EMPIRICAL ANALYSIS ON SHAREHOLDER'S WEALTH CREATION THROUGH VALUE BASED MEASUREMENT TOOLS

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ABSTRACT

We compared the relationship between traditional financial measures and economic value based financial measures with created shareholder's wealth. A value based model is created to explore the degree of value creation in the organization. The paper contributes to the existing literature on performance measurement as it had used cross sectional pooled time series data for getting greater empirical certainty on the implication of EVA. Even though economic value added was significant support it has not been reported by the companies and has not been used by investors for the investment decisions. Hence managers are suggested to pay more focus on the importance of EVA and its benefits for the shareholder’s wealth creation. It was also found that earnings per share (EPS) as a traditional measure is still enables to measure shareholder's value creation. Thus it is important to perform a comparative investigation between EVA and EPS towards shareholder's value creation. The importance of EVA as an economic measure over traditional accounting measures that would result with an effective decision making and compensation process for managers as well as shareholders.

Keywords: Traditional measures, Economic value added, Market Value Added, Shareholder's value , Bursa Malaysia

INTRODUCTION

The linkage between value based performance measures and creation of shareholder's wealth have been a debatable issues for academicians and practitioners in the last decades. Corporate managers and executives have engaged in the debate on whether the new value based economic measures are highly significant for shareholder's wealth creation than the old traditional performance measures. Economic Value Added (EVA) is one of the value based economic measure that have been focused and investigated heavily and were adopted due to its claims of providing accurate result of shareholder's return. EVA is a residual income that is remained after deduction of all costs including opportunity cost of capital employed. An economic decline in demand and reduction in real estate had greatly influenced the monetary policy of Malaysia. The construction industry sector is an important part of Malaysian economy. Construction industry contributes 5% of GDP and employs 3% of workforce. For the Malaysian market construction industry contributed 5% of GDP for year 2010-2011 (Malaysian
Economic Report 2010-2011) as shown in Figure 1. The construction sector in the fiscal year 2009 was expanded by 5.8% as compared to other economic sectors in Malaysia. The strong growth of this sector reflected in the second quarter of 2009 where the growth remained to 4.5% followed by the 3rd quarter 7.9 and 4th quarter by 9.3%. This strong growth of sector contributed heavily in the economic stimuli of the country (BNM, 2010).

![Figure 1: Growth rate of GDP and Construction from 1965 – 2003](image)

According to Isa et al (2006), construction industry has played a key role in the socio economic development of all the countries. Furthermore, Ariff and Lopez uttered that Malaysian companies since mid of 1970s have been investing abroad. With the formation of ASEAN Free Trade Area in 1992, Malaysian companies were to invest abroad in the ASEAN countries. For instance, Isa et al (2006) also stated that globalization of construction market bring along competition and challenges but also provides opportunities by opening new markets. Construction industry in Malaysia is divided into two main categories: i.e. General construction and Special Trade Works (2007). Malaysian construction industry has been considered as the population under study. There are several reasons that why construction industry sector was chosen as population of ongoing research which has been explained as: (1) The construction sector is one of the productive sectors that contribute constantly to the economy of Malaysia; and (2) The growth rate of this sector fluctuates heavily as it is related to other sectors. This shows that the demand of construction is heavily sensitive to developments in other sectors of the economy.

Mocsary (2013) mentioned that there is often conflict of relation between shareholder and firm when management’s decision does not favor to shareholder’s interest. In order to take wise investment decisions, shareholders must identify whether firms cover the costs associated to capital. Most of the shareholders focus on traditional financial measures like earnings per share (EPS), profit margin, net income (NI), return on assets (ROA), return on equity (ROE) and etc, to identify and measure appraisals of the firms. Hasani, S.M. and Z. Fathi (2012) and many other academicians have criticized the usage of such traditional measures as they does not include cost of capital. Hence, there was need to propose value based measures like economic value added (EVA) and market value added (MVA) that can
adequately consider true cost of capital and help shareholders for better investment decisions (Erasmus, 2008; Al Mamun, A., H. Entebang, and S.A. Mansor, 2012). Traditional performance measures are not able to adequately consider company's true cost of capital investment. Even though the traditional profit measures of net income includes depreciation costs (Historical fixed cost and long term assets) and interest cost (Cost of Debt). But the Net Income does not include the equity cost that determines the returns of investors. Thus, the performance measures based on net income and operating income promotes and helps managers on short term decision making. The contribution of this paper is to explore the relationship between traditional financial measures and economic based measures. There have been set of literature that studies endogenous creation of shareholder's wealth. As the research is done on EVA and shareholder's value, the aim of the research is to determine whether positive EVA would leads to growth of share price for construction industry listed in Bursa Malaysia formerly known as Kuala Lumpur Stock Exchange (KLSE index).

Over the years many financial indicators have been used to measure shareholder’s value. Some of these indicators are Profit after Tax (PAT), Earnings per share (EPS), Return on Assets (ROA) and Return on Equity (ROE). All these financial indicators are being strongly criticized as they are not able to measure the cost of capital owned. Appannan and Sim (2011), mentioned that Malaysia as a developing country still lack with research on dividend policy and its determinants for the listed companies. Pandey (2003) found that plantation and consumer product sectors in Malaysia are paying high dividends due to their higher surplus in cash. Thus dividend payout decisions by managers proxies in this study for investigating enhancement of shareholder's value.

In addition, the earning per share that is known to be as profit based measure is criticized due to their absence in the balance sheet. EPS disregards the value of assets used to generate the balanced sheet. Thus there have been demands for the use of a performance measure that can take into account the full cost of long term capital and able to measure internal performance. According to Kapoor (2011), dividend policy is one of the top ten puzzle in finance. Dividend policy enhances firm’s value along with maximizing shareholder's value. But the dividend distribution can contribute to firm's value is a debatable issue. Companies that operate in different area of business have different capital structure and assets. It all depends on the nature and type of the business. The structure of returns, costs and profit are also different. If the assets do not create a particular amount of sales, it is not able to generating good operating profit and results with unfavorable effect in the return. Bradley (1997) stated that many firms that are engaged in heavy knowledge based innovation activities have clear difference between their book value and market value. Morgan Stanley quoted that the stock price tends to be twice of the book value in the world and is much higher in the American Market. This implies a gap or difference that some important financial aspects of value are not reflected in the financial statement (Chen, M.C., S.J. Cheng, and Y. Hwang, 2005).

In addition, Minchington and Francis (2000) found three main difficulties for the implementation of new measures in practices. Firstly there is possible lack of awareness of new measures even if there are very
active promotions by the management consultants. Once the measures are being selected the barrier to the implementation includes technical difficulties like establishment of cost of capital and the capital assets. There are also some of the organizational barriers like time and resistance to change; organizations may encounter cultural and political difficulties in gaining acceptance and ownership of new measures. Thus the aim of the research is to determine the EVA of the public listed construction companies in Malaysia for the period of 2003 to 2012. Further aim of this research is to know the relationship between EVA and Shareholder's value.

**LITERATURE REVIEW**

EVA is a residual income that is measured by the different of net operating profit after taxes (NOPAT) and cost of capital. EVA is able to estimate true economic profit for the company by which the earnings exceeds or fall short on the required rate of return. NOPAT and capital charge (the amount of capital times the cost of capital) are the key components of EVA (Ehrbar, 1998). According to Stewart (1991), NOPAT is the profit that is derived from the company’s operations after tax. NOPAT is the total pool of profits available to provide cash return to the shareholders and the debt holders of the firms. EPS is still utilized as a major performance measure for the analysts but it have also been criticized due to its weaknesses, inappropriateness and misleading disclosures. Firms in order to attract investors show high EPS by not distributing whole net profit in the form of dividend. This move enables the firm to maintain their capital structure which in turn increases their assets followed with high EPS (Sharma, A.K. and S. Kumar, 2010).

The creation of Shareholder’s value is one of the important goals of many companies listed in Malaysian Stock exchange. The importance of company valuation has been increased eventually over the past decades. In the capital market the valuation of company played a crucial role and shown a dynamic growth of company transactions. The concept of company valuation includes investment decisions. This arise the importance and modern valuation approaches like Discounted Cash Flow and Economic Value Added. When focusing on valuation of company question arises of who might be interested in the resulting numbers. A more specific and general answer would be all stakeholders.

The evolution of economic profit – economic value added is a fascinating study with historical roots that can be traced back to the classical economist notions of “residual income” (Grant, 2003). The uses of EVA have shown high interest by corporate managers and business peoples in recent years. As stated by Lehn and Makhija (1997), EVA provides most appropriate and reliable year to year indicator of market based performance like MVA with the main goal of creating shareholder’s value (Stewart, 1991).

With the globalization of competition and capital markets shareholder's value has been considered and focused highly by executives in the organizations. Also shareholder's value has been considered to play a vital role to measure business performance (Rappaport, 1999). In addition, Rana (2001) stated in their research that increasing shareholder's value is an innovative step that reflects the value that company
provides to its shareholders. It is not so easy to measure value and opportunity cost of capital that not only increase shareholder's value but also achieve organizational performance. Furthermore, Minchington and Francis (2000) examined in their research that balance sheet based measures that provides accounting based financial information and performance of companies often measures notional profits are not real ones.

Jensen (2001) mentioned that in the stakeholder model, the theory of value creation shows that all those who create value in relation to the firms assuming risks, entities who have direct or indirect claims with the organization or who suffer the impact of the firm’s misinformation must be considered as stakeholders. Only increasing value of stakeholders are not enough to guarantee social value creation as there are relevant stakeholders that must also be considered. Other variables like limited market power, rationally usage of information and protection availability against negative externals must also be taken into account for better relation between stakeholders and the company.

Freeman (2008) mentioned that stakeholder theory has been praised for overcoming narrow views which says that the company’s sole purpose is to maximize shareholder’s economic value. Introducing the value creation for the stakeholders widened the management framework along with bringing closer it to more realistic economic maximization, generating new cooperative value and overcoming management shareholder conflicts. Furthermore, Melé (2009) broadened the stakeholder model by visualizing shareholder’s management relationship always be liable to conflicts of all kinds. If the amount of economic value generated in the company increases, some would think of why the company could not have a bigger share and if they fail to create economic value the company would be criticized on why they shouldn’t appropriate the shares to others.

Harrison, J.S. and A.C. Wicks (2012) also gives their views on stakeholder’s theory in relation to narrowing to focus on economic returns by drawing attention to those factors that are very closely associated with building more values to stakeholders. Attention to factors like good treatment of stakeholders, working with stakeholder friendly firms, may prove critical to understanding why firms succeed over time (Bosse, D.A., R.A. Phillips, and J.S. Harrison, 2009). Furthermore, Bahri, M., J. St-Pierre, and O. Sakka (2011) provided two important streams in the literature of stakeholder by highlighting the need for a thorough evaluation of the concept of value. A stakeholder based perspective of value is important from a managerial perspective as managers tends to focus attention on things that lead to higher performance based on what actually gets measured. Thus after widening the concept of stakeholder theory it can be concluded that if the value that is created for the stakeholder is of many types then it will be the better way of creating economic and non economic value in a sustained way with minimizing conflicts and all the stakeholders would share their enjoyment in different and positive ways over time and management decisions is improved.

Furthermore, when examining and investigating empirical studies and theoretical underpinnings in relation to EVA a number of salient features emerged. First despite the adoption of EVA as an internal
and external financial performance measure the underpinning literature regarding the linkage between EVA and shareholder’s value creation is conceptualized. Apart from the adjustment done from the GAAP incorporated in EVA calculation, the measures itself have identical measures of residual income. Second the adjustment related to GAAP comprises the most unique and contentious aspect of EVA. Apart from the adjustment to produce figures, depreciation and treatment of intangible assets, still EVA have been criticized due to it being difficult to understand and costly. Third the empirical evidence concerning EVA showed mixed result. Tong, Y., Y. Yao, and X. Xiong (2010) found that EVA is not very familiar to market participants and shareholders. Similarly, Othman, I.W., P.W. Ching, and A.W. Ghazali (2012) mentioned that negative EVA plays a value destroyer for stock performance. The relationship between EVA and stock performance was very low.

**RESEARCH METHODOLOGY**

This study utilized quantitative method and panel data analysis using secondary data and fixed effect non parametric data extracted from annual reports of the selected construction companies listed in Bursa Malaysia. Using secondary panel data for the period of 10 years ranging from 2003 to 2012, this study selected 28 Malaysian public listed construction companies that are active in Bursa Malaysia stock exchange. In order to fulfill the purpose of the study, Microsoft Excel and SPSS statistical software was taken into consideration.

In order to find the relationship between the utilized variables spearman correlation between the variables were examined. Furthermore, multivariate analysis was also conducted in order to identify the influence on the measurement tools considered for the research on the enhancement of shareholder's value. All the variables of the study is measured and calculated as per their formulas and each year of the period of the study is taken into consideration for calculations.

**RESULTS AND DISCUSSION**

Various statistical analysis and trend analysis were performed to obtain the result of the study. Spearman correlation with non parametric correlation method was used in order to reduce heterogeneity due to high number of positive and negative data figures. When the returns of shareholders are higher than their return rate of return in equity it is considered as the company has created value for their shareholders. The empirical tests in this study was performed through econometric software SPSS (Version.21). The data for the observations were collected from 28 selected public listed Malaysian construction companies.
Table 1: Descriptive statistics of the variables

<table>
<thead>
<tr>
<th></th>
<th>CSV</th>
<th>EVA</th>
<th>MVA</th>
<th>DPS</th>
<th>EPS</th>
<th>ROA</th>
<th>ROE</th>
<th>ROCE</th>
<th>RONW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-49575</td>
<td>-7811.0</td>
<td>46628.8</td>
<td>4.2</td>
<td>7.6</td>
<td>3.8</td>
<td>5.2</td>
<td>13.0</td>
<td>17.4</td>
</tr>
<tr>
<td>Skewness</td>
<td>-3.201</td>
<td>-2.089</td>
<td>4.315</td>
<td>1.474</td>
<td>-1.15</td>
<td>.911</td>
<td>2.062</td>
<td>- .459</td>
<td>.527</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>10.73</td>
<td>3.43</td>
<td>20.20</td>
<td>1.99</td>
<td>1.83</td>
<td>1.94</td>
<td>8.81</td>
<td>2.92</td>
<td>1.31</td>
</tr>
<tr>
<td>Minimum</td>
<td>-58135</td>
<td>-52487</td>
<td>-24517</td>
<td>0.00</td>
<td>-24.1</td>
<td>-6.60</td>
<td>-16.0</td>
<td>-25.20</td>
<td>-10.70</td>
</tr>
<tr>
<td>Maximum</td>
<td>22192</td>
<td>3484.70</td>
<td>17674</td>
<td>14.43</td>
<td>23.54</td>
<td>20.71</td>
<td>63.0</td>
<td>43.20</td>
<td>55.70</td>
</tr>
<tr>
<td>N</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

Descriptive analysis for the constructs (CSV, EVA, MVA, DPS, EPS, ROA, ROE, ROCE, RONW) are provided in table 1 reflects with the dependent variable CSV. The mean value of EVA and CSV was found to be negative and were in line with the prior studies followed with mean value of MVA and CSV contradicting with many of the prior studies. Negative mean value of EVA indicates that maximum of the construction companies are value destroyer for the shareholders.

From the Spearman non parametric correlation coefficient between EVA and MVA as shown in the above table 2, the p value to be less than 0.01 except the relationship between EVA and MVA. The relationship between CSV and EVA was found to be significant and 74.4%. Furthermore, no other traditional measure except ROCE was significantly having relationship with CSV. This means that the traditional measures are not able to explain the CSV for the selected construction companies. It was found that there is no significant relationship between EVA and MVA. Furthermore, from the traditional performance measures none of them were found to have any relationship with CSV. The non parametric spearman correlation analysis indicates that value based measures over traditional measures in order to create shareholder’s value.

The result of multiple regression analysis as shown in Table 3 shows the relationship and influence between dependent and independent variables.

Table 2: Non parametric Spearman correlation between variables

<table>
<thead>
<tr>
<th></th>
<th>CSV</th>
<th>EVA</th>
<th>MVA</th>
<th>DPS</th>
<th>EPS</th>
<th>ROCE</th>
<th>ROE</th>
<th>RONW</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSV</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVA</td>
<td>.744**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVA</td>
<td>-</td>
<td>-.158</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.575**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPS</td>
<td>-.022</td>
<td>-.490**</td>
<td>.146</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPS</td>
<td>.252</td>
<td>.016</td>
<td>-.290</td>
<td>.609**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROCE</td>
<td>.171</td>
<td>.176</td>
<td>-.102</td>
<td>.283</td>
<td>.400**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>-.004</td>
<td>.202</td>
<td>.161</td>
<td>.419</td>
<td>.548**</td>
<td>.286</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RONW</td>
<td>.064</td>
<td>.146</td>
<td>.037</td>
<td>.124</td>
<td>.209</td>
<td>.817**</td>
<td>.338</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>.297</td>
<td>.241</td>
<td>-.061</td>
<td>.265</td>
<td>.580**</td>
<td>.332</td>
<td>.361</td>
<td>.200</td>
<td>1</td>
</tr>
</tbody>
</table>

Multiple regressions were performed in order to know the overall influence of factors considered for the study on the creation of shareholder's wealth. The model 1 describes the relationship and influence of EVA on CSV. The result found significant influence of EVA on the dependent variable CSV by 0.871
with p value less than 0.05. The R square value was found to be 0.759 with F value of 82.062 and t statistics 9.059. Thus from the significant level less than 0.05 and R square value for model 1 with above 0.50 it is confirmed that there is a influence of EVA on CSV. In model 2, the relationship between MVA and CSV was examined. The result found significant negative influence of MVA on CSV by 51% with p value less than 0.05. The value of R square was increased to 0.918 as compared to model 1 having R square of 0.759. There was a difference of 16.8% due to involvement of MVA in explaining the CSV. Thus it is confirmed that there is high influence of MVA on CSV.

Furthermore, model 3 was performed to identify the influence of management’s dividend payout decisions on CSV. It was found that there is 58% of influence of dividend payout decisions on CSV. The R square value was decreased to 0.656 whereas the beta coefficient value of EVA was increased to 0.963. This means that when management takes appropriate decision on dividend payout, the importance and value of EVA is increased towards shareholder’s wealth creation. In the final model 4, the variables of traditional measures were considered to investigate their influence on CSV. From the five traditional measures (EPS, ROA, ROE, ROCE and RONW) only EPS was found to have significant and positive influence on CSV whereas the other four variables were found to be non significant.

Table 3: Multivariate analysis for the variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression model</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Interceptor</td>
<td>919964.6</td>
<td>-37083.7</td>
<td>-7.048</td>
<td>-1.616</td>
</tr>
<tr>
<td>EVA</td>
<td>0.871***</td>
<td>0.553***</td>
<td>0.963***</td>
<td>0.92***</td>
<td></td>
</tr>
<tr>
<td>MVA</td>
<td>-0.51***</td>
<td>-0.127</td>
<td>-0.051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DPS</td>
<td>0.58***</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPS</td>
<td>0.741***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.182</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>-0.046</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROCE</td>
<td>-0.019</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RONW</td>
<td>-0.139</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.759</td>
<td>0.918</td>
<td>0.656</td>
<td>0.887</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.750</td>
<td>0.912</td>
<td>0.613</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>F value</td>
<td>82.062</td>
<td>48.571</td>
<td>13.887</td>
<td>0.164</td>
<td></td>
</tr>
<tr>
<td>Significant level</td>
<td>0.000</td>
<td>0.000</td>
<td>0.001</td>
<td>0.690</td>
<td></td>
</tr>
</tbody>
</table>

Practically, most of the investors and shareholders rely on the EPS to take their investment decisions. In conclusion from the multiple regression analysis it was confirmed that EVA was having high impact on CSV in all over the four models. Thus it is highly recommended to the companies to share additional report based on economic measures to increase the trust and confidence of shareholders on such companies.
CONCLUSIONS

Shareholders’ value is measured by the returns they receive on their investments. Until now and still traditional performance measures like ROA, ROE, ROI and EPS to measure corporate performance have been criticized and increased dissatisfaction. Previous studies performed by Rappaport (1986; 1999) argued that these traditional measures provides relatively poor guidance to shareholders and their value creation. Thus focusing on the short comings of traditional measures can be overcome through the way of value based management approach. The value based management approach has outlined two main propositions; first the shareholder value creation as primary firm objective and secondly, increased economic income through EVA and MVA for enhancing organization financial performance (Arnold, G. and M. Davies, 2000).

Studies performed by Koller, Goedhart (2010); Bryan et al (19 98) concluded that when there is creation of economic value of the firms, shareholder's wealth is generated. The economic value of the organization can only be increased through effective strategic and operational decisions that will exceed the cost of capital. Value benefit must be present in organization's culture as a fundamental principle for long term period. When managers and investors don't follow this simple fundamental principle leads to adverse condition of the organization and the society. Conflicting with what other studies Bhattacharyya, A. and B. Phan (2004) and Chen, S. and J.L. Dodd (1997) this study found that EVA as a value based performance tool dominates shareholder's wealth. The study revealed that there is negative relation between MVA and CSV. Furthermore, EVA exhibits the largest explanatory power. EVA was significant alone in the multivariate regressions and was relevant with combination with MVA. These results confirmed and support that EVA controls and outperforms shareholder's wealth as a performance measure.

Multivariate analysis for the constructs (value based and traditional) influencing created shareholder’s value confirms that value based measure are over traditional measures and provide more accurate and reliable financial information that helps both managers and shareholders for strategic change in the performance. EPS was still confirmed to be the best traditional measure influence shareholder’s value. Thus it is highly suggested to conduct future research on comparing the relationship between EVA and EPS. It is also suggested to highlight different aspects and role of management decisions for the creation of shareholder’s value.

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REFERENCES


Tong, Y., Y. Yao, and X. Xiong (2010). Performance evaluation of logistics enterprises based on Economic Value Added and Balanced Scorecard. in Logistics Systems and Intelligent Management, 2010 International Conference on.IEEE.