The effect of strategic performance measures and market orientation on a firm’s performance

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Firm performance, market orientation, service sector, strategic performance measures

Abstract
This study investigates the effect of strategic performance measures (SPM) on a firm’s performance in the service sector with and without the mediating effect of market orientation (MO). We analyse 107 data points with structural equation modelling SmartPLS. The results show that to use SPM has a positive effect on a firm’s performance, both directly and indirectly through the mediator of MO (customers). We do not involve MO (competitors), a completely different dimension. In addition, using the Sobel test, we find that MO (customers) fully mediates the relationship between SPM and a firm’s performance. This research confirms that a firm does better when it consistently fulfils its customers’ needs and thus gains a sustainable competitive advantage. Previous studies of MO by management accounting researchers did not fully recognise the effect of the mediation.

Introduction
The essence of business strategy is how ‘a company creates value for customers and differentiates itself from competitors in the marketplace’ (Simons, 2000, p. 6). In order to gain a sustainable competitive advantage, an organization should seek potential markets that differentiate it from its competitors. Such orientation may enable the organization to acquire a long-term competitive advantage with subsequently improved performance (Zhou, Brown, & Dev, 2009). However, market orientation (MO) has been investigated more in the marketing literature (e.g. Narver & Slater, 1990; Slater & Narver, 1995), than in management accounting (see: Cadez & Guilding, 2008; Guilding & McManus, 2002). For instance, Cadez and Guilding (2008, p. 841) note that ‘the inclusion of MO [...] was also partially motivated by a lack of recognition given to the construct by accounting researchers.’ This acknowledged gap motivates us to investigate the extent to which MO mediates the relationship between strategic performance measures (SPM) and performance. More specifically, using similar data in the Indonesian financial institutions, I rely on integrative strategic performance measurement as our SPM construct.

We hypothesise that the use of SPM can enhance MO, in turn leading to improved performance. This belief is based on the fact that SPM generates a continuous flow of relevant information to achieve strategic goals, and to facilitate improvement when an organisation is in difficulties. Some scholars note that MO, too, is a process to generate information and sustainably to improve performance (Cravens, Greenley, Piercy, & Slater, 1997; Kumar, Jones, Venkatesan, & Leone, 2011; Slater & Narver, 1995)
In addition, MO is a way to respond to the market and swiftly to reorient in conditions of rapid dynamic change (Day, 1994; Narver & Slater, 1990). Furthermore, the central concept of MO is that firms can continuously meet the ever-changing needs of buyers (Narver & Slater, 1990). Thus, when a firm can respond to market requirements and focus on buyers, it can maintain long-term relationships with its customers and perform well. (Narver & Slater, 1990; Tajeddini, 2010). Based on this argument, we draw up the research framework in Figure 1 below:

Figure 1: Research Framework

Thus, I propose a research question:
*To what extent does SPM enhance a firm’s performance through mediation by MO?*

We study the service sector in firms listed on the Indonesian stock exchange. We agree with Kihn (2010), Chenhall (2005), Yuliansyah, Rammal, and Rose (2016), and Yuliansyah et al. (2016) that studies of management accounting in the service sector are quite limited. This study enriches. Also, by including MO, this study fills another gap in the literature of management accounting. Although marketing is widely discussed, its study in the field of management accounting is limited (Cadez & Guilding, 2008; Guilding & McManus, 2002). In today’s very competitive market, management control systems guide, monitor, and implement MO to stimulate performance. Again, this study adds to the literature of how management control systems can shift an organization’s MO and subsequently make performance better.

This paper is divided into five sections. The next, section 2, is hypothesis development, followed by Section 3, research methodology, and Section 4, Structural Equation Modelling Test – Partial Least Square. The last part, 5, sets out our conclusions, recommendations, and procedural comments including limitations.

**Literature review and hypothesis development**

**Strategic Performance Measures and market orientation**

SPM is a critical process, crucial to the success or failure of an organization, and it must be appropriate to the firm’s strategy (Baird, 2017; Pollanen, Abdel-Maksoud, Elbanna, & Mahama, 2017; Yuliansyah, Gurd, & Mohamed, 2017; Yuliansyah & Khan, 2015). Management accountants affirm that the purpose of SPM is to control and evaluate business strategy that has been previously decided (Chenhall, 2005; Naranjo-Gil & Hartmann, 2007; Riccardo, Monica, Anna, & Franco, 2015). Porter (1985) says that to achieve sustainable competitive superiority, an organization must choose between business strategies of low cost or of differentiation. Which is chosen depends on how much the organization can amend its MO. If the organization desires MO, it requires information that can formulate, evaluate, control, and detect if there is a problem. The information comes from a strategically oriented performance measurement system.

Although work on strategic measures and MO is rare in the management accounting field, Guilding and McManus (2002) show that strategic management accounting has a positive relationship with MO. Therefore, we hypothesise the following:

H1: There is a positive relation between strategic performance measures and market orientation.

**The relationship between market orientation and firm performance**

Market orientation is a source of sustainable competitive advantage in static markets (Huhtala, Vaniala, & Tikkanen, 2016, p. 73). The implementation of MO is related to the improvement of a firm’s performance (Jaworski & Kohli, 1993), because MO is a characteristic of organizations that consistently
meet the demands of customers (Webb, Ireland, Hitt, Kistruck, & Ti
hanyi, 2011). Furthermore, Jaworski and Kohli (1993) find that m
arket-focused organizations more quickly respond to market changes, and so ful
fil the desires of customers more quickly. Therefore, a company implementing MO will be able to achieve excellent performance. Cravens et al. (1997) state that a market-oriented firm is not only able to achieve higher-level performance, but is also able to build a sustainable competitive advantage.

The evidence shows that MO can increase performance (Cadez & Guilding, 2008; Holm, Kumar, & Plenborg, 2016; Kirca, Jayachandran, & Bearden, 2005; Migliori, Pittino, Consorti, & Lucianetti, 2017; Tina & Maria, 2015). Based on the above consensus, we hypothesise the following:

H2: There is positive relation between market orientation and a firm’s performance.

SPM and Performance

It appears that SPM has a positive effect on organizational performance. SPM is designed to reveal the extent to which members of the organization can run activities to achieve their objectives. Balanced scorecards, for example, in SPM have characteristics that link performance measures with a firm’s business strategies. This tool regularly monitors the firm’s progress and gives information about its achievements. In addition, when firms face problems in achieving a higher level of performance, SPM enables them to respond quickly to the problem and make changes quickly (Davis & Albright, 2004; Hoque & James, 2000; Van der Stede, Chow, & Lin, 2006; Yuliansyah et al., 2017). Based on these findings, we propose the following hypothesis:

H3: There is a positive relationship between SPM and a firm’s performance.

Research methods

3.1 Sample of the study

The population of this study is the service sector in companies listed on the Indonesian stock exchange. Following previous authors (Dillman, 1991; Dillman et al., 2007; Dillman, Sinclair, & Clark, 1993; Fox, Crask, & Kim, 1988; Ghani, Tarmezi, Said, & Yuliansyah, 2016; LaGarce & Kuhn, 1995; Yuliansyah et al., 2016), we include a booklet form of our questionnaire paper, a courtesy that is believed significantly to improve the response rate. From 150 distributed questionnaires, we got an outstanding 135 responses and a very satisfactory sample of 107 usable data points (71% of the 150 distributed). The demographic information of the sample (N=107) can be seen in Table 1 below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>N</th>
<th>Cumulative</th>
<th>%</th>
<th>Cumulative (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
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<td>78</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>Female</td>
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<td>107</td>
<td>27</td>
<td>100</td>
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<td>Age</td>
<td>&lt; 35</td>
<td>4</td>
<td>34</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>36-40</td>
<td>2</td>
<td>76</td>
<td>39</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>41-45</td>
<td>9</td>
<td>105</td>
<td>27</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>&gt;46</td>
<td>2</td>
<td>107</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>Education</td>
<td>Senior High</td>
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<td>11</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>School/Diploma</td>
<td>6</td>
<td>97</td>
<td>82</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Bachelor (S1 S2/S3)</td>
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<td>105</td>
<td>8</td>
<td>100</td>
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<td></td>
<td></td>
<td>107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Division</td>
<td>Accounting &amp; finance</td>
<td>9</td>
<td>19</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>General</td>
<td>0</td>
<td>59</td>
<td>37</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Human resources</td>
<td>67</td>
<td>8</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing</td>
<td>1</td>
<td>76</td>
<td>8</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>107</td>
<td></td>
<td>29</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1. Demographic Information

3.2 Variables measurement

Strategic Performance Measures

SPM uses the questionnaire developed by Hall (2008) and used by Hall, (2011) and Yuliansyah & Khan, (2015). This questionnaire consists of 9 statements. The respondents are asked to show how much they agree with the statements by using 5-scale Likert, from 1 (strongly disagree) to 5 (strongly agree).
**Market Orientation**

MO uses the instrument developed by Narver & Slater (1990), and used by many others such as (Henri, 2006). Ten questions include four about the competitor-oriented market and six about the customer-oriented market. Respondents are asked again to use a 5-scale Likert.

**Performance**

Company performance questionnaires use four indicators of financial performance: rate on assets (ROA), rate of income or revenues, return on investments (ROI), and profitability. In many studies of financial performance these indicators are common (Henri, 2006; Yee, Yeung, & Edwin Cheng, 2010; Yeung, Lai, & Yee, 2007; Yuliansyah et al., 2017). Respondents were asked to rate their firm’s performance compared to the previous year on a five-point Likert scale ranging from 1 (far below average) to 5 (far above average).

**4. Result and Discussion**

In this study, the data analysis is by using structural equation modelling (SEM). A reason to choose SEM is that “the ability to model multiple relationships is an advantage of latent variable SEM over multiple regression and path analysis” (Baines & Langfield-Smith, 2003). Likewise, SEM can examine simultaneously the measurement model and structural model (Burton-Jones & Hubona, 2006). Smith and Langfield-Smith (2004) and Hulland (1999) say that analysing SEM uses two steps, which are the measurement model and the measurement structural model.

Model measurement is used to test reliability and validity (Camisón & López, 2010; Hulland, 1999; Urbach & Ahlemann, 2010). Reliability testing is done by analysing Cronbach’s alpha and composite reliability. In accordance with regular use, if Cronbach’s alpha is more than 0.7 it shows that the reliability level is good (Hulland, 1999).

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPM</td>
<td>0.900</td>
<td>0.918</td>
<td>0.556</td>
</tr>
<tr>
<td>MO-Competitor</td>
<td>0.882</td>
<td>0.914</td>
<td>0.679</td>
</tr>
<tr>
<td>MO-Customer</td>
<td>0.715</td>
<td>0.835</td>
<td>0.631</td>
</tr>
<tr>
<td>Firm Performance</td>
<td>0.868</td>
<td>0.907</td>
<td>0.709</td>
</tr>
</tbody>
</table>

**Table 2: Cronbach’s Alpha, Composite Reliability, Average Variance Extracted (AVE)**

Validity testing using PLS is done by convergent validity testing and discriminant validity testing. Convergent validity can be calculated by looking at the Average Variance Extracted (AVE) score. (Henseler, Ringle, & Sinkovics, 2009) say that a convergent validity value is very good if its AVE score is above 0.5. The purpose of the discriminant validity test is to see whether the item is unique and different from other constructs in the model (Hulland, 1999). To test discriminant validity, the two methods which can be used are the Fornell-Larcker method and the Cross-loading method.

The Fornell-Larcker method is to compare square roots on AVE with latent vertical correlation. The other method, Cross-loading, requires that all items must be more than other constructs (Al-Gahtani, Hubona, & Wang, 2007).

<table>
<thead>
<tr>
<th></th>
<th>SPMS</th>
<th>Competitor</th>
<th>Customer</th>
<th>Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPM</td>
<td>0.746</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO-Competitor</td>
<td>0.632</td>
<td>0.824</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO-Customer</td>
<td>0.585</td>
<td>0.680</td>
<td>0.794</td>
<td></td>
</tr>
<tr>
<td>Firm Performance</td>
<td>0.343</td>
<td>0.248</td>
<td>0.358</td>
<td>0.842</td>
</tr>
</tbody>
</table>

**Table 3: Fornell-Larcker criterion**
Table 3 above shows the construct correlation value of each variable. The discriminant measurement using Fornell-Larcker is good. Discriminant validity evaluates the loading factor of each question by using cross loading. The validity value is considered good if the item value of each construct is higher than other item values. Table 4 below shows that discriminant validity using cross loading is good.

<table>
<thead>
<tr>
<th></th>
<th>SPM</th>
<th>Competitors</th>
<th>Customers</th>
<th>Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPM1</td>
<td>0.783</td>
<td>0.480</td>
<td>0.480</td>
<td>0.310</td>
</tr>
<tr>
<td>SPM2</td>
<td>0.778</td>
<td>0.576</td>
<td>0.447</td>
<td>0.217</td>
</tr>
<tr>
<td>SPM3</td>
<td>0.709</td>
<td>0.355</td>
<td>0.314</td>
<td>0.362</td>
</tr>
<tr>
<td>SPM4</td>
<td>0.693</td>
<td>0.432</td>
<td>0.450</td>
<td>0.280</td>
</tr>
<tr>
<td>SPM5</td>
<td>0.809</td>
<td>0.562</td>
<td>0.544</td>
<td>0.216</td>
</tr>
<tr>
<td>SPM6</td>
<td>0.737</td>
<td>0.467</td>
<td>0.455</td>
<td>0.295</td>
</tr>
<tr>
<td>SPM7</td>
<td>0.748</td>
<td>0.523</td>
<td>0.497</td>
<td>0.258</td>
</tr>
<tr>
<td>SPM8</td>
<td>0.775</td>
<td>0.472</td>
<td>0.379</td>
<td>0.183</td>
</tr>
<tr>
<td>SPM9</td>
<td>0.666</td>
<td>0.263</td>
<td>0.250</td>
<td>0.183</td>
</tr>
<tr>
<td>MO1</td>
<td>0.508</td>
<td>0.839</td>
<td>0.479</td>
<td>0.264</td>
</tr>
<tr>
<td>MO2</td>
<td>0.369</td>
<td>0.804</td>
<td>0.597</td>
<td>0.144</td>
</tr>
<tr>
<td>MO3</td>
<td>0.577</td>
<td>0.869</td>
<td>0.594</td>
<td>0.134</td>
</tr>
<tr>
<td>MO4</td>
<td>0.520</td>
<td>0.819</td>
<td>0.524</td>
<td>0.282</td>
</tr>
<tr>
<td>MO5</td>
<td>0.581</td>
<td>0.788</td>
<td>0.617</td>
<td>0.179</td>
</tr>
<tr>
<td>MO6</td>
<td>0.531</td>
<td>0.688</td>
<td>0.673</td>
<td>0.257</td>
</tr>
<tr>
<td>MO7</td>
<td>0.554</td>
<td>0.616</td>
<td>0.872</td>
<td>0.352</td>
</tr>
<tr>
<td>MO8</td>
<td>0.528</td>
<td>0.516</td>
<td>0.824</td>
<td>0.240</td>
</tr>
<tr>
<td>KP1</td>
<td>0.331</td>
<td>0.249</td>
<td>0.363</td>
<td>0.888</td>
</tr>
<tr>
<td>KP2</td>
<td>0.293</td>
<td>0.160</td>
<td>0.240</td>
<td>0.829</td>
</tr>
<tr>
<td>KP3</td>
<td>0.277</td>
<td>0.247</td>
<td>0.401</td>
<td>0.888</td>
</tr>
<tr>
<td>KP4</td>
<td>0.248</td>
<td>0.137</td>
<td>0.075</td>
<td>0.758</td>
</tr>
</tbody>
</table>

Table 4: Cross-loading

4.1 Evaluation of structural model
Evaluation of the structural model is through the coefficient of determination (R²) and coefficient test. Good R² scores exceed 0.1. Figure 2 below shows that the scores of R² are: 0.342, 0.400 and 0.160. I can say that R² is good as the scores are more than 0.1. The coefficient test can be used alongside the hypothesis test in the following section:

4.2 Hypothesis test
Hypothesis 1: Strategic Performance Measures and Market Orientation
Hypothesis 1 postulates a positive relationship between SPM and MO. According to Table 2 above, Strategic Performance Measurement and MO (Customers) have these figures: (β=0.585, t = 8.528, p < 0.01), and for MO (Competitors) the figures are (β=0.632, t = 9.769, p < 0.01). Hence Hypothesis 1 is supported.
Hypothesis 2: Market Orientation and Performance
Hypothesis 2 postulates a positive relationship between MO and a firm’s performance. Statistical analysis shows that MO (Customers) has a weak effect on performance (β= 0.284; t= 1.698; p > 0.10) but no effect on the other dimension of MO (Competitor) since (β= -0.0096; t= 0.735; p > 0.10). On these findings, Hypothesis 2 is partly supported.
Hypothesis 3: Strategic Performance Measures and performance
Figure 2 indicates that SPM has a weak positive effect on a firm’s performance. It can be seen from the statistical calculation that $\beta = 0.254$; and $t = 1.628$ at $p< 0.10$. Hence, Hypothesis 3 is supported.

![Figure 2: PLS model with significant path coefficients](image)

*** Significant at 1%
** Significant at 5%
* Significant 10%

4.3. Path analysis

We do path analysis using the Sobel test as there is both a direct and an indirect effect of SPM on performance. The interactive mediation test shows that the indirect effect is 2.837. This score has a higher value than the direct effect of 1.628 (see Figure 2 above). From the Sobel test we conclude that there is a full mediation of the relationship between performance measures and firm performance through the MO (Customers) dimension.

4.4. Discussion

From the above results, it seems that organizations benefit from the implementation of SPM. Additionally, SPM can support market orientation to achieve an excellent organisational performance. Furthermore, the benefits of using PMS in decision making can reinforce an organization’s market orientation and again improve performance. However, the strengthening of performance in this study is found only for the MO (Customers) dimension, not for MO (Competitors). In addition, this study contradicts Cadez & Guilding (2008)’s study in the Slovenian Chamber of Commerce and Trade-listed firms. They find that SPM do not strongly support MO. A respondent from contradicts Cadez & Guilding (2008)’s interview notes that SPM are not completely oriented to the market. Firms provide services (and goods) largely based on what customers want. However, contradicts Cadez & Guilding (2008) claim that this phenomenon exists only for mature companies, not for all firms. Most authors in the SPM field say that business strategy and SPM have links to each other. When a firm focuses on certain market, it develops appropriate measurements of the organisational goals. Thus, SPM can not be developed before a strategy is determined. Based on statistical analysis, contradicts Cadez & Guilding (2008) confirm that SPM and MO have a strong relationships.

We predict that the MO (Customers) business strategy of market orientation is effective in fulfilling customer satisfaction rather than in countering competitors. Similarly with BSC principles, where most studies focus more on the linkage of SPM to the customer, to gain a sustainabe competitive advantage. Cadez and Guilding (2008) also say that MO has potential to deliver an organisational profit. The bad news is that a positive effect of MO on performance can be seen only for customers, not for competitors. We may expect that MO is likely to help a firm fulfil its customers’ requirements and give satisfaction. This expectation is in line with interviews by Cadez & Guilding (2008), in which the interviewees state that MO leads to deals closed with customer orientation more important than competitor orientation.
this assumption needs to be further explored. Finally, we agree with previous studies (e.g. Chenhall (2005), that SPM facilitates customer orientation and helps a firm to achieve strategic outcomes.

5. Conclusion

A higher level of financial performance can be achieved when an organisation can fulfil the buyers’ requirements. It is very important for a company to monitor their achievement in order to respond quickly in a dynamic business environment. SPM facilitates sustainable strategic outcomes (Chenhall, 2005; Yuliansyah & Jermias, 2018). I find that SPM does improve performance, both directly, and indirectly through MO (Customers), but performance is not mediated by MO (Competitors). To find whether the higher effect is directly or by mediation, I use the Sobel test. The result shows that there is full mediation through MO of the relationship between SPM and performance.

This study implies that SPM benefits a market-oriented firm by providing information about customers and competitors to sustain competitive advantages. I suggest that implementing SPM should stimulate not only individual achievement but also the whole organisation.

This study has some limitations. Firstly, the research is conducted in the service sector, which differs from manufacturing in that a firm can gain competitive advantage in the service industry without necessarily investing capital, and when it can provide an excellent service quality without necessarily a long lead time. Thus, the result of the study cannot readily be generalised to manufacturing. Secondly, the limitation of a survey study is that it can gain deep results only by testing hypotheses.

References


