CHAPTER 3

3.0 PERFORMANCE MEASUREMENT

Productivity is the ratio of output produced to inputs used. It is the simplest form expressed by the following formula:

\[
\text{Productivity} = \frac{\text{Output}}{\text{Input}}
\]

This measure takes into account the effective utilization of all input resources and is therefore suitable for assessing the performance of an enterprise. Output is goods produces by an enterprise. It can be measured in terms of sales value of production or added value. In this paper, sales value of production is adopted as the measure of output. Input refer to that which are utilized in producing the output of an enterprise. These are factors of production namely, labour, material and capital.

Different approaches to productivity measurement are necessary to serve different purposes. Above all, productivity measures should be useful in managing the enterprise of organization or unit of an enterprise or organization.

3.1 Input Data

The input data used to generate the key performance indicators are described herein. Five different types of input are recognized namely:
3.1.1 Sales

Value of sales refer to the value of all goods, for which ownership or effective right to use with a view to ultimate purchase, has been transfer to other. It also phrased the value of services rendered during the enquiry period, irrespective of time or method of payment.

The value of sales of goods and services, referred to by the Malaysian Department of Statistic, is the total sum paid by the customers that include:

- sales price
- financing, delivery and installation charges, if these services are rendered by the establishment enumerated.
- sales, services and other indirect taxes and duties collected
- services charges

3.1.2 Number of Employment

The number of person engaged includes all working proprietors and active business partners, unpaid family workers and employees who worked during the last pay period of the enumerated. Also included are employees on short term leave and part time workers in the payroll.
3.1.3 Labour Cost

Any costs incurred as a consequence of employing labour which include: cash payment including bonuses, commissions, overtime, cost of living allowances and other allowances made to all employees, employees contribution to EPF and Socso.

3.1.4 Fixed Asset

Assets that are used to produce revenue and are not intended for sale, such as office furniture, vehicles, real property, building improvements, and factory equipment. For direct investment, the primary measurement of the data that applies for assets is directional basis (that is, investment abroad). Under the assets category, the direct investment abroad relates to the direct investor's claims on, and liabilities to the direct investment enterprises.

3.1.5 Gross Margin

The gross profit margin is a measurement of a company’s manufacturing and distribution efficiency during the production process. The gross profit tells an investor the percentage of revenue / sales left after subtracting the cost of goods sold. A company that boasts a higher gross profit margin than its competitors and industry is more efficient. Investors tend to pay more for businesses that have higher efficiency ratings than their competitors, as these businesses
should be able to make a decent profit as long as overhead costs are controlled [overhead refers to rent, utilities, etc.]

3.2. The key Performance Measurement

The key Performance Measurement will be categorized based on Company Manual for Productivity Assessment (Compass)\(^3\). They include:

3.2.1 Labour Productivity

Labour Productivity is generally used as a basis to gauge the productivity performance of industry or company. It measures the output per worker, and the indicator used is sales per employee.

Sales per Employee

The ratio provides a useful labour productivity measure. It can be used to assist in monitoring ongoing performance. It can also assist the company to determine the level of sales that business needs to generate when a level of staff is increased.

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\(^3\) Produced by National Productivity Corporation in 1992 with the aim to assist organizations in assessing their productivity levels. The manual provides a comprehensive and step-by-step approach to the measurement and analysis of a company’s productivity level.
A higher sales per employee ratio indicates that the company can operate on low overhead cost and therefore do more with less employees. It also reflects a good marketing strategy adopted by the enterprise.

### 3.2.2 Competitiveness

Competitiveness in terms of labour cost indicates the comparability of the industry in producing products or services at the lowest possible labour cost. There are three competitiveness ratio used namely:

3.2.2.1 sales per labour cost,

3.2.2.2 labour cost per employee and

3.2.2.3 unit labour cost

#### 3.2.1.1 Sales per Labour Cost,

This ratio indicates how competitive the enterprise is in terms of labour cost. A high ratio indicates more competitive in term of labour while a low ratio indicates high labour cost which does not commensurate with added value creation.
3.2.2.2 Labour Cost per Employee

This ratio measures the average level remuneration per employee or wage rate annually. A high ratio means high returns to individual workers and vice-versa.

3.2.2.3 Unit Labour Cost

Unit labour cost is the remuneration of labour in relation to the one unit of output produce. In other words, how much output the company gets relative to wages.

A high ratio indicates high labour cost. This could be due to labour scarcity and lack of skilled labour, or poor labour mix. In addition, it could be due to high labour turnover.

3.2.3 Capital Productivity

Capital productivity indicates the degree of utilisation of fixed assets and the efficiency with which assets are utilised. It is defined as sales generated per ringgit of fixed assets. The ratios used to measure capital productivity is sales per fixed assets.
Sales per fixed assets

It measures the number of sales ringgit earned for each ringgit of investment in fixed assets. The ratio indicates the degree of utilisation of tangible fixed assets. A high ratio indicates the efficiency of assets utilization and a low ratio reflects poor assets utilization.

3.2.4 Capital Intensity

Capital Intensity is the ratio measuring the amount of fixed assets allocated to each employee. It is also known as fixed assets per employee or simple capital-to-labour ratio. This ratio is used to measure whether an industry or company is relatively capital-intensive or labour intensive.

A high ratio indicates high capital intensity. While a low ratio means:

- Dependence on labour-intensive methods
- Low technological inputs

3.2.5 Margin per Employee

Margin given as a percentage, measures the difference between what customers pay for the products and services produces and the cost of
goods. The ratio reflects the amount of margin created by the company, relative to the number of employees it has. It is influenced by:

- Management efficiency
- Work attitudes
- Price effects
- Demand for the products

A high ratio indicates the favourable effects of labour factor in the wealth creation process. A low ratio means unfavourable working procedures such as:

- High cost of goods sold
- Waste of time and materials
- Inadequate salary/wage rates

### 3.3 Productivity Trends of Distributive Trades

#### 3.3.1 Sales per Employee

During the period of 2001-2004, distributive trade experienced continuous growth in productivity (Sales per Employee). Productivity grew at an annual rate of 6.71 percent from about RM249,000 in year 1999 to approximately RM359,000 in year 2004 (Figure 3.1). The lowest growth was recorded in 2000-2001 period (4.24 percent) due to a more employees recruited.
Total sales have been increasing since 1999. In year 2003, total sales is approximately RM50 billion which is a quarter of total value added in the services sector.
As for wholesale trade, during the period 1999 – 2004, the productivity trend recorded a 12.69 percent increase annually. The high
growth recorded in 2000–2001 (19.37 percent), was partly due to the higher rate of increase in output than the increase in employment.

Meanwhile, labour productivity in retail trade, showed a better percentage of 19.11 percent growth annually during the same period. The higher growth was noted during the same year (2000–2001) by 25.12 percent.

3.3.2 Labour Competitiveness

3.3.2.1 Sales per Labour Cost

Sales per Labour Cost in the distributive trade experienced an increasing trend of growth of (0.51) percent in 2001 to 5.88 percent in 2004 (Figure 3.2.a). Figure 3.2.b shows that the sub-

![Figure 3.2: Sales per Labour Cost (Labour Competitiveness)](image)

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues
*e* = estimated
sector recorded an average growth of 2.34 percent annually during the period under review.

![Figure 3.2.a: Growth in Sales per Labour Cost](chart1)

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues
*e = estimated

![Figure 3.2.b: Average Growth Sales Value per Labour 1999-2004e](chart2)

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues
*e = estimated

During the period of 1999-2004, the growth in wholesale was 8.0 percent annually whilst retail trade recorded 11.81 percent annually. The spread of SARS and the Iraq war had a major impact on retail sector in early 2003 as shown by a negative growth of 2.65 percent and 0.87 percent (Table 6) in wholesale and retail trade respectively.
Table 6: Growth in Sales per Labour Cost by Sub-Sector
(1999-2004e)

<table>
<thead>
<tr>
<th></th>
<th>99'-00'</th>
<th>00'-01'</th>
<th>01'-02'</th>
<th>02'-03'</th>
<th>03'-04e'</th>
<th>Growth 1999-2004e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale</td>
<td>4.40</td>
<td>20.10</td>
<td>9.79</td>
<td>-2.65</td>
<td>8.36</td>
<td>8.00</td>
</tr>
<tr>
<td>Retail</td>
<td>12.05</td>
<td>21.50</td>
<td>17.47</td>
<td>-0.87</td>
<td>8.90</td>
<td>11.81</td>
</tr>
</tbody>
</table>

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
\( e = \) estimated

3.3.2.2 Labour Cost per Employee

Wage rate as measured by Labour Cost per Employee recorded 5.06 percent (Figure 3.3.b) of growth yearly for period 1999–2004 from about RM9,500 to almost RM12,800 (Figure 3.3).

Figure 3.3: Labour Cost per Employee
(Wage Rate)

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
\( e = \) estimated
Figure 3.3.a: Growth in Labour Cost per Employee

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues
\( e = \) estimated

Figure 3.3.b: Average Growth Labour Cost per Employee 1999-2004e

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues
\( e = \) estimated

Table 7: Growth in Labour Cost per Employee by Sub-sector (1999-2004)

<table>
<thead>
<tr>
<th></th>
<th>99'-00'</th>
<th>00'-01'</th>
<th>01'-02'</th>
<th>02'-03'</th>
<th>03'-04e'</th>
<th>Growth 1999-2004e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale</td>
<td>6.99</td>
<td>-0.61</td>
<td>-2.23</td>
<td>-4.62</td>
<td>4.00</td>
<td>0.71</td>
</tr>
<tr>
<td>Retail</td>
<td>-6.45</td>
<td>2.99</td>
<td>13.09</td>
<td>-3.03</td>
<td>19.85</td>
<td>5.29</td>
</tr>
</tbody>
</table>

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues
\( e = \) estimated
Wage rate showed a better improvement in retail sector as shown in Table 8. Retail sector is an approachable business, therefore the turnover is high especially for the skilled workers. As a consequence, there are lot of incentives given so as to retain the workers.

3.3.2.3 Unit Labour Cost

Unit Labour Cost as measured by labour cost per sales recorded a slight decrease of 0.012 percent from 0.039 in 1999 to 0.038 in 2004 (Figure 3.4). The major contributions to the increase of competitiveness in unit per labour concerned are cost cutting in

![Figure 3.4: Labour Cost per Sales (Unit Labour Cost)](image)

*Source:* National Productivity Corporation, Malaysia. Unpublished data Computed from: -Department of Statistic, Malaysia, various issues  
e = estimated
overtime and allowances through multi-skilled workers and an increase in skill and technical knowledge. On the whole, distributive trade sector showed the ongoing of competitiveness in terms of labour cost during the period of 2000 – 2004. It is reflected by the growth of sales per labour cost, labour cost per employee and the decline in unit labour cost annually during the period under review (Figure 3.4.c).
Figure 3.4.c: Competitiveness Growth 1999-2004

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues

Table 8: Growth in Unit Labour Cost (Labour Cost per Sales) by Sub-Sector (1999-2004)

<table>
<thead>
<tr>
<th></th>
<th>99'-00'</th>
<th>00'-01'</th>
<th>01'-02'</th>
<th>02'-03'</th>
<th>03'-04e'</th>
<th>Growth 1999-2004e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale</td>
<td>-4.22</td>
<td>-16.74</td>
<td>-8.91</td>
<td>2.72</td>
<td>-7.71</td>
<td>-6.97</td>
</tr>
<tr>
<td>Retail</td>
<td>-10.76</td>
<td>-17.69</td>
<td>-14.87</td>
<td>0.88</td>
<td>-8.17</td>
<td>-10.12</td>
</tr>
</tbody>
</table>

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: Department of Statistic, Malaysia, various issues

Unit Labour Cost in retail sector recorded a better performance (10.12 percent) than that in wholesale sector (Table 8). As the wage rate in retail sector also recorded a higher growth as compared to
wholesale sector, it shows that the retail sector is more competitive in terms of labour cost.

3.3.3 Capital Productivity

Sales Per Fixed Assets recorded a slight growth of 3.04 percent from 9.77 to 10.13 (Figure 3.5) from the year 2001 to 2003. This was due to the plant and equipment that was not being utilised to their maximum capacity. However, for the year 2004 the growth increased to 11.7 percent.

Figure 3.5: Sales per Fixed Asset (Capital Productivity)

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
$e$ = estimated
3.3.4. Capital Intensity

The distributive trades had taken efforts towards information and technology (IT) services operations and processes as reflected in the Fixed Assets per Employee. The use of IT such as web-based intelligent services solution will help the industry to be efficient and effective in their business functions. It allows wholesalers and retailers to increase opportunities in new
business and finance, enhances the policy persistency rate and provides quick turnaround to queries from distribution channels and customers while reducing overall operation costs.

![Figure 3.6: Fixed Asset per Employee (Capital Intensity)](image)

*Source:* National Productivity Corporation, Malaysia. Unpublished data
*Computed from:* Department of Statistic, Malaysia, various issues
*e = estimated*

For the period 2001-2004, Capital Intensity as measured by Fixed Assets per Employee grew at an average rate of 3.15 annually (Figure 3.6.b) per cent from RM28,724 to RM36,965 (Figure 3.6). The major contributing factors are:

- Government policy and initiative
- Company policy to up grade IT and technology in the industry
3.3.5. Margin per Employee

Margin per employee of distributive trade recorded a growth by 7.55 percent annually during the period of 1999-2004 (Figure 3.7.b). The highest growth was recorded in 2001 with 38.93 percent (figure 3.7.a) where retail trade contributed 24.78 percent while wholesale contributed 6.84 percent (Table 9).
Figure 3.7: Margin per Employee

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
$e = \text{estimated}$

Figure 3.7.a: Growth in Margin per Employee (1999-2004)

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
$e = \text{estimated}$
### Figure 3.7.b: Average Growth Margin per Employee 1999-2004

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
$e = $estimated

### Table 9: Margin per Employee by Sub-Sector (1999-2004)

<table>
<thead>
<tr>
<th></th>
<th>99'-00'</th>
<th>00'-01'</th>
<th>01'-02'</th>
<th>02'-03'</th>
<th>03'-04e'</th>
<th>Growth 1999-2004e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale</td>
<td>5.59</td>
<td>12.05</td>
<td>9.42</td>
<td>-0.30</td>
<td>7.45</td>
<td>6.84</td>
</tr>
<tr>
<td>Retail</td>
<td>14.77</td>
<td>24.78</td>
<td>9.38</td>
<td>-8.18</td>
<td>12.06</td>
<td>10.56</td>
</tr>
</tbody>
</table>

Source: National Productivity Corporation, Malaysia. Unpublished data
Computed from: -Department of Statistic, Malaysia, various issues
$e = $estimated