
Throughput Accounting

Throughput Accounting (TA) is a dynamic, integrated, principle-based, and comprehensive management accounting approach that provides managers with decision support information for enterprise optimization. TA is relatively new in management accounting. It is an approach that identifies factors that limit an organization from reaching its goal, and then focuses on simple measures that drive behavior in key areas towards reaching organizational goals. TA was proposed by Eliyahu M. Goldratt^[1] as an alternative to traditional cost accounting. As such, Throughput Accounting^[2] is neither cost accounting nor costing because it is cash focused and does not allocate all costs (variable and fixed expenses, including overheads) to products and services sold or provided by an enterprise. Considering the laws of variation, only costs that vary totally with units of output (see definition of T below for TVC) e.g. raw materials, are allocated to products and services which are deducted from sales to determine Throughput. Throughput Accounting is a management accounting technique used as the performance measures in the Theory of Constraints (TOC).^[3] It is the business intelligence used for maximizing profits, however, unlike cost accounting that primarily focuses on 'cutting costs' and reducing expenses to make a profit, Throughput Accounting primarily focuses on generating more throughput. Conceptually, Throughput Accounting seeks to increase the velocity or speed at which throughput (see definition of T below) is generated by products and services with respect to an organization's constraint, whether the constraint is internal or external to the organization. Throughput Accounting is the only management accounting methodology that considers constraints as factors limiting the performance of organizations.

Management accounting is an organization's internal set of techniques and methods used to maximize shareholder wealth. Throughput Accounting is thus part of the management accountants' toolkit, ensuring efficiency where it matters as well as the overall effectiveness of the whole organization. It is an internal reporting tool. Outside or external parties to a business depend on accounting reports prepared by financial (public) accountants who apply Generally Accepted Accounting Principles (GAAP) issued by the Financial Accounting Standards Board (FASB) and enforced by the U.S. Securities and Exchange Commission (SEC) and other local and international regulatory agencies and bodies.

Throughput Accounting improves profit performance with better management decisions by using measurements that more closely reflect the effect of decisions on three critical monetary variables (throughput, investment (AKA inventory), and operating expense — defined below).

History

When cost accounting was developed in the 1890s, labor was the largest fraction of product cost. Workers often did not know how many hours they would work in a week when they reported on Monday morning because time-keeping systems were rudimentary. Cost accountants, therefore, concentrated on how efficiently managers used labor since it was their most important variable resource. Now, however, workers who come to work on Monday morning almost always work 40 hours or more; their cost is fixed rather than variable. However, today, many managers are still evaluated on their labor efficiencies, and many "downsizing," "rightsizing," and other labor reduction campaigns are based on them.

Goldratt argues that, under current conditions, labor efficiencies lead to decisions that harm rather than help organizations. Throughput Accounting, therefore, removes standard cost accounting's reliance on efficiencies in general, and labor efficiency in particular, from management practice. Many cost and financial accountants agree with Goldratt's critique, but they have not agreed on a replacement of their own and there is enormous inertia in the installed base of people trained to work with existing practices.

Constraints accounting, which is a development in the Throughput Accounting field, emphasizes the role of the constraint, (referred to as the Archemedian constraint) in decision making.^[4]

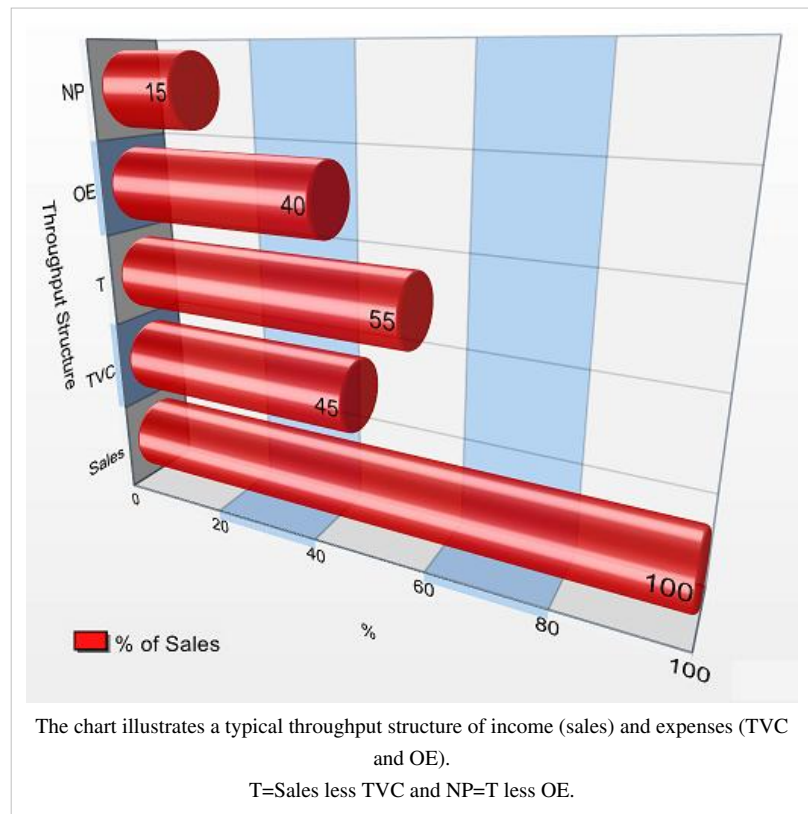
The concepts of Throughput Accounting

Goldratt's alternative begins with the idea that each organization has a goal and that better decisions increase its value. The goal for a profit maximizing firm is easily stated, to increase profit now and in the future. Throughput Accounting applies to not-for-profit organizations too, but they have to develop a goal that makes sense in their individual cases.

Throughput Accounting also pays particular attention to the concept of 'bottleneck' (referred to as *constraint* in the Theory of Constraints) in the manufacturing or servicing processes.

Throughput Accounting uses three measures of income and expense:

- Throughput (T) is the rate at which the system produces "goal units." When the goal units are money ^[5] (in for-profit businesses), throughput is net sales (S) less totally variable cost (TVC), generally the cost of the raw materials ($T = S - TVC$). Note that T only exists when there is a sale of the product or service. Producing materials that sit in a warehouse does not form part of throughput but rather investment. ("Throughput" is sometimes referred to as "throughput contribution" and has similarities to the concept of "contribution" in marginal costing which is sales revenues less "variable" costs - "variable" being defined according to the marginal costing philosophy.)



- Investment (I) is the money tied up in the system. This is money associated with inventory, machinery, buildings, and other assets and liabilities. In earlier Theory of Constraints (TOC) documentation, the "I" was interchanged between "inventory" and "investment." The preferred term is now only "investment." Note that TOC recommends inventory be valued strictly on totally variable cost associated with creating the inventory, not with additional cost allocations from overhead.
- Operating expense (OE) is the money the system spends in generating "goal units." For physical products, OE is all expenses except the cost of the raw materials. OE includes maintenance, utilities, rent, taxes and payroll.

Organizations that wish to increase their attainment of *The Goal* should therefore require managers to test proposed decisions against three questions. Will the proposed change:

1. Increase throughput? How?
2. Reduce investment (inventory) (money that cannot be used)? How?
3. Reduce operating expense? How?

The answers to these questions determine the effect of proposed changes on system wide measurements:

1. Net profit (NP) = throughput - operating expense = $T - OE$
2. Return on investment (ROI) = net profit / investment = NP / I
3. TA Productivity = throughput / operating expense = T / OE

4. Investment turns (IT) = throughput / investment = T/I

These relationships between financial ratios as illustrated by Goldratt are very similar to a set of relationships defined by DuPont and General Motors financial executive Donaldson Brown about 1920. Brown did not advocate changes in management accounting methods, but instead used the ratios to evaluate traditional financial accounting data.

Throughput Accounting ^[6] is an important development in modern accounting that allows managers to understand the contribution of constrained resources to the overall profitability of the enterprise. See cost accounting for practical examples and a detailed description of the evolution of Throughput Accounting.

Relevance

One of the most important aspects of Throughput Accounting is the relevance of the information it produces. Throughput Accounting reports what currently happens in business functions such as operations, distribution and marketing. It does not rely solely on GAAP's financial accounting reports that still need to be verified by external auditors and is thus relevant to current decisions made by management that affect the business now and in the future. Throughput Accounting is used in critical chain project management (CCPM),^[7] Drum Buffer Rope (DBR) - in businesses that are internally constrained, Simplified Drum Buffer Rope (S-DBR) ^[8] - in businesses that are externally constrained particularly where the lack of customer orders denotes a market constraint, in strategy, planning and tactics, etc.

References

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