The integration of social responsibility into business operation: case study of Indonesian manufacturing industry

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Abstract. Prior studies argue that CSR should be integrated with business operations to get its benefits. However, the empirical research on how CSR and business operations can be incorporated is still limited. This study aims to investigate how to integrate CSR and business operations and to identify the impact of such integration on company performance. Using a sample of 342 manufacturing companies in Java, Indonesia, PLS-SEM was employed to create a path model depicting the relationships between functional integration and company performance. The results showed that Cost, Quality, Supplier, and Employee, have significant positive relationships on company performance, while Innovation and Customers have no impact on company performance.

1. Introduction
Corporate Social Responsibility (CSR) can be defined as “… a concept where-by companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis” [1]. CSR is the most frequently used term to point out the correlation between companies and society [2] and has become a concern for all businesses [3]. Several prior studies emphasize the incorporation of CSR into business operation to improve organizational performance financially and non-financially. But, there are not many research works on how companies attempt to integrate CSR activities into their business [4]. There are still shortcomings of particular concepts, mechanisms for integration activities, and study on specific objectives in the field of social responsibility [5]. Empirical studies on the integration of corporate sustainability into strategic management are still needed [6] because it is still unclear how CSR and business operation can be integrated as well as how such integration between them can affect company performance. Therefore, this study aims to investigate how CSR and business operations are integrated and to examine the impacts of such integration on the organisational performance.

2. Theoretical background
The development of CSR practices depends on how they are integrated into current business practices [7, 8] which enables the companies to achieve not only significant social advantages but also meaningful business-related benefits [9]. CSR implementation can involve a ‘built-in’ and ‘bolt-on’ approach. The former is strategic through incorporating socially responsible behaviours into
companies’ operations, processes, and decision-making. The latter is more potential by embracing social activities that extend beyond current business operations [10]. The former should involve mainstream functions, e.g., production, logistics, and quality control [11].

Some researchers highlight the necessity of incorporating CSR actions into the core activity of the value chain [12, 13, 14]. Companies should consider the social issues connected to the company’s core activities, both the primary and supporting activities as a part of the value chain which consists of suppliers, customers, and specific tools [14]. Thus, they can evaluate which need to be enhanced to broaden the social agreement [12]. Prior studies address on four competitive priorities among manufacturing companies: low cost, quality, delivery performance (speed and reliability), and manufacturing flexibility [15, 16]. Another essential dimension is innovation [17] as one of the main drivers in the strategic orientation of a company [18]. Human Resource Management is also crucial in the integration process [19] by providing employees with the willingness, training, and motivation, necessary to apply CSR actions and initiatives [20].

Stakeholder theory claims that organisations have obligations not only to shareholders but also to stakeholders as groups and individuals who can affect, or are affected by, the achievement of a company’s mission [21]. As the integration of CSR into business operation need to count in the stakeholders’ concerns and objectives in the long-term perspective [22, 23], this study uses stakeholder theory to examine stakeholders’ relationship in the functional integration. Through functional integration, CSR activities are incorporated into the business operation so that the companies ensure that their actions benefit them economically and socially [24, 25]. Therefore, we suggest the hypothesis that the functional integration of CSR and business operation has a positive impact on company performance. Partial Least Square Structural Equation Modelling (PLS-SEM) was employed to predict and explain measured constructs [26] to verify the hypothesis.

3. Research methodology

3.1 Sample and sampling process
This study was conducted in the manufacturing industry in Java, Indonesia, since approximately 2.8 million manufacturers (64.29%) are located in Java. Furthermore, Java contributes over 70% of Indonesian national GDP [27]. The samples were selected from eight industrial estates in Java: (1) Surabaya Industrial Estate Rungkut, (2) Sidoarjo Industrial Estate Berbek, (3) Kawasan Industri Gresik, (4) Pasuruan Industrial Estate Rembang, (5) Ngoro Industrial Park (Mojokerto), (6) Kawasan Industri Wijayakusuma (Semarang), (7) Jakarta Industrial Estate Pulogadung, and (8) Kawasan Industri Jababeka (West Java). This study employed the purposive sampling (non-probability sampling) as the samples were selected from the Manufacturing Industrial Directory 2017 and tenant list of the relevant industrial estates based on the conformity with the sample criteria [28].

3.2 Data collection
A survey using questionnaires was employed from June to September 2018 and administered both mail, e-mail, and online, as self-completion methods [29]. The questionnaires were addressed to senior managers because of their comprehensive understanding of the company strategy and practices related to CSR, and, therefore, would be competent to fill in the questionnaire. From 1,055 questionnaires distributed, 505 questionnaires were returned. After data screening, 342 cases with the response rate of 32.42% fitted the sample criteria and were used for further analysis.

4. Findings and discussion

4.1. The profile of respondents
Details on company characteristics are provided as in Table 1, signifying that the sample represents a variety of manufacturing companies. Most companies are manufacturers of food and beverage (21.1%). The majority of companies (84.8%) have more than 100 employees, and half of the
companies have been set up and operating in the range of 21 and 50 years. A three-quarter (73.7%) of the companies have private ownership, and most of them (67.5%) are in East Java.

| Variable | Frequency (n=342) | Percentage (%) | Variable | Frequency (n=342) | Percentage (%) |
|----------|-------------------|----------------|----------|-------------------|----------------|
| Food and beverage | 72 | 21.1 | Tobacco | 5 | 1.5 | Textile | 11 | 3.2 |
| Tobacco | 5 | 1.5 | >100 | 290 | 84.8 |
| Textile | 11 | 3.2 | Leather and footwear | 6 | 1.8 | <5 | 16 | 4.7 |
| Leather and footwear | 6 | 1.8 | 5-10 | 32 | 9.4 |
| Goods from wood, handicraft | 4 | 1.2 | 11-20 | 56 | 16.4 |
| Goods from wood, handicraft | 4 | 1.2 | >50 | 54 | 15.8 |
| Coke and refined petroleum products | 3 | 0.9 | 21-50 | 184 | 53.8 |
| Coke and refined petroleum products | 3 | 0.9 | >50 | 54 | 15.8 |
| Chemicals and chemical products | 44 | 12.9 | 11-20 | 56 | 16.4 |
| Chemicals and chemical products | 44 | 12.9 | >50 | 54 | 15.8 |
| Pharmaceuticals and medicinal chemical | 7 | 2.0 | Multinational | 81 | 23.7 |
| Pharmaceuticals and medicinal chemical | 7 | 2.0 | State-ownership | 9 | 2.6 |
| Rubber and plastic products | 34 | 9.9 | Private | 252 | 73.7 |
| Rubber and plastic products | 34 | 9.9 | Company’s location | East Java | 231 | 67.5 |
| Basic metals | 6 | 1.8 | Centre Java | 18 | 5.3 |
| Basic metals | 6 | 1.8 | West Java & Jakarta | 93 | 27.2 |
| Non-metallic mineral products | 23 | 6.7 | Company’s age (years) | 16 | 4.7 |
| Non-metallic mineral products | 23 | 6.7 | >50 | 54 | 15.8 |
| Fabricated metal products | 39 | 11.4 | Company’s ownership | Multinational | 81 | 23.7 |
| Fabricated metal products | 39 | 11.4 | State-ownership | 9 | 2.6 |
| Automotive | 23 | 6.7 | Private | 252 | 73.7 |
| Automotive | 23 | 6.7 | East Java | 231 | 67.5 |
| Computers, electronic and optical products | 10 | 2.9 | Centre Java | 18 | 5.3 |
| Computers, electronic and optical products | 10 | 2.9 | West Java & Jakarta | 93 | 27.2 |
| Repair and installation of machinery and equipment | 5 | 1.5 | Company’s location | East Java | 231 | 67.5 |
| Repair and installation of machinery and equipment | 5 | 1.5 | Centre Java | 18 | 5.3 |
| Furniture | 11 | 3.2 | West Java & Jakarta | 93 | 27.2 |
| Furniture | 11 | 3.2 | Other manufacturing | 6 | 1.8 |
| Machinery and electrical equipment | 20 | 5.8 | | | |
| Other manufacturing | 6 | 1.8 | | | |

4.2. Structural Equation Modelling (SEM) Analysis

Figure 1 presents the model of functional integration and company performance involving six constructs of functional integration, i.e., Cost, Innovation, Quality, Supplier, Customer, and Employee. To provide an understanding of CSR impacts on the company performance [30], organisational performances are measured through four constructs: financial performance (CFP) in strategic level, operational performance (COP) and social performance in tactical and operational level, including customer performance (CCP) and employee performance (CEP) [31].

4.2.1 Assessment of the measurement model. Table 2 displays the indicators measured using the 5-point scale from 1=’strongly disagree’ to 5=’strongly agree’. In terms of company performance, subjective measures were used [32] by asking respondents to rate their company’s performance

![Figure 1. Model of functional integration and company performance.](image_url)

| Indicator | Loading | Indicator | Loading |
|-----------|---------|-----------|---------|
| FI01 | 0.771 | FI23 | 0.830 |
| FI02 | 0.766 | FI24 | 0.731 |
| FI03 | 0.804 | FI25 | 0.818 |
| FI04 | 0.805 | FI26 | 0.811 |
| FI05 | 0.781 | FI27 | 0.860 |
| FI06 | 0.721 | FI28 | 0.787 |
| FI07 | 0.851 | FI29 | 0.877 |
| FI08 | 0.848 | FI30 | 0.818 |
| FI09 | 0.789 | CP12 | 0.873 |
| FI10 | 0.776 | CP13 | 0.860 |
| FI11 | 0.810 | CP14 | 0.842 |
| FI12 | 0.832 | CP04 | 0.848 |
| FI13 | 0.845 | CP05 | 0.886 |
| FI14 | 0.814 | CP15 | 0.835 |
| FI15 | 0.834 | CP03 | 0.786 |
| FI16 | 0.756 | CP08 | 0.855 |
| FI17 | 0.754 | CP09 | 0.891 |
| FI18 | 0.844 | CP10 | 0.773 |
| FI19 | 0.767 | CP01 | 0.759 |
| FI20 | 0.791 | CP02 | 0.821 |
| FI21 | 0.810 | CP06 | 0.812 |
| FI22 | 0.795 | CP07 | 0.827 |
relative to their competitors [33] over the most recent 3-year period using the 5-point scale from 1=’much longer/much worse/much lower’ to 5=’much shorter/much better/much higher’. All of 44 indicators have loadings above 0.7 after eliminating two indicators of CCP and CEP with factor loadings below 0.7 [26]. As summarised in Table 3, all of ten constructs have Cronbach’s alpha more than 0.8, composite reliability for all constructs is in the range of 0.89 and 0.92, exceeding the threshold value of 0.7 [28, 34], and AVE is greater than the threshold of 0.50. Results show that the heterotrait-monotrait ratio of correlations (HTMT) used to assess discriminant validity were significantly different from one [35] and below 0.90 [36]. Accordingly, internal consistency reliability, convergent validity, and discriminant validity have been established for the model.

4.2.2 Assessment of the structural model. The structural model assessment includes the collinearity, the significance, and relevance of the structural model relationship, the coefficient of determination ($R^2$), the effect size ($f^2$), and the predictive relevance ($Q^2$) [26]. The result shows that VIF values for all indicators are below 5, indicating no significant levels of collinearity detected among the indicators and the constructs [26]. Table 4 displays the path coefficient resulted from bootstrapping procedure with 5,000 boot-strap samples [26] at 500 observations in the original data with no sign changes option [37] with a significance level of 5% [34]. As shown in Table 4, 21 of 24 paths have a positive direct effect, and three of them show the negative direct effect. Eight positive direct effects are significant because their t-value are higher than the critical value at p-value 5%, this is, Cost $\rightarrow$ CCP, Cost $\rightarrow$ COP, Employee $\rightarrow$ CEP, Quality $\rightarrow$ CCP, Quality $\rightarrow$ CFP, Supplier $\rightarrow$ CCP, Supplier $\rightarrow$ CEP, and Supplier $\rightarrow$ CFP. Other three direct effects are significant at p-value 10%: Cost $\rightarrow$ CFP, Employee $\rightarrow$ CFP, and Quality $\rightarrow$ COP. Among the positive and significant paths, the most substantial direct effect is on Supplier $\rightarrow$ CEP (0.326), then Employee $\rightarrow$ CEP (0.291), and finally Cost $\rightarrow$ COP (0.269) as well as Quality $\rightarrow$ CCP (0.269). Based on those results, the hypothesis were accepted that the functional integration of CSR and business operation has positive and significant impacts on company performance. Table 3 exhibits that four constructs of company performance are weak to medium predictors with $R^2$ value from 0.361 to 0.434. Table 4 shows that six predictors have weak effect size ($f^2$) on company performance. As presented in Table 3, the $Q^2$ values are above 0, signifying that the exogenous constructs have excellent predictive relevance for all endogenous constructs [26].

### Table 3. Constructs measurement

| Construct       | AVE  | Cronbach’s Alpha | Composite Reliability | $R^2$ value | $Q^2$ value |
|-----------------|------|------------------|-----------------------|-------------|-------------|
| Cost            | 0.617| 0.845            | 0.889                 |             |             |
| Innovation      | 0.638| 0.857            | 0.898                 |             |             |
| Quality         | 0.684| 0.885            | 0.915                 |             |             |
| Supplier        | 0.613| 0.842            | 0.888                 |             |             |
| Customer        | 0.636| 0.856            | 0.897                 |             |             |
| Employee        | 0.691| 0.888            | 0.918                 |             |             |
| Customer Performance (CCP) | 0.737 | 0.822 | 0.894 | 0.361 | 0.242 |
| Employee Performance (CEP) | 0.734 | 0.818 | 0.892 | 0.434 | 0.291 |
| Financial Performance (CFP) | 0.685 | 0.845 | 0.896 | 0.370 | 0.232 |
| Operating Performance (COP) | 0.648 | 0.819 | 0.880 | 0.389 | 0.230 |

### Table 4. Path coefficient, T value, P value, and $f^2$ value.

| Path            | Path coefficient | T value | P value | $f^2$ value | Path            | Path coefficient | T value | P value | $f^2$ value |
|-----------------|------------------|---------|---------|-------------|-----------------|------------------|---------|---------|-------------|
| Cost $\rightarrow$ CCP | 0.138 | 2.307 | 0.021 | 0.017 | Innovation $\rightarrow$ CCP | 0.062 | 0.836 | 0.403 | 0.002 |
| Cost $\rightarrow$ CEP | 0.090 | 1.422 | 0.155 | 0.009 | Innovation $\rightarrow$ CEP | -0.030 | 0.440 | 0.660 | 0.001 |
| Cost $\rightarrow$ CFP | 0.121 | 1.831 | 0.067 | 0.014 | Innovation $\rightarrow$ CFP | 0.102 | 1.438 | 0.150 | 0.006 |
| Cost $\rightarrow$ COP | 0.269 | 4.225 | 0.000 | 0.069 | Innovation $\rightarrow$ COP | 0.028 | 0.371 | 0.711 | 0.000 |
| Customer $\rightarrow$ CCP | 0.030 | 0.390 | 0.697 | 0.000 | Quality $\rightarrow$ CCP | 0.269 | 3.650 | 0.000 | 0.039 |
| Customer $\rightarrow$ CEP | -0.058 | 0.813 | 0.416 | 0.002 | Quality $\rightarrow$ CEP | 0.134 | 1.552 | 0.121 | 0.011 |
| Customer $\rightarrow$ CFP | -0.073 | 0.923 | 0.356 | 0.003 | Quality $\rightarrow$ CFP | 0.244 | 3.155 | 0.002 | 0.033 |
| Customer $\rightarrow$ COP | 0.083 | 0.973 | 0.331 | 0.004 | Quality $\rightarrow$ COP | 0.146 | 1.761 | 0.078 | 0.012 |
| Employee $\rightarrow$ CCP | 0.033 | 0.374 | 0.709 | 0.001 | Supplier $\rightarrow$ CCP | 0.179 | 2.151 | 0.032 | 0.018 |
| Employee $\rightarrow$ CEP | 0.291 | 4.177 | 0.000 | 0.053 | Supplier $\rightarrow$ CEP | 0.326 | 4.096 | 0.000 | 0.069 |
| Employee $\rightarrow$ CFP | 0.155 | 1.945 | 0.052 | 0.013 | Supplier $\rightarrow$ CFP | 0.169 | 2.165 | 0.030 | 0.017 |
| Employee $\rightarrow$ COP | 0.103 | 1.231 | 0.218 | 0.006 | Supplier $\rightarrow$ COP | 0.125 | 1.641 | 0.101 | 0.009 |
5. Conclusion

This study is intended to investigate how CSR and business operations are integrated and to examine the impacts of such integration on the company performance. The structural model assessment revealed that functional integration has significant positive results on company performance. Specifically, Cost has substantial impacts on the customer, operating, and financial performance, while Employee has effects on the employees and financial performance. Quality relates to the customer, operating, and financial performance significantly, and Supplier gives effects on the customer, employee, and financial performance. The findings from this study contribute to additional empirical evidence of the CSR integration and its impacts on company performance, particularly in the manufacturing industry.

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References

[1] Commission E 2011 Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions: A Renewed EU Strategy 2011-14 for Corporate Social Responsibility
[2] Branco M C and Rodrigues L L 2006 J. Bus. Ethics. 69 111-12
[3] Martinuzzi A and Krumay B 2013 Journal of Change Management 13 424-43
[4] Yuan W, Bao Y and Verbeke A 2011 J. Bus. Ethics. 101 75-92
[5] Tonyseva L L, DVC 2016 Asian Social Science 12 115-23
[6] Engert S, Rauter R and Baumgartner R J 2016 Exploring the integration of corporate sustainability into strategic management: a literature review J. Clean. Prod. 112 2833-50
[7] Marín L, Rubio A and de Maya S R 2012 Competitiveness as a strategic outcome of corporate social responsibility Corporate Social Responsibility and Environmental Management 19 364-76
[8] Marques-Mendes A and Santos M J 2016 Strategic CSR: an integrative model for analysis Soc. Responsib. J. 12 363-81
[9] Bhattacharyya S S 2010 Exploring the concept of strategic corporate social responsibility for an integrated perspective European Business Review 22 82-101
[10] Insight E 2016 Strategic Direction 32 27-9
[11] Busaya V, Kalayanee K and Gary N M 2009 Social Responsibility Journal 5 178-99
[12] Filippo V, Michele R and Antonello G 2016 J. Manag. Dev. 35 1323-43
[13] Rangan K, Chase L A and Karim S 2012 Why Every Company Needs a CSR Strategy and How to Build It, Harvard Business School, April 5, 2012, Working Paper
[14] Witek-Hajduk M K and Zaborek P 2016 Sustainability 8 93
[15] Chi T 2015 Business contingency, strategy formation, and firm performance: an empirical study of chinese apparel SMEs Administrative Sciences 5 27-45
[16] Ward P T, Duray R, Keong Leong G and Sum C C 1995 J. Oper. Manag. 13 99-115
[17] Theodorou P and Florou G 2008 Manufacturing strategies and financial performance—the effect of advanced information technology: CAD/CAM systems Omega 36 107-21
[18] Baumgartner R J 2014 Corporate Social Responsibility & Environmental Management 21 258-71
[19] Guadamillas-Gómez F, Donate-Manzanares M J and Škerlavaj M 2010 The integration of corporate social responsibility into the strategy of technology-intensive firms: a case study Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu 28 9-34
[20] Waring P and Lower J 2004 J Bus Ethics 52 99-108
[21] Freeman, RE 1984 *Strategic Management: A Stakeholder Approach* (Cambridge University Press)
[22] Gazzola P and Colombo G 2014 *Cross-Cultural Manag. J.* 16 331-8
[23] Maon F, Lindgreen A & Swaen V 2009 *J. Bus. Ethics.* 87 71-89
[24] Porter M and Kramer M 2006 Strategy and society: the link between competitive advantage and corporate social responsibility *Harv. Bus. Rev.* 84 78
[25] Werre M 2003 *J. Bus. Ethics.* 44 247-60
[26] Hair J, Hult G, Ringle C M and Sarstedt M 2017 *A primer on partial least squares structural equation modeling (PLS-SEM)* Second ed (Los Angeles Sage)
[27] BPS 2017 *Analisis Hasil Listing: Aglomerasi Industri Manufaktur di Indonesia* (Indonesia Badan Pusat Statistik) 978-602-438-178-3
[28] Zikmund W, D'Alessandro S, Winzar H and Babin B 2017 *Marketing Research* (Australia Cengage Learning)
[29] Hair J, Celsi M, Money A H, Samouel P and Page M J 2011 *Essentials of Business Research Methods*, Second ed (New York ME Sharpe Inc)
[30] Waagstein P R 2011 *J. Bus. Ethics.* 98 455-66
[31] Gyusun Hwang S H, Jun S B and Park J W 2014 *International Journal of Innovation, Management and Technology* 5 50-5
[32] Kim E, Nam D-i and Stimpert J L 2004 *Journal of Business Strategies* 21 19-45
[33] Wall T D, Michie J, Patterson M and Wood S J 2004 *Personnel Psychology* 57 95-118
[34] Hair J, Ringle C and Sarstedt M 2011 *The Journal of Marketing Theory and Practice* 19 139-52
[35] Sarstedt M, Ringle C M and Hair J F 2017 *Handbook of Market Research* (Springer International Publishing AG) 1-41
[36] SmartPLS 2014 *Discriminant Validity Assessment* SmartPLS GmbH, viewed 7th January 2019, <https://www.smartpls.com/documentation/algorithms-and-techniques/discriminant-validity-assessment>
[37] Henseler J, Ringle C M and Sinkovics R R 2009 *The use of partial least squares path modeling in international marketing* (Emerald Group Publishing Limited)