizations have to pay attention to fulfilling customer needs and wants and operational performance. The emphasis is on operational performance excellence that should incorporate into entire business planning since key business strategic matters [21]. Everyone in the organization should understand planning is long-term and align it with these long-term goals. In addition, there should be no major change in organization planning for every problem that comes across.

Krumwiede et al. [48] pointed out that top management involved in strategic planning is crucial, allowing companies to allocate resources and explain their urgencies for action. Business strategies essential fit with the objectives and goals of the organization in achieving high performance and improving competitive advantage [44]. Zott et al. [49] claimed that strategy generally purposes for improving the performance of organizations. Afthonidis et al. [50] discovered that strategic plan benefited the company to enhance its marketplace and observed it as the proper approach for achieving BE. Similarly, Aladwan et al. [51] found that poor strategic planning, absence of employee empowerment, limited financial resources, and weak integration are the key challenges faced by leaders when executing BE. Thus, the strategy that leads to a positive influence on BE is proposed.

H_{2a}: *Strategy has a causal positive effect on Customers.*

H_{2b}: *Strategy has a causal positive effect on the Results of company performance.*

3.3.4. Customer

The customer addresses the extent to which the organization regulates current, and emerging customer expectations and requirements to determine customer satisfaction and manages customer relationships effectively [21]. Customer focus is a key concern for the majority of companies. Customer-focused companies inform they control current and latest customer needs and wants, determines customer satisfaction, and manage customer relationships effectively [21]. Sharma et al. [52] explained that organizations' procedures, actions, and all tasks targeted at customer satisfaction are driven towards achieving customer happiness. Masrom et al. [14] studied 100 manufacturers of halal-certified food in Malaysia and found that customer focus and operational performance have a connection. The researcher also suggested that company resources must be assigned to fulfil customer needs or requirements.

Matondang et al. [53] have affirmed that the customer element influences performance of palm oil factories with the research conducted using BE framework criteria. In a similar study, customer variables were found to have a direct influence on the performance of palm oil factories, followed by leadership, workforce, strategy, MAKM, and operations variables. Hence, it will be interesting to investigate customers have a causal positive effect on BE. The hypothesis proposes as follows:

H_3: *Customers have a causal positive effect on the Results of company performance.*

3.3.4. Measurement, Analysis and Knowledge Management (MAKM)

Gloet et al. [54] examined knowledge management and the deployment of BE models to contribute to innovation performance. The methodology used is case studies in six companies of the Australian service sector that had won BE awards. The finding is the Australian Business Excellence Framework (ABEF) experienced knowledge management is practicing and contributing to innovation performance in the six service sector companies. The study results also indicated that the values of the ABEF shaped knowledge management activities by nurturing continuous improvement, which encouraged a stronger focus on incremental rather than radical forms of innovation.

Masrom et al. [14] noted that BE emphasized strengthening and developing the management process and systems of an organization, which further enhanced performance, therefore, generating value for investors. BE focuses on achieving excellence in all aspects of a firm that comprises knowledge management elements. Certainly, attaining superior business results is the final goal. MBNQA functioned to recognize firms that show outstanding performances. The Baldrige model that is the basis of the US quality award now functions as a basis for quality awards in many countries comprising Malaysia. It is still concentrating on enhancing all components of the firm, which contains activities and tasks at any level. The effective MAKM would drive performances, as stated in the following hypothesis:

H_4: *MAKM has a causal positive effect on the Results of company performance.*

3.3.5. Workforce

In the mature environment, operations are considered by repeatability activities that are regularly assessed for improvement. Such results that are important to the company's ongoing success are trending in the right direction and doing well relative to other relevant organizations or competitors [28]. Staughton et al. [41] suggested that all-pervasive operational performance objectives are quality, cost, flexibility, speed, and dependability. They provide the main impetus for operations management techniques and tools, such as Just-In-Time, Kanbans, ERP, and SPC, which are emphasized doing things better, faster, more cheaply, and more efficiently.

According to the Law of focus, operations that focus on a limited set of objectives will have more success in achieving these objectives than a factory, or organization with a wide range of goals Fount et al. [55]. This law is an important factor in achieving excellence in operations in that it must be aimed at specified operational objectives and business goals. Furthermore, each company is required to describe how they manage their business operations when submitting an application and applying for the award. The Baldrige program examiners evaluate these applications as a first step in determining the award winners each year. These facts lead us to propose that:

H₅: Operations have a causal positive effect on the Results of company performance.

3.3.6. Operations

Bakotic et al. [56] suggested that workers are accepted as the most vital asset of today's firms by academics and practitioners. Without workers, a firm could not reach its objectives and survive. Furthermore, it seems impossible to accomplish BE at the workplace without the involvement and engagement of each worker [57]. Few studies have presented that worker participation has been often connected directly or indirectly [56]. For example, production employees immediately impact operations issues because they work on the shop floor directly handling raw materials, controlling machines for product testing, and using assembly processes tools. In the Baldrige criterion, the workforce was defined as all people managed by the firm and engaged in completing the organization's work, including volunteers, paid employees, and, as appropriate [28].

As the global surveys show a strong relationship between workforce engagement and workforce achievement and business success, every manufacturing organization focuses on increasing workforce engagement levels [58]. Manufacturing organizations face tough competition in terms of technological changes, retention of employees, global competition, and there is a need for an appraisal of their employee engagement in the workplace. On the other hand, work engagement is most generally conceptualized as workers' vigor toward, absorption in, and dedication to their work events *[59]*. Hence, high employees' involvement is more likely to contribute to their organization's success. Given this, this research assumes that:

H₆ₐ: Workforce has a causal positive effect on Operations.

H₆ᵦ: Customers have a causal positive effect on the Results of company performance.

In this present study, each Baldrige criteria discussed may be utilized to quantify the company's performance in achieving BE. Especially, the results of BE were operationalized by measuring economic and non-economic performance results in the present study. Besides, Leadership is an important variable affecting the strategy, customer, workforce, and operations dimensions and the BE outcomes.

4. Hypotheses and research model

4.1. Research framework and theoretical underpinnings

Based on the literature synthesis, this research believes that leadership is probable and significantly positive to the BE of the company merely in situations in which the strategic planning, customer focus, employee involvement, and process improvement are engaged to the practices in the leadership efforts. This study established a theoretical framework that integrates the importance of leadership element drives other BE elements based on the empirical review. The various elements discussed in the literature review are expressed diagrammatically to the depicted relationship, shown in [Figure 1] below.
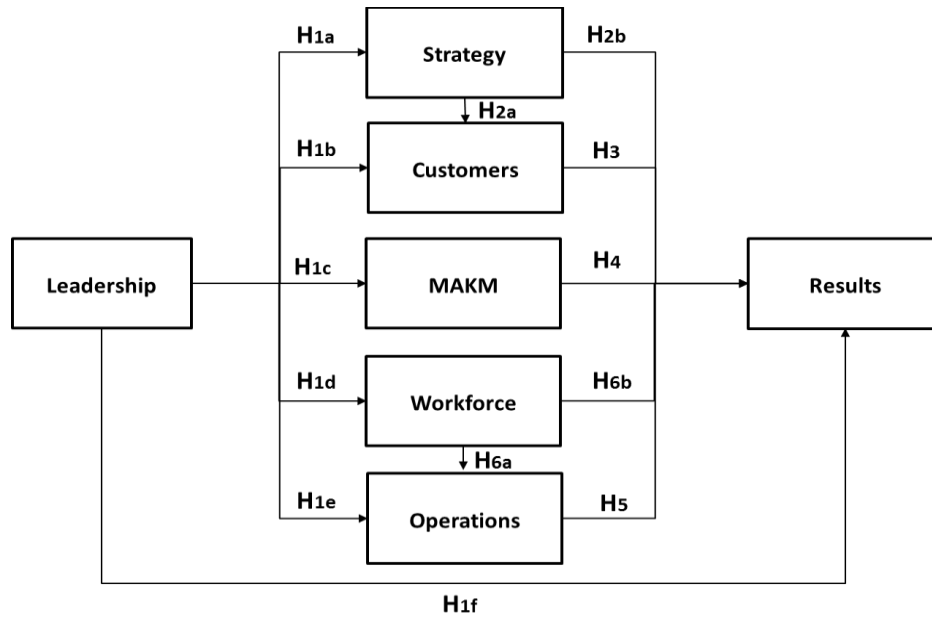
Figure 1. Relationships between theoretical framework and research hypotheses

In the past studies, various models and theories were examined in the discussion of BE. Those are included Business Excellence Models and Leadership theory. This study was reviewed by both of them since the two are relevant to the current research topic. Based on the research framework, the behavioural perspective of leadership theory might be related to the leadership criteria. In addition, the criteria like strategy, customer, MAKM, workforce, operations, and results look closely to MBNQA, EFQM, and MBEF excellence models that can guide this study.

4.2. Research hypotheses

The current study aims to examine the relationship between leadership and BE. Hence, the study aims to address below research hypothesis revealed in [Table 1] below.

Table 1. Summary of research hypotheses

Hypothesis	Statement
H_{1a}	*Leadership has a causal positive effect on Strategy.*
H_{1b}	*Leadership has a causal positive effect on Customers.*
H_{1c}	*Leadership has a causal positive effect on MAKM.*
H_{1d}	*Leadership has a causal positive effect on the Workforce.*
H_{1e}	*Leadership has a positive effect on Operations.*
H_{1f}	*Leadership has a positive effect on the Results of company performance.*
H_{2a}	*The strategy has a causal positive effect on Customers.*
H_{2b}	*The strategy has a causal positive effect on the Results of company performance.*
H_3	*Customers have a causal positive effect on the Results of company performance.*
H_4	*MAKM has a causal positive effect on the Results of company performance.*
H_5	*Operations have a causal positive effect on the Results of company performance.*
H_{6a}	*The workforce has a causal positive effect on Operations.*
H_{6b}	*The workforce has a causal positive effect on the Results of company performance.*

5. Research methodology

In line with the present study, a quantitative research approach was employed with a survey method. A set of questions was developed. A few manufacturers were chosen to participate in a pilot study in the present research. Once the data collection task was completed, preliminary was carried out to confirm the inter-rater agreement, response rate, validity, and reliability of the study construct. Then reliability analysis and factor analysis were carried out to assess the reliability and validity of the constructs. The data analysis tools included Microsoft Excel, Statistical Package for Social Science (SPSS), and Partial Least Squares (PLS) to analyze the collected survey data. The authors used SPSS for data screening and then check common biases. Next is to use the PLS-SEM technique for outer and inner model measurement. PLS-SEM analysis was used in the present study because of the small sample size and complex nature of the model or framework. [60] also confirmed that the use of higher-order constructs had permitted researchers to extend the application of PLS-SEM to more advanced and complex models.

5.1. Population and Sample Size

Since the study is about to BE in Malaysia's E&E industry, it is appropriate that managers involved in manufacturing operations are considered. In this context, samples of the population are selected from the Federation of Malaysian Manufacturers (FMM) Industry Directory Edition 49th of Malaysian Manufacturers [18] of a total of 2,135 companies. Malaysia's E&E industry can be categorized into four sub-sectors, i.e., electronic components, industrial electronics, consumer electronics, and electrical products. To get each sector proportioned to the population, the researchers used stratified random sampling by dividing a population into four sub-sectors that derived from E&E Industry. The target respondents are from managerial levels identified as responsible for running Continuous Improvement (CI) activities. The respondents may include the Operations Manager, CI Coordinator/Specialist, Business/Operational Excellence Manager, CI Manager/Coach/Specialist, and Senior Executive involved in CI programs.

The sample size of respondents chosen for this study is determined by G*Power 3.1 [61]. This study's sample size compiled with the rule of thumb by [62], who suggested that most research sample sizes bigger than thirty and less than five hundred is appropriate. In this study, the author used the latest G*Power 3.1.9.7 analysis to find the sampling adequacy. The sample size, according to the G*Power 3.1 analysis is 74. Therefore, the author has to obtain a minimum sample size of 74 from the total registered company of 2135 population. Due to a history of low response rate for mail survey average of 15% in Malaysia, the research was distributed 6.6 times more, a total of 488 questionnaires, to the targeted respondents. In other words, the expected 15 percent response rate from the 488 distributed questionnaires. An action was taken to follow-up by calls, sending emails, and drop-in mailings for increasing the return rate in the survey.

5.2. Instrument development and measurement

In line with the present study, a set of questions was developed. The questionnaire contains four sections. Section A and Section B of the questionnaire is to ascertain the link between constructs. Section C will also ask questions concerning the dependent variable affecting the outcomes or results. Section D seeks information about participating companies' background information, whereas Section E solicits information regarding respondents' background,

including demographical information. [Table 2] summarised the survey instrument construct for this study.

Table 2. Survey instrument construct

Section	Title	Number of Items	Authors / Sources
A	*Measures of Independent Variables*		
	Leadership	11	2019-2020 Baldrige excellence framework
B	*Measures of Dependent Variables*		
	Strategy	13	2019-2020 Baldrige excellence framework
	Customers	10	
	Measurement, Analysis, and knowledge management	11	
	Workforce	13	
	Operations	12	
C	*Measures of Outcomes*		
	Product and Process Results	4	2019-2020 Baldrige excellence framework
	Customer Results	2	
	Workforce Results	4	
	Leadership and Governance Results	5	
	Financial, Market, and Strategy Results	4	
D	Company Information (company sub-sector, numbers of employees, numbers of years of operation, annual sales turnover, and type of ownership).	5	
E	Demographic Characteristics (gender, ethnic group, age, educational, employment, designation, and company name).	7	

5.3. Data analysis

The data analysis tools such as Microsoft Excel, Statistical Package for Social Science (SPSS), and Partial Least Squares (PLS)-Structural Equation Modelling (SEM) technique were used to process the data obtained from this survey. A total of 159 respondents companies returned their questionnaires, and usable data is 156 or recorded 31.2%.

5.3.1. Respondent's profile

(1) Profile of the Respondent Companies

Most manufacturing companies in the E&E industry that answered the survey were in the electronic component sector. As presented in Table 3, they comprised 46.0% of the number of respondents, followed by those in the electrical products sector (22.0%), industrial electronics sector (17.3%), and consumer electronics sector (14.7%).

Table 3. Respondents in E&E sub-sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Electronic components	69	46.0	46.4	46.0
	Consumer electronics	22	14.7	14.7	60.7
	Industrial electronics	26	17.3	17.3	78.0
	Electrical products	33	22.0	22.0	100.0
	Total	150	100.0	100.0	

(2) Profile of the Respondent

Tabulation profiles of the respondents are shown in [Table 4] for ease of understanding. With gender, 70.7% of the respondents were male, and 29.3% were female. In terms of age, 44.0% of the respondents were between 36 and 45 years old, 34.7% were above 46, and 21.3% were between 21 and 35. Most respondents (34.0%) had less than 5 years of employment tenure with their current companies. In contrast, 28.0% of the respondents had more than 16 years of being attached to their current companies. Of the remaining respondents, 21.3% had between 6 to 10 years, and 16.7% had between 11 to 15 years. By managerial groups, 42.7% of questionnaires were answered by middle-level managers, 19.3% by lower-level managers, 32.0% by top-level managers, and 6.0% by a professional such as the company's CI coach and specialist. The results inferred that most of the E&E manufacturing organizations followed the requirements, as mentioned in the cover letter sent along with the questionnaire.

Table 4. Profile of the respondents

Characteristics		Frequency (N = 150)	Per cent (Total 100%)
Gender:	Male	106	70.7
	Female	44	29.3
	Total	150	100
Age:	Between 21 to 35 years	32	21.3
	Between 36 to 45 years	66	44.0
	Above 46 years	52	34.7
	Total	150	100
The number of years working in this company:	Less than 5 years	51	34.0
	Between 6 to 10 years	32	21.3
	Between 11 to 15 years	25	16.7
	More than 16 years	42	28.0
	Total	150	100
Position held:	Low-level Managers	29	19.3
	Middle-level Managers	64	42.7
	Top-level Managers	48	32.0
	Professional	9	6.0
	Total	150	100

6. Finding and results

6.1. Measurement model

Initially, the measurement model was tested for validity and reliability. We used four measures, i.e., Indicator loading, Composite Reliability (CR), Rho_A, and Average Variance Extracted (AVE) to examine the validity and reliability of each construct, following the approach suggested by Hulland [63]. The first one to check is "Indicator Reliability" by looking at each indicator or outer loading value. Table 5 shows that all indicators loadings are higher than 0.7 [63][64]. Previous literature has proposed the use of "Composite Reliability" as a replacement for "Cronbach's alpha". CR is used to measure internal consistency reliability, particularly in social science research, since Cronbach's alpha tends to offer a conservative PLS-SEM measurement [64]. The values in Table 5 are shown to be larger than 0.6, so high levels of internal consistency reliability have been confirmed among all six reflective latent variables [65]. Another internal consistency reliability indicator recognized as Rho_A is verified where all constructs exceed the value 0.7 [66]. Each latent variable's AVE is evaluated to check convergent validity. By referring to Table 5, it is found that convergent validity is confirmed because all of the AVE values are larger than the acceptable threshold of 0.5 [65].

Table 5. Result of reliability and convergent validity

Group	Construct	Item Label	Indicator Reliability (outer loading)	Judgment	Rho_A	CR	AVE
Leadership	Senior Leadership	L_1	0.918	Acceptable	0.895	0.921	0.702
		L_2	0.902	Acceptable			
		L_3	0.921	Acceptable			
		L_4	0.921	Acceptable			
		L_5	0.911	Acceptable			
	Governance and Societal Contributions	L_6	0.884	Acceptable	0.927	0.941	0.727
		L_7	0.904	Acceptable			
		L_8	0.893	Acceptable			
		L_9	0.914	Acceptable			
		L_10	0.894	Acceptable			
		L_11	0.902	Acceptable			
Strategy	Strategy Development	S_1	0.917	Acceptable	0.899	0.920	0.657
		S_2	0.901	Acceptable			
		S_3	0.920	Acceptable			
		S_4	0.928	Acceptable			
		S_5	0.922	Acceptable			
		S_6	0.899	Acceptable			
	Strategy Implementation	S_7	0.844	Acceptable	0.919	0.935	0.673
		S_8	0.879	Acceptable			
		S_9	0.888	Acceptable			
		S_10	0.894	Acceptable			
		S_11	0.899	Acceptable			
		S_12	0.886	Acceptable			
		S_13	0.887	Acceptable			

Customers	Customer Expectations	C_1	0.930	Acceptable	0.848	0.896	0.684
		C_2	0,911	Acceptable			
		C_3	0.929	Acceptable			
		C_4	0.924	Acceptable			
	Customer Engagement	C_5	0.930	Acceptable	0.880	0.906	0.616
		C_6	0.935	Acceptable			
		C_7	0.916	Acceptable			
		C_8	0.915	Acceptable			
		C_9	0.924	Acceptable			
		C_10	0.918	Acceptable			
MAKM	Measurement, Analysis, and Improvement of Organizational Performance:	M_1	0.876	Acceptable	0.914	0.933	0.700
		M_2	0.915	Acceptable			
		M_3	0.915	Acceptable			
		M_4	0.942	Acceptable			
		M_5	0.903	Acceptable			
		M_6	0.892	Acceptable			
	Information and Knowledge Management	M_7	0.906	Acceptable	0.902	0.927	0.716
		M_8	0.889	Acceptable			
		M_9	0.902	Acceptable			
		M_10	0.915	Acceptable			
		M_11	0.893	Acceptable			
Workforce	Workforce Environment	W_1	0.893	Acceptable	0.939	0.951	0.763
		W_2	0.898	Acceptable			
		W_3	0.893	Acceptable			
		W_4	0.928	Acceptable			
		W_5	0.918	Acceptable			
		W_6	0.877	Acceptable			
	Workforce Engagement	W_7	0.862	Acceptable	0.939	0.951	0.763
		W_8	0.854	Acceptable			
		W_9	0.845	Acceptable			
		W_10	0.884	Acceptable			
		W_11	0.926	Acceptable			
		W_12	0.907	Acceptable			
		W_13	0.876	Acceptable			
Operations	Work Processes	O_1	0.870	Acceptable	0.917	0.932	0.631
		O_2	0.881	Acceptable			
		O_3	0.860	Acceptable			
		O_4	0.894	Acceptable			
		O_5	0.928	Acceptable			
		O_6	0.915	Acceptable			
		O_7	0.913	Acceptable			
		O_8	0.849	Acceptable			
	Operational Effectiveness	O_9	0.909	Acceptable	0.901	0.930	0.769
		O_10	0.949	Acceptable			
		O_11	0.954	Acceptable			
		O_12	0.941	Acceptable			

The step forward was to evaluate the discriminant validity. This is reported by low correlations between the measure of interest and the measures of other constructs. [Table 6] presents the square root of the AVE (diagonal values) of each latent variable value is greater

than other correlations values among the latent variables towards sufficient discriminant validity [67].

Table 6. Discriminant validity using Fornell-Larcker criterion

	Customers	Leadership	MAKM	Operations	Results	Strategy	Workforce
Customers	1						
Leadership	0.406	1					
MAKM	0.561	0.464	1				
Operations	0.420	0.378	0.558	1			
Results	0.509	0.464	0.619	0.661	1		
Strategy	0.527	0.626	0.663	0.599	0.693	1	
Workforce	0.434	0.365	0.487	0.547	0.498	0.551	1

Note: Diagonals represent the square root of the AVE while the off-diagonals represent the correlations. Where, MAKM = Measurement, Analysis, Knowledge, and Management

Several doubts of the [68] criteria proposed because they do not reliably detect a lack of discriminant validity in normal research situations. Henseler et al. [68] have proposed an alternative method to assess discriminant validity called Heterotrait-Monotrait (HTMT) ratio of correlations. Discriminant validity was verified using this HTMT ratio, and results are shown in [Figure 2] demonstrated that total items fall lower than the threshold of 0.85 or $HTMT_{85}$. If the HTMT value is larger than 0.85 of HTMT.85 value, then the discriminant validity problem exists [69].
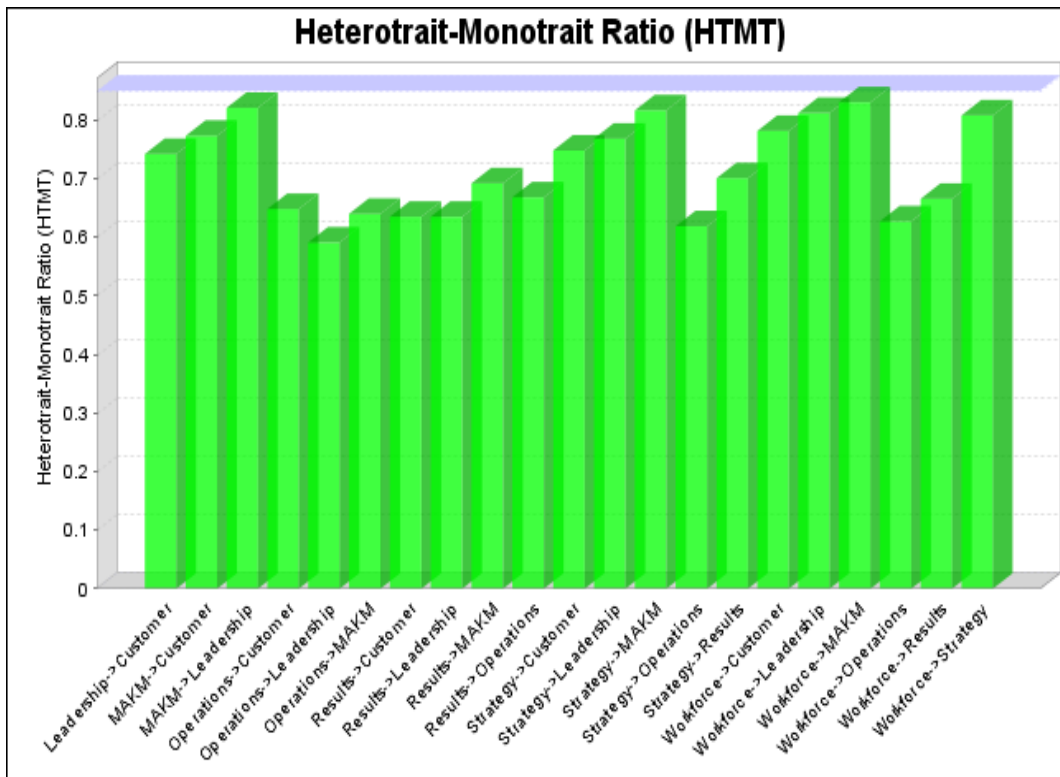

Figure 2. HTMT ratio

6.2. Assessment of Goodness-of-Fit (GoF)

Hair Jr. et al. [70] argued that the model of fits indices could determine how well a hypothesis model fits the empirical data. Consequently, it can help to figure out the misspecification. Henseler et al. [71] introduced the SRMR as a goodness of fit measure for PLS-SEM that can be used to avoid model misspecification. Therefore, this research used SRMR to identify the range of model misspecification. This model is considered a good fit if the value is less than 0.10 [72]. In the present study, both the SRMR values of the saturated and estimated models are 0.08 and 0.10, respectively.

6.3. Structure model

This research has employed higher-order constructs with the embedded two-stage approach [73] to evaluate the structural model. When assessing a higher-order construct in the context of PLS-SEM, [74] judged it as an advanced statistical approach.

The embedded approach model applies to the entire higher-order construct, including all the seven constructs such as leadership, strategy, customers, MAKM, operations, workforce, and results. The structure model embedded two-stage approach has shown in [Figure 3]. When evaluating the structural model, [70] proposed looking at the corresponding t-values, Beta, and coefficient of determination (R^2) through bootstrapping procedure with a resample of 5000. Besides, the basic measures, they also proposed researchers should report the predictive relevance (Q^2) and effect sizes (f^2). The results of the structural model of this research can be viewed in Table 7. First, we measure the significance and relevance of structural model relationships by using SmartPLS 3.3.2 to generate T-values for significance testing of the structural path. The results are shown in Table 7, H_{1a}, H_{1c}, H_{1d}, H_{2a}, H_{2b}, H_5, and H_{6a} (7 hypotheses) were found t-values more than 1.96 and level of significance was met and thus supported. In contrast, H_{1b}, H_{1e}, H_{1f}, H_3, H_4, and H_{6b} (6 hypotheses) with t-values less than 1.96 and were rejected.

Second, R2 is a measure predictive accuracy of the model. R2 values range from 0 to 1, with larger values representing higher levels of predictive accuracy. By referring to Table 7, the R^2 value of an endogenous latent variable, results were 0.597. This value was above 0.33 as recommended by Chin [66] and 0.50 suggested by Hair Jr. [70] describing a moderate level of prediction accuracy.

Third, the effect sizes (f2) were evaluated by referring to Cohen's (1988) guidelines, which are 0.02, 0.15, 0.35 for small effects, medium effects, and large effects, respectively. Table 7 shows the f^2 values of customers (0.007), leadership (0.001), strategy (0.010), MAKM (0.002), and workforce (0.002) that have a small effect on producing R^2 for results. Consequently, the operations (0.123) have a medium effect on producing R^2 for results. Next is leadership (0.013) and strategy (0.171) with a small and medium effect, respectively on producing R^2 for customers. The f^2 values found in Table 7 also show that leadership (0.274) has a medium effect on producing R^2 for MAKM, but leadership (0.645) has a large effect on strategy. Follow by the results of leadership (0.153) have a medium effect on the workforce. However, leadership (0.034) has a small effect on producing R^2 for operations. We also see the interaction term's f^2 effect size has a value of 0.266 for the workforce indicating that has a medium effect on producing R^2 for operations.

Lastly, the Q2 value is generated using the blindfolding procedure for a specified omission distance D [70]. In this case, the sample size is 150. Thus, omission distance values of 5, 6, and 10 were not chosen because that would have resulted in integer values. The omission distance value of 7 was used to run this blindfolding analysis. The results show that all Q^2

values for customers (0.248), MAKM (0.201), operations (0.328), results (0.589), strategy (0.377), and workforce (0.105) were greater than 0, denoting that the model had adequate predictive relevance.
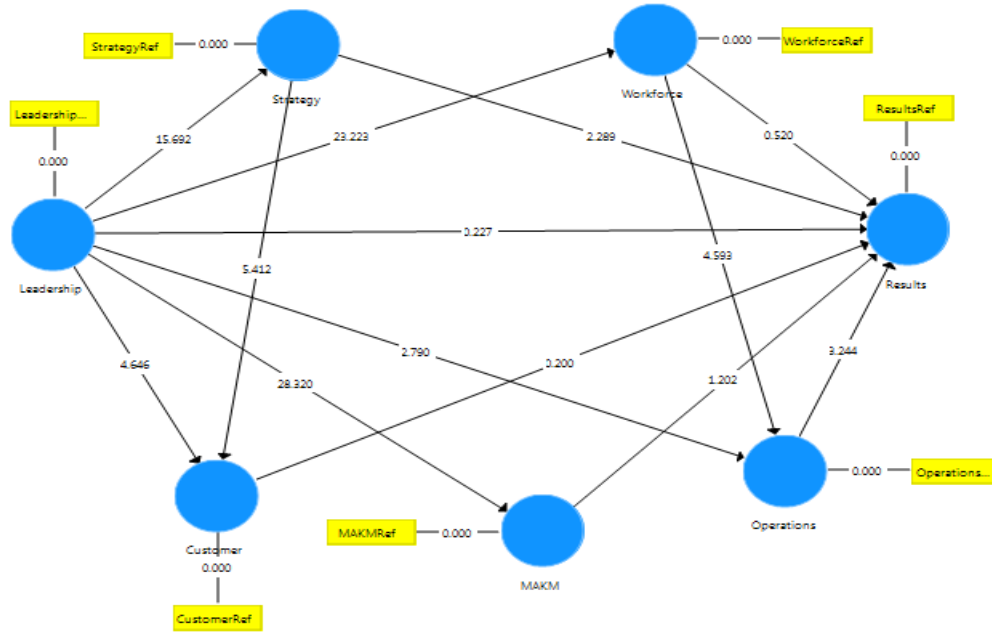

Figure 3. Structure model embedded two-stage approach
Adopted from [73]

Table 7. Summarization of result of hypotheses testing

Hypothesis	Relationship	Std Beta	Std. Error	t-value >1.96	Decision	R^2	f^2	Q^2	q^2
H_{1a}	Leadership→Strategy	0.626	0.062	10.167	Supported		0.645	0.377	0.605
H_{1b}	Leadership→Customers	0.125	0.103	1.223	Rejected		0.013	0.248	-0.019
H_{1c}	Leadership→MAKM	0.464	0.068	6.838	Supported		0.274	0.201	0.252
H_{1d}	Leadership→Workforce	0.365	0.080	4.535	Supported		0.153	0.105	0.117
H_{1e}	Leadership→Operations	0.161	0.083	1.945	Rejected		0.034	0.328	0.015
H_{1f}	Leadership→Results	0.010	0.064	0.157	Rejected		0.001	0.589	-0.010
H_{2a}	Strategy→Customers	0.448	0.097	4.637	Supported		0.171	0.248	0.372
H_{2b}	Strategy→Results	0.289	0.085	3.386	Supported	0.597	0.088	0.589	0.061
H_3	Customers→Results	0.061	0.073	0.829	Rejected		0.007	0.589	-0.015
H_4	MAKM→Results	0.120	0.082	1.461	Rejected		0.020	0.589	-0.005
H_5	Operations→Results	0.279	0.081	3.461	Supported		0.122	0.589	0.092
H_{6a}	Workforce→Operations	0.443	0.092	4.830	Supported		0.266	0.328	-0.039
H_{6b}	Workforce→Results	0.037	0.068	0.544	Rejected		0.002	0.589	-0.039

7. Discussion and implications

7.1. Discussion

A quick revisit to the research objectives shows that this research was primarily undertaken to deliver responses to four research questions, i.e., (1) What is the influence on leadership towards strategy, customers, MAKM, workforce, operations, and performance? (2) What is the influence on a strategy towards customers and performance? (3) What is the influence of the workplace on operations and performance? (4) What is the influence of customers, MAKM, and operations on performance? In answering the research questions, an empirical study was conducted. The research proposed here reflects the empirical results showing the effect of leadership and BE. In the second-order structure model analysis, this research found that 7 out of 13 hypotheses were supported and statistically significant. The remaining 6 hypotheses were rejected.

In structure analysis, H_{1a} H_{1c} and H_{1d} were supported, confirming that leadership of the Baldrige excellence framework is a key influence on strategy, MAKM, and workforce in E&E organizations. Based on direct influence (t-value), the most influential constructs by E&E manufacturing companies' leadership are strategy (10.167), MAKM (6.838), and workforce (4.535). While the present finding is supported by the hypothesized positive relationship, it is strongly aligned with the findings in [53], in which they found leadership influenced the strategy, MAKM, and workforce with similar Baldrige model criteria used. This study also supports [46] research on BE in Australian companies that concluded that leadership communicating strategy and driving employee engagement are primary tasks. Our results of leadership influenced MAKM may be explained by the fact that many top-level managers are willing to provide support on new knowledge and technology of value-chain to their staff in manufacturing organizations [75]. This finding also supports [43] assertion that Leadership Excellence has a positive influence on employee outcomes in both private and public sector organizations.

In contrast, the H_{1b} (t-value 1.223) was not supported that revealing leadership does not influence the customers of E&E companies. Our study has obtained consistent results with [53], who found leadership does not affect customers when using Baldrige model criteria. The finding also seems to indicate the possible reason that most of Malaysia's E&E companies are Multinational Companies (MNC), the headquarters is located in the host country who manage the customers directly in their home country. The headquarter might be in charge of customer products design and global customer services. In the current survey, 50% of responses are fully owned by foreign investors. Present study findings on leadership influence on operations (H_{1e}, t-value 1.945) have similar findings with Masrom's [14] study in Malaysia's manufacturers, which concluded that leadership has no positive impact on operations. This can be explained that senior managers of E&E may indirectly participate in operations. Conversely, middle-level and low-lower management teams are the ones with direct involvement in daily operations.

Furthermore, H_{1f} (t-value 0.157) was not supported and found insignificant between leadership and results. This finding concluded in the present study appears to be constant with other studies that look into similar issues of firm performance like [76]. They affirmed that the TQM element, i.e. leadership support, does not have a positive effect on organizational performance results. Past studies have suggested the importance of leadership leading firms' performance, but empirical evidence has also revealed that many organizations are not getting their predictable results from the leaders. Choi et al. [77] tried to clarify why certain BE

initiatives ended up with disappointments. By observing attitudes of managers who have positive inclinations toward customers, time, and market seem to have more proactive types of quality initiatives, which therefore affect the performance of their company.

The strategy consists of *development* and *implementation* is positively related to customers (t-value 4.637) and performance (t-value 3.386) of the E&E Company. Hence, H_{2a} and H_{2b} were supported. Our results support the past study by Muogboh et al. [23] confirming the existence of a relationship between manufacturing strategy and firm manufacturing performance. Our finding further supported by *a* recent study, Zapletalova [78] specified that BE model constitutes a crucial piece in the strategic planning of the company to achieve business success.

Even though the relationship between customers and MAKM, i.e., H_3 (t-value 0.829) and H_4 (t-value 1.461) were found positively insignificant with results, the finding concluded in the present study looks to be consistent with other studies that focused on similar issues of business performance. Past studies in BE have supported customers, and MAKM has no causal positive effect on the performance of the company [14]. MAKM does not directly influence the results, consistent with the findings of the municipal government of Texas. The results may indicate that MAKM plays a supporting role in the overall system of E&E companies and is not a direct driver of results.

While operations and results have hypothesized a positive relationship, it is firmly aligned with the findings in Matondang et al. [53] and Peng et al. [79] in which they found operations have a significant direct relationship with the performance of the company. The H_5 with a t-value of 3.461 is supported. The argument can be made with the operations practices and the production system design that have a positive influence on the performance factors of the manufacturing plants [80]. Our results further ascertain the positive relationship between the operations and performance of E&E manufacturing companies.

The findings present the study indicating workforce (workforce environment and workforce engagement*)* influences operations but not the outcomes of the E&E Company. The H_{6a} and H_{6b} with t-values of 4.830 (supported) and 0.544 (rejected) respectively. Our result also confirms the findings of previous studies in this area, such as [53][79][81] about the workforce engagement of achieving successful operations improvement and performance. Hence, the workforce has a substantial influence on operations in Malaysia's E&E companies. Besides, H_{6b} was not supported, illustrating that workforce is not a key factor to achieve BE. This finding is consistent with the workforce and has no causal positive influence on operational performance in BE study in the Malaysian context [14]. This indicates that the workforce itself cannot improve the overall performance of E&E companies. Because workforce engagement is highly correlated with the working environment of the organization, therefore, workforce engaging in operations working environment may give better results to operational performance like quality, speed/time, cost, and flexibility [19] whereby BE needs conclusive delivering of overall results.

Based on the suggested research framework, the present research is predicted to deliver numerous contributions to methodology, theory, and practice.

7.2. Theoretical contributions

As for the theoretical perspective, it proposed an integrated model to confirm leadership and BE having a relationship. This study is among the first to verify the latest 2019-2020 Baldrige excellence framework in the context of emerging developing countries and manufacturing industries like Malaysia's E&E sector. It also reflects an extending BE

paradigm, especially with the knowledge on the understanding of leadership and BE. Therefore, it adds value to the knowledge of the BE domain.

On the other hand, this study also validated that leadership theories and BEMs guided the theoretical framework. Indeed, the present study also helps to clearly define each BE criteria. Following the confirmed hypotheses results may assist in theory development and building.

7.3. Methodology contributions

In addition to the conventional performance metrics (economic measure), this study adds a non-economic measure of the latest 2019-2020 Baldrige excellence framework in a composite performance index. The new measure is essential for organizations' sustainability or long-term survival. This composite performance index was validated in the E&E sector in Malaysia. Therefore, the survey instrument can be reused in the context of other manufacturing sector studies on the deployment of the initiative to predict business performance. Therefore, it contributes to the methodology perspective.

7.4. Practical implications

The study finds few statistically significant relationships with practical implementations. E&E manufacturing organizations that are interested in pursuing BE must be concerned with BE elements in an organization. Management teams and employees play an imperative role that would ensure the 2019-2020 Baldrige excellence framework can bring the best outcomes for organizations and the people in them. Conversely, E&E companies may pay attention to four elements (leadership, customers, MAKM, and workforce) that are not significantly related to the BE. They can reach an excellent level once they manage to close those gaps.

In this authors' view, BE is a way to foster continuous improvement and efficiency in managing day-to-day manufacturing operations. A factual understanding of operational performance is needed to achieve this favorable position. With these research findings, it may help the main operations manager or executive to describe, measure with metrics, modify actions fitted with the strategy and objectives of the operation, change and revise to the performance objectives and organization's process when channeling today's challenges or capitalizing on tomorrow's opportunities,

The outcomes of this study are also beneficial to policymakers, such as Malaysia Productivity Corporation (MPC) and MITI. This study desires to address a new insight into the framework so that Malaysia Productivity Corporation (MPC) can distinguish the appropriate BE model based on organization needs. Besides, MITI may review the outcomes obtained from current research, and take appropriate actions to improve AKI participant rate from Malaysia's companies, particularly from the E&E industry.

7.5. Limitation of the study

The present research limitation has recommended future studies on which leadership behavior is favorable for better Business Excellence (BE) results and the possibility of similar studies employed in other industries.

8. Conclusion and recommendations

The study has achieved the objectives outlined in the research proposed to determine the effect of leadership and BE. This research found that 7 out of 13 hypotheses were supported and the remaining 6 hypotheses were rejected from the second-order structure model analysis.

The present study is confined to Malaysia's E&E industry. The future research topic may focus on a new era of industrialization like Industry 4.0 firms. Those who extensively adopt automation and other digital technologies for higher productivity, cost reduction, pursue growth and operational excellence. Leadership is a key element or driver for BE achievement. Its influence will be the topic of future research to regulate the leadership styles or traits more favourable to achieve BE. Future progression of the BE research field also can investigate the other BEMs such as Deming Prize, EFQM, or MBEF in the Malaysian context. Hopefully, it will be able to deliver a new perception of how organizations react to those models and enhance business performance.

Acknowledgments

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