Industrial Psychology Consultants

Maximising Returns on Human Capital

Improving Organisational Efficiencies using Total Factor Productivity Measurement

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About Industrial Psychology Consultants

Who We Are.

Industrial Psychology Consultants (Pvt) Ltd is your trusted business partner in dealing with all people related issues in your business that are stopping you from being more productive and highly profitable. To achieve this we customise all the solutions to your specific needs after carefully studying and understanding your unique situation. Our solutions are evidence based, driven by the desire to have objective facts as a basis for our advisory role.

Who We Work With

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The Challenge…

In this post, we present the results from a research study on using productivity measurement models to determine the sustainability of profits at a local company in Zimbabwe. Given the tough economic environment that Zimbabwean companies are operating in, this particular company felt that it was crucial for them to know if their financial position was sound and stable. The company's revenue was going down and they wanted to cut down on the cost of resources in general. To be in a position to answer this question, a productivity measurement study was carried out using a profit linked productivity measurement model.

Productivity measures the amount of products and services that are produced per each unit of resources or input. Productivity is better measured as a change between two periods (i.e. improvement or deterioration), rather than as an absolute figure. Generally an improvement in the labour productivity of a company is simply the increase in the output (such as, number of products or amount of services provided) produced as a result of the efforts of the employees of a company. This may be due to employees working harder or the employees working smarter as a result of training, good working environment, better or attitudes, among other things.

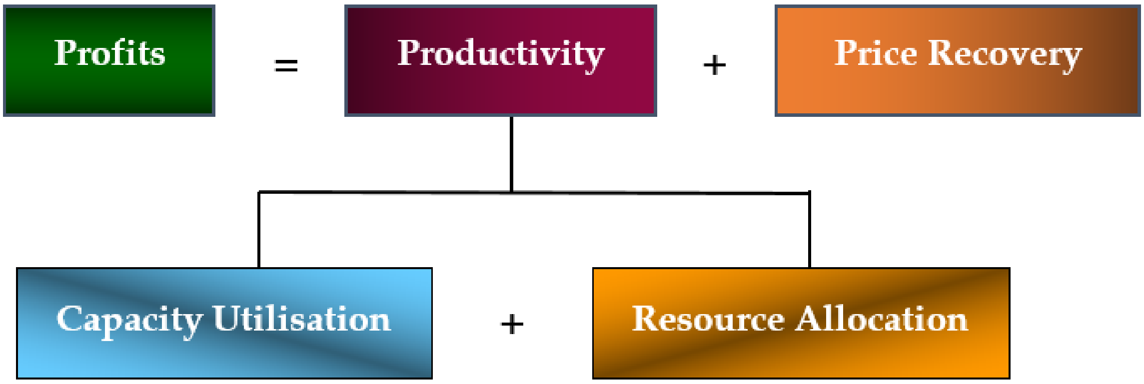
The Objectives…

There were three main objectives that were set out at the beginning of this study. The main objective was to determine whether the company's profits were sustainable in the long run or not. This meant that we had to look at the company's performance in terms of its revenue and costs. This would help us identify the key drivers of profits within the company's resources. We would be able to establish if profits being realised by the company were as a result of the organisational efficiencies or as result of leveraging on price fluctuations in both the products and resources consumed.

How we solved it…

There are two main types of productivity measurement, namely partial productivity measurement and total factor productivity measurement. Partial productivity models measure productivity for one input at a time, relative to organisational performance. For example, labour productivity, capital productivity etc. This approach may not be a true reflection of organisational performance since it isn't only one input that contributed to the total revenue of the organisation. On the other hand, total factor productivity models measure productivity for all the given inputs, relative to organisational performance. Unlike partial productivity models, total factor productivity models reflect simultaneous changes in outputs and inputs thereby giving a clearer picture of the organisational efficiencies. The model we used in this study was a profit linked total factor productivity measurement model.

Figure 1: Profit Linked Productivity Measurement Model



Productivity accounting defines a clear relationship between profits, productivity and price. Information on productivity performance provides key insight into business performance by analysing the dynamics of change in revenue and expenses between two accounting periods. It is expressed in terms of the impact of productivity, inflation which is also known as price recovery and growth. It highlights the change in the use of resources, benefits to customers and other stakeholders as well as growth in the business.

Productivity itself is a combination, or sum of two components, namely resource allocation (use of available resources in the most optimal way to achieve maximum profits) and capacity utilisation (the extent to which the productive capacity is being used). The two are given a monetary value and the total always equals the monetary value of productivity. The profit variance for any two accounting periods is a combination of two things, productivity and price recovery.

Price recovery is the change in product and services' prices relative to changes in the cost of resources used to produce or render the services. Short-term price over-recovery may be a buffer against declining sales, while an under-recovery may be a catalyst for engendering business growth strategy.

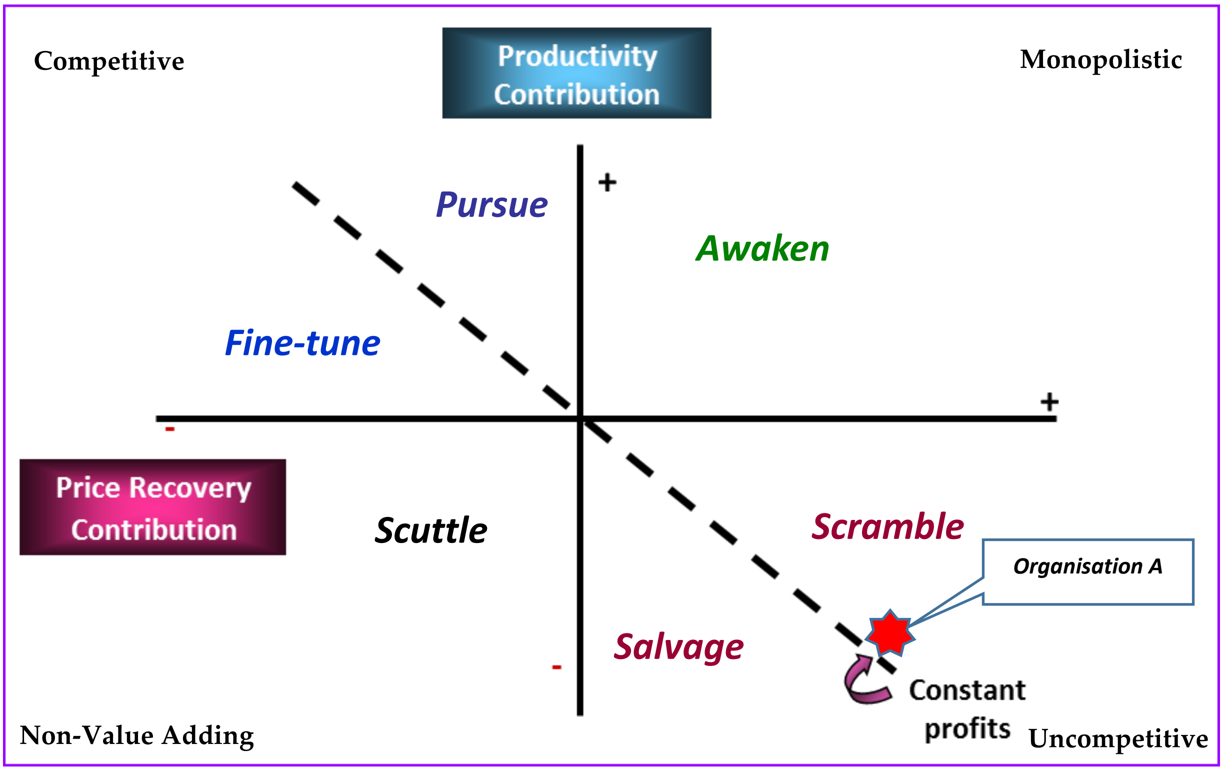
We collected data on all the organisation's resources and products in their rightful quantities, prices and values. The data collection process took five times as much as anticipated times due to missing data (quantities or prices) for some resources or inconsistencies within the data submitted. Most of the information used in this analysis was extracted from the organisation's management accounts.

Key Findings…

1. We established that the organisation's financial position was not stable in the long run and the profits realised are not sustainable in the long run. The overall change in profitability between the two periods under review was characterised by a massive price over recovery and huge productivity losses.
2. There was a slight decrease in revenue generated by the organisation, a decrease in costs and a slight increase in gross profit during the two periods under review. The profits realised by the organisation were as a result of price recovery which implies that the organisation leveraged on price movements.
3. The organisation was inefficient in resource usage as pointed out by productivity losses in all the major resource categories i.e. labour, capital, energy. The organisation's services rendered between the two periods declined at a rate faster than that of resource volumes resulting in productivity losses.
4. Product prices increased at a rate faster than that of resource prices resulting in a price over recovery thereby short-changing the consumer and passing all the value to the shareholders.
5. Productivity measurement for the company's labour was done using job grades (employment categories). We established that productivity losses were relatively significant for low level employees.

The diagram below shows how we illustrate the overall productivity- price recovery position of an organisation after our study.

Figure 2. Strategic Segment Profit Grid



Our Recommendations

1. Productivity levels were very low and the profit realised were due to high price over recovery. From a pricing perspective this is an uncompetitive position as high product margins are likely to invite competition or prompt consumers to seek cheaper alternatives. Organisations in this position are encouraged to reduce prices slightly so that they strengthen their competitive position which in turn increases their market share and pushes more volumes.
2. From a managerial perspective, it is sensible to target productivity gains for resources that are experiencing productivity losses. We recommend that less of these resources be used but in the case where quantities cannot be reduced, cheaper alternatives should be sourced or negotiate for price cuts from suppliers.

3. Since Labour had the highest productivity losses for this organisation, we recommended that an in-depth analysis be carried out so as to determine whether these productivity losses were as a result of incorrect staffing levels or as a result of skills deficits.
4. Total factor productivity measurement is not a very popular model since organisations that use these models keep them as proprietary information. As such, productivity measurement exercises are normally ridden with the unavailability of the required data. Inconsistencies within collected data that also pose a challenge for accurate data analysis. We encourage organisations to record resource usage and acquisition in terms of the actual quantities consumed, the price of each item as well as the total cost of the resources.
5. Productivity Measurement and Analysis should be done regularly so that the organisation can be able to track its efficiencies and work on any issues raised before it's too late, hence being proactive rather than reactive.

Team Members

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