

# **An investigation of the Interrelationship between Corporate Social Responsibility and Sustainability in manufacturing organizations: An empirical study**

## **Abstract**

Corporate Social Responsibility (CSR) and sustainability are considered hot trends in today's modern trade systems. However, there seems to be scarcity in the current literature of empirical studies linking CSR and sustainability applications in manufacturing organizations. This research aims to investigate the interrelationships between sustainability factors (commitment and motivators) and CSR factors (commitment and motivators) and how they affect each other. **A survey instrument was developed through which data is collected from 47 food manufacturing organizations functioning in Palestine.** The collected data is analyzed using the partial least square structural equation modeling technique. The findings of this study suggest that there are strong linkages between CSR factors (commitment and motivators) and sustainability factors (commitment and motivators). The CSR commitment factors have the strongest relationship with Corporate Social Responsibility motivators and sustainability motivators, which indicate that corporate commitment to CSR positively influences the level of corporate sustainable performance.

**Keywords:** sustainability, sustainable performance, corporate social responsibility, interrelationship, PLS-SEM, manufacturing sector.

## **Introduction**

The recent industrial revolution has caused significant degradation of the environment and unprecedented levels of pollution (Bebbington & Unerman, 2018; Jabbour et al., 2017; Masri & Jaaron, 2017) As a result, a change in the way organizations are governed in the last decades has been witnessed (Galeazzo & Klassen, 2015; García-Rodríguez et al., 2013; Mota et al., 2015). Besides maximizing their profits, organizations are required to deliver social and environmental goals in order to match the interests of all stakeholders involved and ensure sustainable growth (Cazeri et al., 2018). Undoubtedly, this has urged manufacturing organizations to commit to sustainable manufacturing practices that meet economic, environmental, and social needs (Liu et al., 2018; Zaid et al., 2018). Previous studies suggest that commitment and motivators for sustainable manufacturing performance go beyond achieving profitability (Aboelmaged, 2018; Madan Shankar et al., 2017); sustainable performance of manufacturers may also be driven by societal and institutional pressures for an ethical responsibility towards an organization's social and natural environment. Based on this view, manufacturing organizations adopt sustainable performance practices to gain recognition of being legitimate, appropriate, and desirable within the societies they serve (Dey et al., 2018; Gupta et al., 2018). In this context, the notion of Corporate Social Responsibility (CSR) emerges. According to Carroll and Shabana (2010), CRS practices can provide various benefits for organizations. First, reducing the negative impact of social concern by environmentally responsible behavior, second, building positive image of the organization through reduced pollution levels and positive community relationships, third, enhanced cost reduction through reduction in the consumption of harmful materials and energy, and greater employee motivation and retention through improving moral and working conditions, among other benefits. Due to these benefits, organizations are proactively motivated to invest in

CSR practices to achieve business competitiveness and better sustainable performance (Sajjad & Eweje, 2014).

Although there is a growing literature that discusses CSR practices in the western business context, there is relatively little research that has been conducted on CSR in developing countries (Bhatia & Makkar, 2019; Sharma, 2019; Vo & Arato, 2020). At a more subtle level, there is a paucity of studies on how CSR practices commitment and motivators are linked with commitment and motivators for sustainable performance of manufacturing organizations in both developed and developing countries (Dobers & Halme, 2009; Jeswani et al., 2008; Sajjad & Eweje, 2014); there remains a significant lack of understanding regarding how CSR commitment and motivation have an impact on sustainable performance goals from manufacturing organizations perspective (Liang and Rennboog, 2017; Lim and Greenwood, 2017; Mallah, 2018). Therefore, there is an urgent need to explore what CSR practices are required for an effective realization of sustainable performance in both developed and developing countries and how commitment to CSR practices can be linked in workplace to help organizations maximize their sustainable performance (Mallah, 2018; Sajjad & Eweje, 2014).

In the light of the above, this research attempts to empirically investigate the interrelationships between CSR commitment practices and motivators and sustainable performance commitment practices and motivators and their impact on corporate performance. The research sheds the light on these linkages using field data from 47 manufacturing organizations operating in the Palestinian food manufacturing sector that have implemented CSR and sustainable practices at varying levels. The data were collected through a survey instrument

that has been developed for this research based on extensive literature reviews. **The research also develops a managerial framework that connects critical practices of CSR and sustainable performance for maximizing manufacturing corporate performance.**

In fact, many recent researchers highlighted the need of more empirical studies from manufacturing sectors in the developing countries (Rehman et al., 2016; Zhan et al., 2018). This is due to the fact that developing countries have challenging environments that can provide novel insights on pressing global sustainability issues. **The Palestinian food manufacturing sector targeted in this study is unique and dominated by dual trade laws; Palestinian Authority and Israeli laws (Masri & Jaaron, 2017).** This means that Palestinian manufacturing organizations are required to comply with Palestinian environmental laws in addition to those of the Israeli laws. Moreover, following the research aims explained earlier, the uniqueness of this study is twofold. First, this paper is considered one of the first studies that explore the connectedness between sustainable performance and CSR in the context of developing countries. Investigating CSR and **Sustainability linkages in the Palestinian food manufacturing sector is very relevant due** to proximity of this sector from other developed European trade markets that play a main role in pressuring to enhance corporate's environmental policies and practices (Zaid et al., 2018). The EU's imposed policies and regulations increased the restrictions on imports to encourage exporting countries manufacturers, including Palestine, to follow environmental policies and standards (Moyer & Josling, 2017). Second, despite the dynamics of the Palestinian market, and the Israeli occupation actions and its control over borders and transportation routes, Palestine signed several agreements concerned with regulating corporate's environmental practices, and water and solid waste management (Brooks and Trottier, 2017). Local and international Non-

Governmental Organizations (NGOs) working in Palestine are already working on implementing several projects to implement global environmental measures within Palestine to encourage green manufacturing practices and technologies to meet the sustainable development goals (Bebbington & Unerman, 2018). **These challenging factors introduce the Palestinian food manufacturing sector as a unique case when exploring the linkages between CSR and sustainability performance factors.**

This research is structured into seven parts. The research starts by providing previous studies to characterize the concepts of CSR and sustainability and their interrelationships and factors. Then, presenting the research methodology; including data collection tools and methods. **After that, data analysis and results are presented and discussed. Based on findings, the managerial framework linking various CSR and sustainability factors has been developed.** This is followed by conclusions and discussion section. Finally, research limitations and future research work are highlighted.

## **Literature Review**

Sustainability and CSR are being reported among 90-95% of the world's largest corporations (Landrum & Ohsowski, 2018). CSR and sustainability are concerned with the inside and the surroundings of the corporate, namely, working conditions management, workers' entitlements, community engagement, customer relationship management (CRM) and manufacturing systems (Garbie, 2015). Once applied, they impact all the aspects of the corporation and its stakeholders (owners, staff, customers, etc.). They also have a positive impact on the surrounding community and the economy where they are applied. When the application of CSR and sustainability is

accommodated with laws and regulations, it would have an overall positive effect on the firm, its stakeholders and the surrounding community (Ioannou & Serafeim, 2011).

The past decade has seen many corporate discreditable actions, which have led to an increased awareness of sustainability and CSR issues. Customers have become more demanding in terms of committing corporates to apply sustainability and CSR practices, and report on them. Investors and stakeholders are looking beyond the economic situation and the increase in profit. Stakeholders' focus has shifted to appraising trademarks and corporates based on their commitment to sustainability and CSR, and they no longer focus on the range of commodities offered, or other attributes that once influenced their decision to invest. This is also evident in the customer's decision on whether to purchase the corporates' products or not (Dawkins, 2003; Schmeltz, 2012). Likewise, environmental, social and economic factors contribute considerably to the corporate image and reputation among competitors (Bebbington & Unerman, 2018).

Corporates argue the importance of adhering to CSR practices, besides communicating CSR, to ensure the preservation of organizational credibility, due to the tremendous attention being attracted by sustainability and CSR (Johansen & Nielsen, 2012). They ensure that a reputable corporate image is maintained, and that competitiveness is sustained in local and global markets (Polonsky & Jevons, 2006). Bebbington et al. (2008) present reporting on CSR as a result of managing reputational uncertainties. In accordance with new global trends, corporates are going beyond developing CSR strategies, but also communicating and reporting on the developed strategies (Bebbington et al., 2008; Kolk, 2008; Kolk & Lenfant, 2010) to assure corporates' adherence to policies and laws related to sustainability and CSR. This emphasizes the

fact that an unmatched CSR strategy should be developed for corporates (Johansen & Nielsen, 2012). According to Ellerup-Nielsen and Thomsen (2007), CSR communication differs among corporates due to the various reporting areas and methodologies, which supports the claims that corporates exploit the communication of CSR in order to secure their position among the competition (Blombäck & Scandeliuss, 2013).

### *Characterizing CSR*

The concept of CSR has been debated ever since its first perceptions and reflections during the 1950s (Yiğit & Kirezli, 2019). Recent developments in CSR have led to the emergence of many CSR definitions, and the dialogue around CSR's theoretical perceptions has kept the discussion alive (Gatti et al., 2018). Martinez et al. (2019) discuss a conception of CSR that was developed in the 1960s and 1970s, which states that the only social responsibility a firm has is to increase its profit, without harming the foundation of society. According to Friedman (2005), the company must not follow its goals blindly; rather, it should play fair and obey the law, and should not be involved in any deception or suspicious activities. There is an increasing amount of interpretations and arguments surrounding the different theoretical directions that researchers have taken in order to examine and explore the conception and other developmental aspects of the distinct establishment (Davis et al., 2016). Current CSR definitions comprise comparable factors, which contain many similarities, and certainly overlap (Moratis, 2016).

According to Fox (2004), CSR has been defined according to The European Commission as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis”. However, CSR is defined by The World Business Council for Sustainable Development as “the continuing

commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large” (Azheri, 2016). Aras and Crowther (2012) discuss the difficulties faced when it comes to recognizing social responsibility-related actions, which could be attributed to the large number of CSR definitions. CSR, as a global trend, takes tremendous care when it comes to corporates, governmental bodies and the community (Chabrak, 2015). Locally, CSR pays special attention to the relationship between corporates and the local community. However, CSR is mainly interested in the relationship between corporates and stakeholders. Thus, it is characterized as being corporates’ commitment function in accordance with the Triple-P concept of sustainability (Environment, Economic and Social pillars), while maintaining the interests of the stakeholders (Aras & Crowther, 2012).

Two main issues are being discussed as a result of the emergence of the first CSR theories and applications. The first discussion is about how the establishment of CSR could be attributed to societal changes in the relationship between the community and corporates. The CSR definition was developed to embed the expectations of society and stakeholders of corporates, namely when discussing society and the dimensions of ethics (Aguilera et al., 2007). The second discussion is about the changes in views from charitable CSR to strategic CSR (Brugmann & Prahalad, 2007). This methodology ensures that the social, environmental and economic objectives contribute to each other. This perspective discusses integrating social and environmental issues into corporates’ strategic plans (Porter & Kramer, 2006). The development of corporate sustainability is a derivative of sustainable development (Barakat et al., 2014). The Brundtland Report discusses three segments of sustainable development: economic growth,



social equity, and environmental protection (Brundtland, 1987). Closely integrated with the shifting trends towards sustainability, the Millennium Development Goals (MDG) promote human development as a fundamental in society's sustainability and in economic growth. This is relevant in all areas applying these practices, and characterizes a roadmap for the UN member states (Romero and Lamadrid, 2014).

CSR has been recognized by worldwide leading corporations in different sectors as an important factor to report against along with sustainability, while this practice was attained less frequently in SMEs (Singh et al., 2018). Dean (2004) discusses how corporates apply CSR policies and standards, partly through charitable actions, but they can have other interests for this application. Angelopoulos (2006) emphasizes that applying CSR can have both external and internal effects on corporates; externally, it could affect corporate image positively, increase customer base, and ensure a well-established position in new markets, while internally, CSR positively affects the wellbeing of staff, which in turn increases staff productivity levels. In addition, corporates' effectiveness may be increased when it comes to recruitment and talent acquisition, as corporates that are committed to CSR are considered more appealing, and attract talented staff (Chatzoudes et al., 2015).

In Europe, a significant importance has been placed on the practices of CSR in management education (Mahoney, 1990; Matten and Moon, 2004), the adoption of CSR (Kolk, 2005; Mpinganjira et al., 2018). In addition, one of the main objectives of the Spanish strategy on CSR is to connect CSR and innovation (Martinez-Conesa, Soto-Acosta, & Palacios-Manzano, 2017). According to the Romania CSR Index 2015, the country's CSR has also evolved

effectively due to CSR driven initiatives, which found that the most CSR active industries are non-alcoholic drinks, beer, gas, and building material (Duca & Gherghina, 2018). According to Hindiyyeh et al. (2012), Due to the rising importance of CSR, a general ISO standard (ISO 26000) has been developed for all types of organizations regardless of their size and location. ISO 26000 is solely concerned with CSR, namely, its concepts, terms, and definitions. It disciplines how the company or organization is connected and interacts with the surrounding society to ensure the discipline of such connections and interactions and the assessment of such behavior. ISO 26000 aims at assisting organizations in enhancing sustainable development and to go beyond legal obligations that the company must fulfill to recognize social responsibility in all aspects of their work (Moratis, 2016). To date, no true assessment has been conducted on the Palestinian manufacturing sector to evaluate the use of CSR practices among corporations in this sector. Knowing that the Palestinian economy is a developing one and such practices are new to this sector, some organizations apply some of these principles in their own way.

### ***The Concept of Sustainable Performance***

Sustainability as a policy concept has its origin in the Brundtland Report of 1987 (Dong & Xu, 2016). The report discussed the pressure between the ambitions of humankind for a higher quality way of living for one thing and nature's constraints on the other. Over time, the concept has been re-defined to include three pillars, namely social, economic, and environmental (Thomas et al., 2012). Steinmeier and Stich (2017) define sustainability as "Adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future".

Bhardwaj (2016) stresses that in any perception of sustainability in any industrial sector including environmental, operational, energy, health and welfare, safety and security, and financial and family sustainability, sustainable performance would produce better results in utilizing resources, operational efficiency, and process effectiveness. This, in turn, helps the organization achieve and sustain its competitive position in the market. According to Parmer et al. (2010), the purpose of sustainable performance is to create value for all stakeholders.

As mentioned earlier, the three pillars of sustainable performance are social, environment, and economic pillars (Svensson et al., 2018). The social pillar concerns the social element of the industry and the whole targeted area population and the environmental aspect concerns all the issues that have direct and indirect effects on the nature and the natural flow of things. The three bottom lines are realized to be affecting one another (Epstein et al., 2018). The importance of the triple-p concept is based on a modern realization affected by the increase community awareness by scientists and the constant changing environment around us. Earth is in a constant state of change, where mankind activities are playing a threatening role in fundamental earth dynamics (Sachs, 2012). Consumers react differently toward corporate sustainability relying on the perceived information. In the last decades, most of the European corporates reported on their sustainability performance (Pashaei Kamali et al., 2014). Due to the fact that many organizations tend to only publicize the good activities they do, organizations' communication experience lower levels of consumer trust (Mohr & Webb, 2005). It is as explained by Sen and Bhattacharya (2001) that negative information about organizational CRS activities has stronger effect on organizational image than perceived positive information. This provides difficulty for organizations of deciding which sustainable performance and CSR

information should be shared with customers (Arvidsson, 2010). Sustainable performance has become a key dilemma for every organization due to the growing voices demanding protection of environment, increasing awareness of social responsibility, and the need to increase profits (Pan, 2016). Large local and global corporations have been developing their capabilities required to achieve adequate sustainable performance in manufacturing over the past few years (Singh et al., 2018).

In response to this, The United Nations Rio+20 summit in Brazil in 2012 demanded governments of the world to actively establish clear set of sustainable development goals (SDGs) that would help local organizations in each country to contribute towards achieving the millennium development goals (MDGs) of better sustainable performance. The summit discussions on how to achieve these MDGs continued at the UN headquarters in New York (Borrion et al., 2017).

### ***Linking Motivators and Commitment of CSR and Sustainability***

Modern CSR practices encourage the use of sustainable performance dimensions of social, economic, and environmental as basis for complementary implementation of both CSR and sustainability to fulfill sustainable development goals (Huda et al., 2018). The European Corporate Sustainability Framework (ECSF) has been developed to enhance CSR and sustainable performance linkages effects on corporate management (Jankalová & Vartiak, 2017). However, if organizations do not develop commitment to sustainable performance, they may cause severe harm to organizations' reputations and, ultimately, profitability (Siegel, 2009). According to Dare (2016), the relationship between corporates motivations and level of commitment to apply CSR is interrelated. CSR commitment could be defined as “the degree to

which a firm values the needs of both its shareholders and its broader set of key stakeholders, and attempts to fulfill those needs”. Corporates’ drivers to apply CSR can be divided into three main motives: instrumental (self-driven), relational (relationships among different groups), and moral (ethical and moral principles) motives (Aguilera et al., 2007). Corporates are reporting more on CSR commitment and the impact of corporate motivators on corporate performance and economic situation (Hullberg & Sjögren, 2016). Large corporates’ drivers for committing to CSR practices are mainly attributed to protecting their image, thus this commitment is passed to their SMEs partners (Harness et al., 2018). Corporates’ commitment to CSR could be accredited to CSR and sustainability motivators. Some could commit to CSR based on social motivator, while others could commit to CSR based on environmental or economic motivators (Kim & Ji, 2017). Coercive forces such as existing laws and a well setup legal system can also contribute to the encouragement of corporates to commit to CSR and sustainability standards (Amor-Esteban et al., 2018). In their aim to uphold their image with the public, ensure customer loyalty and improve performance; corporates are reporting more and more on their CSR commitments through sustainability and social reporting (Torelli & Balluchi, 2019). Sustainability commitment is often attributed to relational expertise, partners’ knowledge, internal and external communication and the coordination led by corporate. The aforementioned factors lead to ensure corporate commitment towards sustainable development practices towards the environment, human capital and local community development (Harness et al., 2018).

The above presented discussions have, therefore, allowed for the formulation of the following hypotheses:

**H1:** The level of CSR commitment in organizations is positively related to the level of sustainability commitment.

**H2:** The level of CSR commitment in organizations is positively related to the level of application of sustainability motivators.

**H3:** The level of CSR commitment in organizations is positively related to the level of application of CSR motivators.

According to Landrum and Ohdowski (2018), corporate sustainable performance commitment levels can be categorized in one of five stages. First, compliance (very poor sustainability commitment); where sustainability is applied through external enforcement (regulations, policies, etc.). Second, business-centered (poor sustainability commitment); which means looking at the organizational benefits alone while neglecting other stakeholders, such as the community, the environment, and the economy. Third, systematic (medium sustainability commitment), where corporations are focused on the triple-bottom line (environment, economic, and social) to apply sustainability in a systematic manner through cooperation with other stakeholders. Fourth, regenerative (powerful sustainability commitment), where corporations are committed to fixing the harms and damages caused by previous industrial eras. Fifth, co-evolutionary (Very powerful sustainability commitment) where corporates' motivations to comply to sustainability standards are business policy that is normally attributed to their management style, organizational structure, production capacity and existing resources (Jansson et al., 2017). Even when SMEs are motivated to commit to sustainability activities, they are often faced obstacles that would hinder their aspirations (Reyes-Rodríguez et al., 2016). Corporations understand and establish partnerships with others and start giving as much as taking. Corporates commitment to sustainability is mainly motivated by corporates' will to increase productivity and performance (Benites-Lazaro et al., 2018). Corporates' motivation to comply to

sustainability standards and policies are normally driven by internal and external factors. Corporates' internal willingness and understanding of the importance of sustainability and its short and long-term effects on the organization and its surroundings, corporate aims, mission and vision, top management composition such as gender, age, experience, etc., proprietorship (public, private, family business), corporate governance structure and size (large enterprise or SME). External factors motivating corporate to apply sustainability standards includes pressure from the community, stakeholders, laws and regulations of the context where corporates operate (Ferrance & Kunkel, 2017; Foerstl et al., 2015; Kucharska & Kowalczyk, 2019; Misopoulos et al., 2018). Based on this, the following hypotheses have been presented:

**H4:** The level of sustainability commitment in organizations is positively related to the level of application of sustainability motivators.

**H5:** The level of sustainability commitment in organizations is positively related to the level of application of CSR motivators.

**H6:** The level of sustainability motivators in organizations is positively related to the level of application of CSR motivators.

Based on the presented literature review and the resulting six hypotheses, and for the purpose of this research, a conceptual model is presented in Figure 1 below. The presented conceptual model links the six hypotheses with CSR and Sustainability factors, and also presents potential correlations between the six hypotheses.

*[Figure 1 near here]*

## **Methodology**

This research employs quantitative data methodology to empirically measure and assess the linkages between CSR and Sustainability factors (CSR commitment and motivators and Sustainability commitment and motivators). A survey instrument was used to collect quantitative data using 5-point Likert scale (Moser, 2017). The survey was developed based on literature related to the subject and after looking thoroughly to understand the gaps and best practices related to CSR and sustainability applications. The survey was developed with five possible answers (Strongly disagree, disagree, neutral, agree and strongly agree). It also consisted of three main sections: first, the demographical data section which consisted of eight items, second, CSR section and consisted of two subsections; the level of commitment of the corporate to CSR and consisted of 12 items and the corporates' motivators to apply CSR which consisted of 9 items. The third section of the survey is about sustainable performance which consisted of two subsections, the first subsection is concerned with the level of corporates' commitment to sustainability which consisted of nine items and the second subsection is concerned with the motivators of applying sustainability which consisted of 7 items. The survey used for the purpose of this research was put to test in order to ensure its reliability and validity. **It was sent to three arbitrators (two academic arbitrators and one experienced arbitrator from the Palestinian food manufacturing sector).** Finally, the survey was uploaded to [smartsurvey.co.uk](https://smartsurvey.co.uk) to be sent out for piloting purposes for 10 people from different academic and industrial backgrounds to ensure that they can be filled and understood easily.

### ***Research Population and Sampling***

**The Palestinian food manufacturing sector is targeted as the population for this research, the sector is chosen because it's one of the most prominent sectors in the Palestinian industry involving many international franchises and a wide variety of manufacturing spectrum (dairy**



production, agriproducts, coffee production and other types of food products). This sector involves 238 working companies according to the Palestinians food industries union (PFIU, 2017). For the purpose of this research, selection criteria have been set to ensure that the collected quantitative data will reflect the aim of the research. Thus, only companies that meet the following conditions were included in the population. First, the organization should be legally registered and licensed to work in Palestine with well-established organizational structure. Second, the organization should have a human resources department and an announced sustainability policy. Third, the organization should have quality officer and announced quality policy. All of the 238 companies were investigated against this selection criteria either by visiting their website, revising their publications and newsletters, or directly contacting them using their email address or phone number to insure the accuracy of information. Based on the above criteria, 52 working companies met the set criteria, and all these 52 companies were approached; sent an online survey, contacted on the telephone and some were visited on-site. A period of 12 weeks allowed researchers for the collection of the data. However, out of 52 targeted food manufacturing organizations, the total number of returned complete surveys was 47; providing a response rate of 90.38%.

## **Data Analysis and Results**

This section illustrates the results of the quantitative data analysis using Partial Least Square Sequential Equation Modeling (PLS-SEM) using Smart-PLS analysis program. PLS-SEM was used due to its statistical power in studies with small sample size (Ali et al., 2018; Cepeda-Carrion et al., 2019; Hair et al., 2019; Zhang et al., 2019). The utilization of path coefficient to compare between parameters in PLS-SEM requires a sample size of at least 30 to produce

reliable results (Ramli et al., 2019), PLS-SEM is used to validate small sample size models of 23 and more due to its statistical power and the ability to identify substantial figures of latent indicators and variables especially while addressing small sample size (Prakash & Srivastava, 2019). Hair et al. (2011) suggest that PLS-SEM is preferable to be used with small sample sizes ranging from 18 to 211 based on the literature and the experiences of other scholars. According to Goodhue et al. (2012), there is no significant variance in efficiency between applying PLS-SEM on small or large sample sizes for non-normal data while  $n \geq 40$  and  $n \leq 200$ . PLS-SEM is also powerful when the data set of the study is not normally distributed (Joe Jr, 2014). **PLS-SEM is also powerful for handling data collected from family businesses and is effective in developing theories through simultaneous analysis of correlations amongst diverse factors (Pieper et al., 2020; Sarstedt et al., 2014), which is the case of the Palestinian food manufacturing organizations context since most of the businesses in Palestine are family owned businesses (Hanieh et al., 2015).** Model fit indices were used to ensure the validity of the PLS-SEM bootstrapping algorithm, the standardized root mean square residual (SRMR) and the normed fit indices are used to show the incongruity between the experimental correlation matrix and the original model (Kenny, 2014; Mei Cao, 2012).

*[Table 1 near here]*

Cronbach's alpha measures the analyzed data reliability and could be an indicator of data validity. Some researchers suggest that any  $\alpha$  value  $< 0.7$  is directly rejected (Bonett & Wright, 2015). Likert scale data should be checked with Cronbach's alpha reliability test (Brown, 2011) since reliability is considered an essential way of measuring the validity of the analyzed data (Gadermann et al., 2012). However, some researchers consider any  $\alpha$  value between 0.7 to 0.8 is "adequate or acceptable" while anything between 0.8 to Less than 0.9 is considered "good" and

anything above 0.9 is excellent (Shelby, 2011). All the values of the analyzed data presented above in Table 1 for the Cronbach's Alpha reliability test are above 0.7 which would be considered acceptable (Bonett & Wright, 2015). For sustainability motivators,  $\alpha = 0.92$  which is excellent, sustainability commitment and CSR commitment  $\alpha$  value is close to 0.87 which is good. For CSR commitment  $\alpha$  value is close to .73 which is an acceptable value and the total  $\alpha$  value for the research data is close to 0.85 which means that the data set for this research is reliable. On the other hand, the composite reliability presented in Table 1 is used in PLS as an alternative to Cronbach's Alpha due to its accuracy and efficiency with the PLS-SEM model (Hair et al., 2012). Composite reliability measures the internal consistency reliability, which indicates that the conducted analysis is reliable since all the values are above 0.6; this number is considered an acceptable value for explanatory research techniques (Henseler et al., 2014; Wong, 2013). To determine whether the previous correlations are significant, we need to run another algorithm (bootstrapping) to get the t-test results.

### ***Respondent's Profile***

Table 2 provides targeted sample insights. Frequency and percentage tests were used to determine the number of participants based on the demographics of the study sample. The targeted sample composed of nearly 55% of food manufacturing companies with less than 50 employees and approximately 13% only have more than 250 employees. In addition, majority of companies (i.e. 87.2%) are classified as private limited companies, as majority is family owned businesses. Other characteristics of the sample are provided in Table 2.

*[Table 2 near here]*

Table 3 represents the descriptive analysis of all items in relation to CSR and sustainability factors (CSR commitment, CSR motivators, Sustainability commitment and Sustainability motivators). Based on Table 3, the results of the analysis show that the top three items belong to “sustainability commitment” factor. These items are “Corporates’ production of hazardous materials” with a score of 4.43, “Corporates’ contribution to noise pollution” with a score of 4.04 and “Corporates’ negative impact on the surrounding environment with a score of 3.89. On the other hand, the two items with the lowest scores belong to CSR commitment, they are “Companies refusal of child labor” with a score of 1.40 and “Companies that prevent discrimination based on gender, religion, race, etc.” with a score of 1.55, other low scores belongs to CSR motivators, which are “Ethical and moral reasons” with a score of 1.55 and “improving customer loyalty with a score of 1.57.

*[Table 3 near here]*

By applying a PLS algorithm through setting the maximum iteration value to 300 and the stop criterion ( $10^{-X}$ ) to 7 (Wong, 2013), the following results illustrated in Figure 2 were obtained.

*[Figure 2 near here]*

The results presented in Figure 2 show that the standardized regression weights between the four factors (correlations) are positive (all are above 0), indicating that they affect each other positively.  $R^2$  values, as presented in Table 1 above, are all above 0.25, which indicate a reliable test (Wong, 2013). Furthermore, the bootstrapping algorithm analysis presented in Figure 3 is

used to test the significance of the paths between correlations (Ringle & Sarstedt, 2016), by using a t-test with 500 subsamples, a bias-correlated and accelerated (BCa) bootstrap confidence interval method with a two-tailed test type, and a 0.05 significance level (Wong, 2013). After running the bootstrapping algorithm, t-test results are presented between the correlations (anything above a standard deviation of  $z=1.96$  is significant at the 95% confidence interval). The analyses found that all the correlations are significant, which means they affect each other. The strongest correlation is between CSR commitment and sustainability commitment (Afthanorhan, 2014; Kock, 2015).

*[Figure 3 near here]*

Based on the previous analysis and as shown in Table 4, we understand that all the listed correlations affect each other since the t-test results between the factors are all above 1.96 except for the correlations between sustainability commitment and CSR motivators, and sustainability commitment and sustainability motivators. Thus, we accept hypothesis H1, H2, H3 and H6. However, Hypothesis H4 and H5 are rejected since t-test results are below 1.96. The correlation between CSR commitment and CSR motivators is the strongest, indicated by a t-test value of 8.999; however, we need to further understand how they affect each other and what other factors affect them.

*[Table 4 near here]*

### ***Model Fit Indices***

To ensure that the previously conducted bootstrapping analysis is valid and reliable, the standardized root mean square residual (SRMR) is used to understand the incongruity between the original model and the experimental correlation matrix, which is considered important if the level of incongruity is high. If the SRMR value is 0, it would imply a perfect fit; if it is less than 0.05, it would be a good fit (Henseler et al., 2016). Recent studies also showed that even 0.06 could be an acceptable value, thus, the SRMR value of 0.08 was agreed among scholars to be an acceptable value and anything above 0.08 indicates an issue that needs to be addressed (Henseler et al., 2014). According to Table 5, the SRMR value for our analysis is 0.077, which is considered acceptable and shows a reliable dataset and analysis. This SRMR measure fit index replaces the Chi-Square test since SmartPLS does not have a Chi-Square test and is attributed to the usage of SRMR fit index in the bootstrapping stage (Dijkstra & Henseler, 2015). A normed fit index (NFI) is another fit index to describe the model validity and ranges between 0 and 1; the closer the NFI value to 1, the better model you have (Newsom, 2017). According to Table 5, the NFI value of this analysis is 0.522, which is considered an acceptable value for small sample size since increasing the sample size would allow for larger NFI value. NFI is an incremental fit measure, meaning that the greater the sample size, the better the NFI value and the smaller the sample size, the worse the NFI value, which means that the NFI value could be manipulated by adding more parameters to the model and through increasing the sample size (Kenny, 2014).

*[Table 5 near here]*

***Level of Compatibility between Sustainability and CSR Factors (Commitment and Motivators)***

The compatibility degree presented in Table 6 is set based on the percentage testing to calculate the number of occurrences of each response chosen by the respondent and it consists of three levels: Low (less than 60%), Moderate (60% - less than 80%) and High (more than 80%) (de Lima et al., 2016). Based on the results presented in Table 6, the percentage of compatibility and application of sustainability and CSR **in the Palestinian food manufacturing sector** is 72%, which is considered a moderate percentage. This table demonstrates the directions that were intended to be measured in this research. These directions were selected in order to measure the extent of corporate commitment to applying sustainability and CSR and to measure the extent of existing motivators that either positively or negatively affect the applications of sustainability and CSR.

*[Table 6 near here]*

### **Managerial Framework Development**

Results suggest that applying CSR and sustainability practices would have a major role in affecting corporates working habits and their corporation's progress, which will lead to increased profits in the future. This is in line with the accepted hypotheses H1, H2, H3 and H6. The below framework presented in Figure 4 has been developed based on the results of the quantitative analysis and findings of the reviewed literature. This managerial framework presents a framework for corporates willing to adopt CSR and sustainability best practices. The first step in a CSR and sustainability best practices managerial framework is ensuring top management commitment; in order to ensure their support in applying CSR and sustainability. Top management commitment would mean having enough budget and ensuring staff commitment, which would also ensure a more adaptive and responsive atmosphere for change. The next step is embedding CSR and sustainability principles in corporate strategic and action plans, which

would draw the broad lines for applying CSR and sustainability through strategic plans as well as detailing these plans in the day to day action plans. Then, developing HR plans for CSR and sustainability applications, this step is crucial for the following steps. They also hold the staff relations issues, which would benefit the applications of CSR and sustainability. Following this, it's important to delegate a focal point for CSR and sustainability for staff referrals and inquiries. This focal point could be an HR staff member or staff from another functional unit. The focal point will act as the CSR and sustainability director and would ensure the best implementation of CSR and sustainability and will answer to the HR department and the top management. In parallel, CSR and sustainability policies will be developed based on the vision of each corporation. This process could include external consultants, senior officers, top management, and other related staff.

*[Figure 4 near here]*

The next step will be communicating the importance of CSR and sustainability to corporate staff along with adhering to CSR and sustainability principles and conducting yearly performance evaluations. In this step, the staff should understand the importance of applying CSR and sustainability and their effects on corporate performance and the welfare of their community. In addition, the focal point along with the HR department should ensure that sustainability and CSR principles and policies are being applied. In this step, CSR and sustainability training will be conducted for all staff to ensure their best implementation methodology and explain to the staff through real-life examples about how to handle CSR and sustainability each according to his/her post. Finally, trained staff should be empowered and incentivized to apply CSR and sustainability inside and outside the corporation. This could be



through adding CSR and sustainability factors to the employee of the month contests or by having monetary or moral incentives throughout the year.

## **Discussion and Conclusion**

The main aim of this study was to empirically investigate the interrelationships between CSR commitment and motivators' practices and sustainable performance commitment and motivators' practices and their impact on corporate performance. According to the conducted PLS-SEM analysis, the research correlations were divided into four factors: sustainability commitment, sustainability motivators, CSR commitment, and CSR motivators. All these factors were correlated with each other to form the model; correlations were tested to explore further the way the factors affect each other. Based on the analysis, sustainability and CSR factors posed strong relationships between each other, with some relationships being stronger than other such as CSR commitment and CSR motivators, and CSR commitment and sustainability motivators.

The results show that if a corporation is committed to applying CSR practices, they will also be committed to applying sustainability practices, which is in line with what You et al. (2013) stated, namely, by focusing on CSR initiatives, corporations and governments can accomplish higher sustainable performance. Corporations are committing to sustainable performance principles more and more, as they are integrating sustainability into their strategic and action plans (Luzzini et al., 2015). Similarly, corporations that comply with sustainability motivators often do comply with CSR motivators (ethics, morals, improving community relations, improving customer loyalty, motivating employees, improving the corporation's relationship with stakeholders, improving the corporation's economic performance, and

enhancing the corporation's image). According to Rangan et al. (2015), applying sustainability motivators such as waste, energy, and emission reductions could increase CSR motivators such as employee motivation, customer loyalty, and enhancing the corporation's image and relationship with stakeholders, which in turn would improve the economic performance of corporations. Other CSR motivators could also improve employees' outcomes and job satisfaction; the corporation will also start receiving more talented, qualified, and motivated staff (Renwick et al., 2013). However, according to Jansson et al. (2017), sustainability and CSR commitment are clear in larger corporations, but small-medium size corporations are lagging in applying and committing to sustainability and CSR policies and practices.

CSR commitment and sustainable performance motivators posed one of the strongest correlations in the PLS-SEM analysis, which suggests that whenever a corporation is committed to CSR, it complies with and uses sustainability motivators such as waste reduction, recycling, energy conservation, reduction in water consumption, reduction in air pollutant, and the use of green practices such as in logistics and the fair treatment of staff. According to Dobbs et al. (2016), most corporations that are committed to applying CSR use sustainable performance motivators to increase their legitimacy among stakeholders and society. According to Hori et al. (2011), corporations usually commit to CSR practices and sustainability motivators due to the benefits that are returned to the company that is usually translated to instant profit and long-term sustainable economic development. Following the PLS-SEM analysis results, it is understood that when corporations are CSR committed, they will have CSR motivators. According to Lacey et al. (2015) and Asrar-ul-Haq et al. (2017), the more a corporation commits to CSR as a strategic objective, the more it enhances its relationship with the surrounding community and

builds its customers loyalty among other motivators (organizational commitment, employees' job satisfaction, corporate economic position, etc.). However, sustainability commitment and sustainability motivators are considered a weak correlation, which means that a corporation's commitment to sustainability does not necessarily mean that they will comply with sustainability motivators. This means that some corporations are applying some sustainability aspects when complying with true sustainability motivators. All of this contradicts with what Vintró et al. (2014) state, namely, that corporations that apply sustainability often have a strategic focus on waste reduction, recycling, energy preservation, and pollution prevention.

Sustainability commitment and CSR motivators are found to be the weakest correlation of this study, which suggests that a corporation that is sustainability committed does not have to use and comply with CSR motivators. U.S. based corporations usually focus on financial justifications to justify their compliance to CSR motivators while EU based corporations turn to financial and sustainability justifications to justify their compliance with CSR motivators (Fifka, 2013; Hartman et al., 2007; Prado-Lorenzo et al., 2008).

### **Theoretical and Managerial Implications**

The explored interrelationships in this research connecting CSR and sustainability factors (commitment and motivators) have never been explored before for the manufacturing sector. This research provides in-depth analysis of the correlations and their effects on each other. While previous literature has focused on the correlations between CSR and Sustainability using internal and external attributes such as challenges, regulations and policies (Baumgartner, 2014; Visser & Tolhurst, 2017), this current study has investigated the correlations between organizations'

commitment to CSR and sustainability and their practices. This research has also discussed a method to concentrate the efforts of CSR and sustainability applications using the strength of correlations based on the conducted PLS-SEM analysis. This would allow corporates' to increase their investments in certain correlations while investing less in the weak correlations. Due to the crucial impact of sustainability and CSR on the survivability of the corporate and their strategic effects on corporates advancement and growth, managers investing in their community and the surrounding environment will gain more trust and loyalty from their in-house employees, customers and stakeholders through improving corporates' image. This would ultimately lead to increased sales and enhance corporates' financial position. The integration of sustainability and CSR into corporates' strategy and action plans allows corporates' to have a competitive advantage over their competitors and improves overall performance (Rhou et al., 2016). As a result, this would increase corporates' chances of succeeding in the local and global markets (Schulz and Flanigan, 2016). **Business owners and managers willing to apply the concepts of CSR and sustainability may follow the managerial framework for CSR and Sustainability to gain best practices, this can be achieved by constant monitoring and evaluation of practices emphasized in the framework.**

### **Limitations and Future Research Work**

Future research could explore other possibilities and the potential of CSR and sustainability applications. This can be achieved by using a more holistic perspective that includes the three sustainability pillars (social, environmental and economic) by repeating the same study in countries with a similar culture to Palestine, such as Jordan, Egypt, Syria, Lebanon and other MENA countries. In order to understand the methods of CSR and sustainability applications in

each country, this study could also be expanded to include more sectors and study the impact of CSR and sustainability on each sector and explore the behavior of corporations in their application of CSR and sustainability. Furthermore, conducting comparison studies between sectors and/or countries to see the outcomes and results in reference to other studies in the explored locations and sectors could allow for a better understanding of the pros and cons of CSR and sustainability applications. Future research could also include other dependent variables such as financial position, employee turnover and quality standards that measure the performance and the reputation of a corporate before and after adhering to CSR and sustainability principles. However, this research has targeted specifically food manufacturing sector, and the outcomes of this research only apply to this case, and cannot be generalized to other sectors without conducting similar studies to ensure that the attributes of this research are valid for other sectors. The size of the Palestinian food consumption market has also been a limitation for this study, since this market is still a developing market and criteria was set to ensure that only the corporates that meets the attributes of this research will be targeted to ensure the validity of the results.

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Table 1: Cronbach's Alpha, R<sup>2</sup> and Composite Reliability

Item	No. of Items	Cronbach's Alpha	R Square	Composite Reliability
Sustainability Commitment	12	.869	0.419	0.881
Sustainability Motivators	9	.921	0.541	0.901
CSR Commitment	9	.729	N/A	0.890
CSR Motivators	7	.868	0.556	0.933
<b>Total</b>	37	.847		

Table 2: Respondents' Profile

	Frequency	Percentage
<b>Gender</b>		
Male	34	72.3%
Female	13	27.7%
<b>Educational Level</b>		
Secondary Education (Tawjehi)	2	4.3%
BA	33	70.2%
Graduate Studies	12	25.5%
<b>Managerial Level</b>		
Top-Level Management	23	48.9%
Mid-level Management	20	42.6%
Operational Level	4	8.5%
<b>Age</b>		
Less than 30	14	29.8%
30 – less than 40	18	38.3%
40 – less than 50	8	17%
50 – less than 60	5	10.6%
60 and more	2	4.3%
<b>Years of Experience</b>		
Less than 5	10	21.3%
5 – less than 10	13	27.7%
10 – less than 15	6	12.8%
15 – less than 20	10	21.3%
20 and more	8	17%
<b>Company Size</b>		
Less than 50	26	55.3%
50 – less than 100	12	25.5%
100 – less than 150	1	2.1%
150 – less than 200	1	2.1%
200 – less than 250	1	2.1%
250 and more	6	12.8%
<b>Company Type</b>		
Private Limited Company (LTD)	41	87.2%
Public Limited Company (LTD)	6	12.8%
<b>Company's working years</b>		
Less than 5 years	8	17%
5 - less than 10 years	8	17%
10 - less than 15 years	8	17%
15 - less than 20 years	6	12.8%
20 - less than 25 years	3	6.4%
25 years and more	14	29.8%

Table 3: Descriptive analysis of all items under their related factors

<b>CSR Commitment</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>CSR Motivators</b>	<b>Mean</b>	<b>Standard Deviation</b>
The company informs employees and labors about their rights	1.62	0.74	Ethical and moral reasons	1.55	0.75
The company refuses child labor	1.40	0.85	To improve community relations	1.77	0.73
The company conducts frequent recreational activities for the employees	2.49	0.98	To improve customer loyalty	1.57	0.80
The company supports civil society organizations	1.98	0.97	To improve employee motivation	1.89	0.84
The company officials contact's civil society organizations regarding staff rights and work situation	2.26	0.94	To improve relations with business partners/ investors	1.81	0.74
The company has a social accountability specialist or someone to handle social causes among employees and labor	2.57	1.08	To improve economic performance	1.79	0.81
The company doesn't discriminate between employees and labors based on gender, religion, race, etc.	1.55	0.77	To enhance corporate image	1.64	0.74
The company developed and distributed its CSR policy	2.34	0.84	A commitment to reducing the company's impact on environment	1.87	0.88
The company pays over time according to the Palestinian Labor Law	1.62	0.85	To reduce poverty	1.89	0.94
The company has a well-known punishment system	2.09	0.80			
The company that I work for has SA8000 or ISO26000 or any CSR related certificate	2.98	1.13			
The company that I work for trains the employees about safety measures	1.79	0.93			
<b>Sustainability commitment</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Sustainability Motivators</b>	<b>Mean</b>	<b>Standard Deviation</b>
I am familiar with the word sustainability	2.13	0.85	Waste reduction	1.68	0.69
The company that I work for is economically sustainable	2.15	0.81	Recycling	2.40	1.14
The company that I work for has a written sustainability policy	2.85	1.08	Energy conservation	1.91	0.78
The company that I work for has negative impacts on the surrounding environment	3.89	1.05	Reduction of water consumption	1.87	0.77

The company that I work for produces loud noises that affects the surrounding area	4.04	0.88	Reduction of air pollutant	1.87	0.88
The company that I work for produces hazardous materials	4.43	0.88	Green practices (Logistics)	2.30	0.86
The company that I work for has risk mitigation plan	2.23	0.79	Fair treatment of staff	1.85	0.81
The company that I work for has environmental policy	2.23	0.87			
The company that I work for conducted trainings to the employees and labors about the best environmental practices in their line of work	2.32	0.91			

Table 4: Hypothesis results based on factor correlation t-test results

Factors Correlation	Hypothesis	T-test result	Result
CSR commitment -> CSR motivators	<b>H3:</b> The level of CSR commitment in organizations is positively related to the level of application of CSR motivators.	8.999	Accepted
CSR commitment -> Sustainability commitment	<b>H1:</b> The level of CSR commitment in organizations is positively related to the level of sustainability commitment.	6.928	Accepted
CSR commitment -> Sustainability motivators	<b>H2:</b> The level of CSR commitment in organizations is positively related to the level of application of sustainability motivators.	8.147	Accepted
Sustainability commitment -> CSR motivators	<b>H5:</b> The level of sustainability commitment in organizations is positively related to the level of application of CSR motivators.	1.445	Rejected
Sustainability commitment -> Sustainability motivators	<b>H4:</b> The level of sustainability commitment in organizations is positively related to the level of application of sustainability motivators.	1.913	Rejected
Sustainability motivators -> CSR motivators	<b>H6:</b> The level of sustainability motivators in organizations is positively related to the level of application of CSR motivators.	2.338	Accepted

Table 5: Model Fit Indices

Model Fit		
#	Indices	Values
1	SRMR	.077
2	NFI	.522

Table 6: Compatibility Degree of Sustainability and CSR Commitment and Motivators in the Food Manufacturing Sector

#	Directions	Mean	Std. Deviation	Percentage (%)	Compatibility Degree
1	Sustainability Commitment	2.0567	.58517	72.5%	Moderate
2	Sustainability Motivators	1.7541	.62894	88.2%	High
3	CSR Commitment	2.9196	.50902	48%	Low
4	CSR Motivators	2.0266	.63947	79.6%	Moderate
<b>Total</b>		2.18925	.059282	72%	Moderate

Figure 1: Conceptual Sustainability and CSR Factors Model

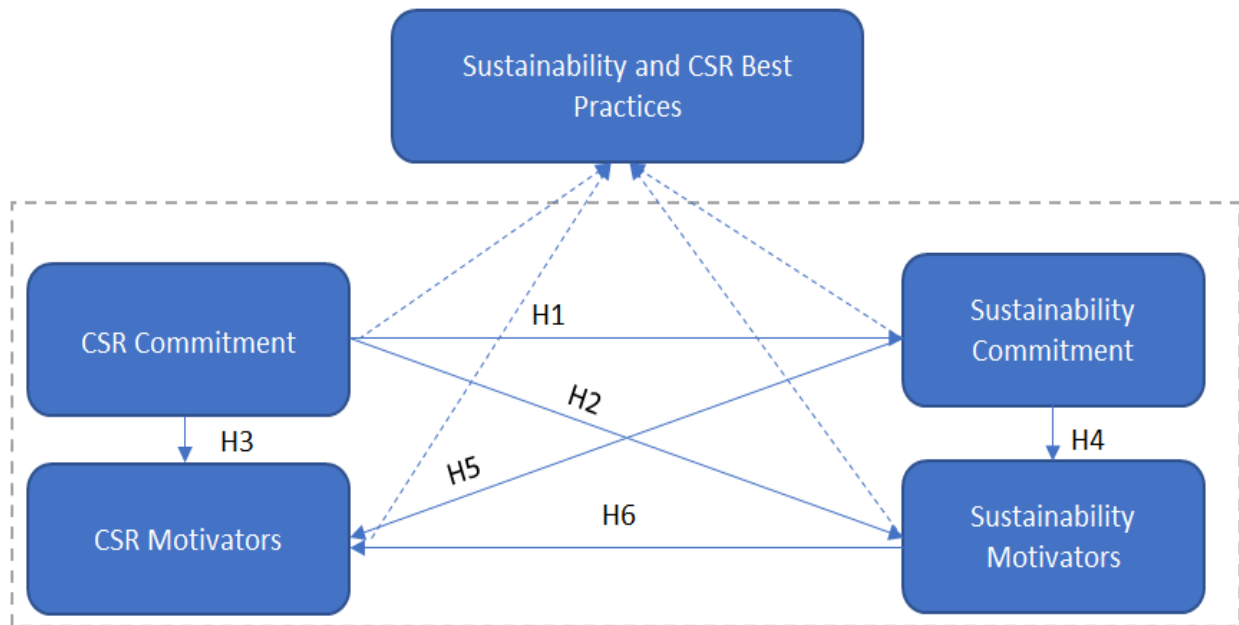




Figure 2: PLS-SEM Analysis

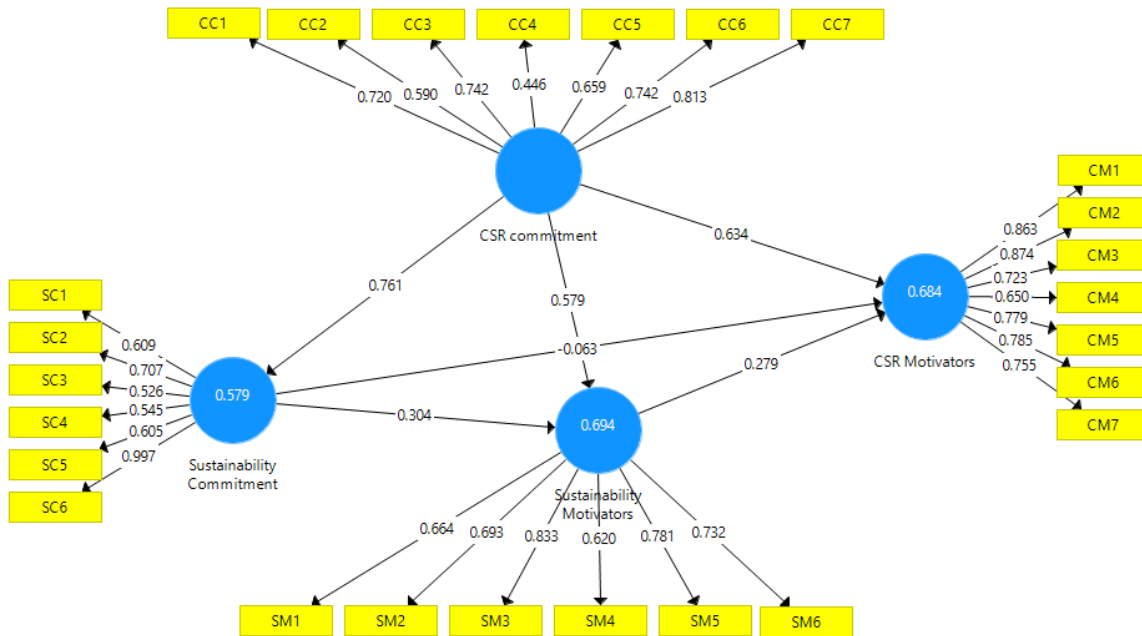


Figure 3: Bootstrapping t-test analysis

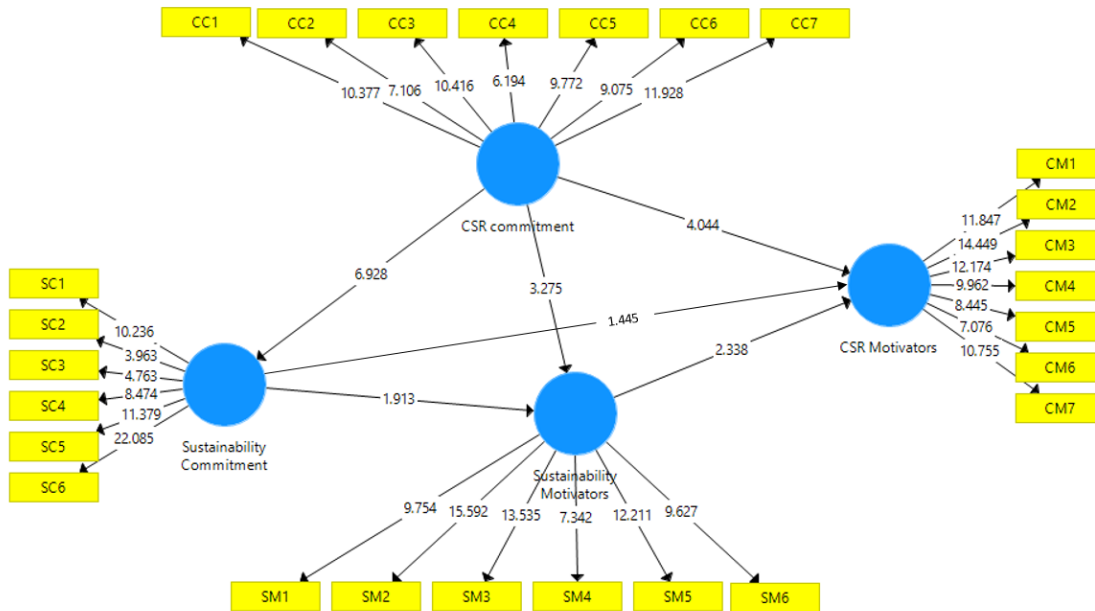


Figure 4: **Managerial framework** for CSR and Sustainability best practices

