

The Impact of Strategic Analysis for Operating Income on The Performance Evaluation Case Study on Baghdad Soft Drink Company

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Abstract

Presently, it is believed that the strategic analysis of Operating Income indicators of firms. For this reason, nowadays, this particular aspect is a major concern in the managerial accounting. This due to the many competitive firms which appeared in the regional and global markets and to the rapid changes in all fields of life.

The purpose of this study is to examine the potential impact of strategic analysis for operating income on the performance evaluation. The study includes two main variables: strategic analysis and operating income using one of the total strategic analysis tools, the "resources analysis method" to analyze the change in operating income in the years considered and comparing them taking into account three components: growth, price recovery and productivity. This strategy describes how an Organization matches its own capabilities with opportunities in the environment in order, to accomplish its overall objectives. In this way the organization will be able to respond to different challenges by adopting one or more of strategies such as differentiating its product or achieving Cost Leadership.

Keyword: strategic analysis, operating income, growth, and price recover productivity.

Introduction

The field of strategy focuses on how firms can position themselves to compete. Its popularity began increasing exponentially in the mid-1980s with two books. First, Peters & Waterman's *In Search of Excellence* (1982) provided a practitioner-oriented analysis of excellent companies and the common threads that united them. Second, Porter's *Competitive Strategy* (1980) presented a more academically based analysis of strategy in a direction to which practitioners/executives could quickly gravitated toward.

The Strategic Analysis determinants have been a major filled in academic research. The field of strategic management cannot afford to rely on a single definition of strategy and for this reason the word has long been used implicitly in different ways while only one formal definition prevailed (Mintzberg, 1987, p11). According to Horngren "strategy describes how an organization matches its own capabilities with opportunities in environment. (Horngren, 2016, 478) The main role of Management Accountant is to evaluate the how successful it has been the implementation of the organization's strategy.

The strategic analysis explains company's condition concerning its surroundings, resources and abilities, and what stakeholders expect and how they influence on the organization. All the questions which are shown in this stage help to make a decision about the strategic choice. For instance, the strategic analysis will study whether there are any changes in the market and if these changes have an effect on the company with the purpose to offer viable solutions. Also an internal analysis has to

be carried out in order to understand all the advantages the company can rely on (Johnson & Scholes, 1999, 17-18).

This in addition to the current operating income which, according to Hendriksen and Van Breda (1999), focuses on measuring the company's efficiency with an effective use of the resources under the control of its management.

This paper aims at answering the following questions:

How can the management accountant isolate an operating income from specific sources?

How is it possible to explain the effect of the strategy on the change of operating income?

It also aims at explaining the basic role of management accountant in the evaluation of an organization's strategy by applying the Strategic Analysis of Operating Income from specific sources such as cost savings and growth instead of emphasizing only the aggregate change in operating income.

Our hypothesis is that; the strategic analysis of operating income leads to supply the appropriate information for the management to the implementation of specific strategies.

The rest of this paper is organized starting with the presentation of the mentioned theoretical framework followed by the presentation of the results based on the case study of Baghdad Soft Drink Company.

Literature review

A Strategy describes how an organization can create value for its customers while differentiating itself from its competitors. At this respect, Horngren (2015, pp. 477-478) argues that in formulating its strategy, an organization must first thoroughly understand its industry. Industry analysis focuses on five forces:

- (1) competitors.
- (2) potential entrants into the market.
- (3) equivalent products.
- (4) bargaining power of customers.
- (5) bargaining power of input suppliers.

Moreover, Mintzberg (1987) another highly regarded proponent of strategy behavioral theory, characterizes strategy more creatively as comprising five elements: plan, ploy, pattern, position, and perspective commonly referred to as the 5 P's for strategy. Since they afford a useful, descriptive insight into the strategy concept, they are worthy of some further clarification:

1. Strategy as a plan provides guidance or a set of guidelines for a course of action to deal with a situation and to achieve a desirable end state.
2. Strategy as a ploy is seen as a specific man oeuvre designed to outwit an opponent or competitor commonly to gain market share.
3. Strategy as a pattern is stream of actions or decisions that infer a consistency in behaviors over time whether or not intended.
4. Strategy as a position means locating an organization and its products to achieve a successful niche in the market place by avoiding competition.
5. Strategy as a perspective is a shared philosophy of the organizational members exemplified through their intentions and/or actions. (Mintzbert, pp. 11-24)

On the other hand, Michael Porter's model of competition explains that any business that wants to compete must follow two basic business strategies (Jaf, Xinping, & Sabr Jaf, 2012), (Boonmak, 2008, P4).

(1) Product differentiation strategy.

(2) Cost leadership strategy.

DEVELOPMENT OF VARIANCES. The variances used for SVA (strategic variance analysis) are calculated based on Sopariwala (2003), using the four components of a company's performance as described in Mudde and Sopariwala (2008). Each component, together with the variances associated with that component, is explained as follows:

1. **Growth Component:** The growth component measures the change in operating income due to a change in revenue passenger miles (RPMs). Four separate variances are calculated related to changes in RPMs. The revenue effect of growth captures the change in revenues due to a change in RPMs, holding air fares (revenue per RPM) constant (Caster & Carl, 2013, p. 25).

2. **Price-Recovery Component:** The profit-linked measure computes the amount of profit change from the base period to the current period attributable to productivity changes. Generally, this will not be equal to the total profit change between the two periods. The difference between the total profit change and the profit-linked productivity change is called the price-recovery component. This component is the change in revenue less a change in the cost of inputs, *assuming no productivity changes*. It, therefore, measures the ability of revenue changes to cover changes in the cost of inputs, assuming no productivity change (Don & Maryanne, 2007, p. 691).

3. **Productivity Component** The productivity component measures the change in operating income due to changes in the use of inputs, holding all else equal. Productivity is measured in terms of fuel usage efficiencies and passenger cost related efficiencies, as calculated by Mudde and Sopariwala (2008). Three variances are calculated, two of which are related to fuel usage. The first fuel usage efficiency variance measures fuel usage per gallon, holding the cost per gallon and budgeted ASMs constant. Gallons used per ASM in the previous period are the expectation for the current period, and the variance is then based on actual gallons used per ASM in the current period.

Capacity Underutilization Component:

In this respect, the (Caster & Carl) argue capacity underutilization component measures the change in operating income due to changes in capacity, holding all else equal. Three variances are calculated, each of which involves the impact on flight-related costs (excluding fuel costs). The first variance is the cost of acquiring additional capacity that goes unused in the current period. The variance is calculated by subtracting actual RPMs in the current period from actual ASMs in the current period. The second variance is the cost of underutilization of available capacity. The variance is simply the change in actual ASMs over the period under study, holding the cost per ASM constant. The third variance measures the impact of a change in capacity actually used. The variance is simply the change in RPMs over the period under study, holding the cost per ASM constant (2013, p. 25).

Strategic Analysis of Operating Income

A firm performed well on its various nonfinancial measures, and operating income this year and the next also increased. As a result, the firm's managers might be tempted to declare the cost-leadership strategy a success. However, more analysis is needed before managers can conclude that the firm successfully formulated and implemented its intended strategy. Operating income could have increased simply because prices of inputs decreased or the entire market expanded. Alternatively, a company that has chosen a cost-leadership strategy, the firm's may find that its operating-income increase actually resulted from some degree of product differentiation. To evaluate the success of a strategy, managers and management accountants need to link strategy to the sources of operating-income increases. These are the kinds of analyses that top management and boards of directors routinely discuss in their meetings when evaluating performance. Managers who have mastered the

strategic analysis of operating income changes gain an understanding of the levers of strategy and strategy implementation that help them deliver sustained operating performance (Horngren 2016, p. 495).

Application of strategic analysis on Baghdad Soft Drink Company

THE DATA SET

Data were obtained from one source: The Iraq stock exchange, Baghdad Soft Drink Company. We choose a two-year time period for the analysis, 2016 to 2017. Baghdad Soft Drink Company (BSDC) is a Soft Drinks Bottling Company in Iraq. It is the company that has the exclusive license to sell Pepsi products in Iraq. Pepsi Co. International's franchise agreement authorizes Baghdad Soft Drinks Company to produce and distribute PepsiCo's Pepsi-Cola, Seven-Up and Miranda soft drink brands. We collected data on the company for benchmarking purposes.

The Baghdad Soft Drink Company produces no defective product, but it wants to reduce DM usage per unit product in 2017. Conversion costs in each year depend on production capacity defined in terms of per unit product that can be produced, not the actual units produced. Selling & customer-service costs depend on the number of customers that Baghdad Soft Drink Company (BSDC) can support, not the actual number of customers it serves. (BSDC) has 50 customers in 2016 and 55 customers in 2017.

Result of the strategic analysis for operating income on Baghdad Soft Drink Company (BSDC):

Table 1 provides the financial data for Baghdad Soft Drink Company (BSDC). It is interesting to note, just from the raw data, they reported an annual net operating profit for period (2016-2017). Direct materials used by the equation of quantity of raw material used to product equal beginning raw material inventory plus purchases raw material during the period minus ending raw material inventory.

Table 1: (BSDC) – Data Used in Strategic Analysis for operating income

Detail	2016	2017
Units of Pepsi produced	47,554,000	58,324,000
Selling price	3.9\$	4.1\$
Direct materials used kg	12,480,892.5	13,199,289.7
Direct material cost per	3.2	2.7
Manufacturing capacity in units of Pepsi	16,100,000	16100000
Total conversion costs	22,279,182.90\$	13,199,289.70\$
Conversion costs per unit of capacity	1.38	0.82
Selling and customer-service capacity (customers)	50	55
Total selling and customer-service costs	432,424.70\$	398,788.90\$
Selling & customer-service capacity cost per customer	8,648.5	7,250.7
Total development costs	291026.80\$	350,385.60\$

Data Source: Report of Baghdad Soft Drink Company (BSDC) for the period 2016-2017.

Table 2 indicates that the operating data analysis in the two years detect all variances shown in the income statement. In this respect, the result is determining favorite and un-favorite items in the income statement. In conclusion, all the items of the income statement resulted favorite while just one item, the direct material cost, resulted favorite. However, the total operation income resulted favorite and compensate the negative direct material cost.

Table (2) the comparing between two years (2016-2017) income statement

Detail	Per unit	Quantity	2016	Per unit	Quantity	2017	Variance
Revenue	3.9	57,064,800	222,552,720	4.1	60,073,720	246,302,252.00	23,749,532 F
Cost							0.00
Direct cost	3.2	12,480,892.5	39,938,856	2.7	13,199,289.7	35,638,082.19	4,300,773.81 F
Conversion cost	0.47	47,554,000	22,279,182.9	0.226	58,324,000	13,199,289.70	9,079,893.20 F
Selling & customer cost	0.008	57,064,800	432,424.70	0.007	60,073,720	398,788.90	33,635.80 F
Developing cost		20	291,026.80		24	350,385.60	59,358.80 U
Operation income			159,611,229.6			196,715,705.61	37,104,476 F

Data Source: Baghdad Soft Drink Company (BSDC) for the period 2016-2017.

First: Analysis of the effect of growth component on operating income:

The Growth Component measures the change in operating income attributable solely to the change in the quantity of output sold between 2016 and 2017.

1-Compute the Revenue effect of growth component:

1	Actual units of output sold in 2017	60,073,72
2	Actual units of output sold in 2016	(57,064,800)
	Less:	
3	Increase in units sold	3,008,920

4	Output price in 2016	3.9
	Multiply 3*4	
5	Favorable Revenue effect	11734788F

It is important to notice that the increase in the quantity of output sold in 2017, make an increase in operating income with amount 11,734,788\$ is Favorable.

2-Compute the Cost effect of growth component:

Detail	Direct material	Conversion cost	Serves cost	Develop cost
*1Actual units of input or capacity that would have been used to produce the year 2017 output assuming the same input/output relationships that existed in 2016	13,1138,987 (12,480,893 /58324000) *60073720	16,100,000	50	20
Less:				
*2Actual units of inputs or capacity used to produce 2016 output	12,480,893	16,100,000	50	20
Difference	658,094	0	0	0
Input prices in 2016	3.2	1.38	8,648	14,551
Unfavorable Cost effect	\$2,105,901	0	0	0

*1 Actual units of input or capacity that would have been used to produce the year 2017 output assuming the same input/output relationships that existed in 2016 = (Direct materials used kg 2016 / Units of Pepsi produced 2016)

*2 Units of Pepsi produced in 2017. Conversion Costs and Selling & Customer-Service Costs will not change since adequate capacity exists in 2016 to support year 2017 output and customers.

Compute the effect of growth component on operating income	
Revenue effect of growth component:	\$11,734,788 F
Cost effect of growth component:	(\$2,105,901) U
Change in operating income due to the growth component	\$9,628,887 F

3wIn particular, the result obtained is due to the relative insignificance of variable costs; all costs were calculated as fixed costs and zero impact. Similarly, the cost component of marketing is fixed to a level of energy unless the administration uses the direction of increasing these costs. Thus, the

cost effect on the growth component is zero, which is fixed costs and is related to energy and not to the volume of production.

Second: The Price-Recovery Component measures the change in operating income attributable solely to changes in Stanmore's prices of inputs and output between 2016 and 2017. The aim of measuring the effect of revenue on recovering price component is to determine the changes in revenue between years 2016-2017 according to the change in selling price.

	Compute the Revenue effect of price-recovery component:	
1	Output price in 2017	4.1\$
2	Output price in 2016	(3.9\$)
3	Difference in price (1-2)	0.2
4	Times actual units of output sold in 2017	\$60,073,720.0
5	Favorable revenue effect of price-recovery component (3*4)	\$12,014,744 F

Second: The Price-Recovery Component it includes below:

1-Revenue effect of price-recovery component:

2-Cost effect of price-recovery component:

Compute the Cost effect of price-recovery component				
Detail	Direct material	Conversion cost	Selling & Customer Costs	Develop cost
Input prices in year 2017	2.7	0.82	7,250.707	14,599.4
Input prices in year 2016	3.2	1.38	8,648.494	14,551.34
Difference in price	0.5	0.56	(1.397.787)	48.06
Actual units of inputs or capacity that would have been used to produce year 2017 output assuming the same input-output relationship that existed in 2016	13,138,986.58	16,100,000	50	20
Favorable. cost effect of price-recovery component	(6,569,493.29)	(\$9,079,893.2)	(\$69,889.336)	\$961.200

Total for all inputs -- favorable	(\$15,718,314.626)	F	F	U
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Compute the effect of price-recovery component on operating income	RESULT
Revenue effect of price-recovery component:	\$12,014,744 F
Cost effect of price-recovery component:	\$15,718,315 F
Change in operating income due to the price-recovery component	\$27,733,059 F

Third: The Productivity Component: The Productivity Component measures the change in costs attributable to a change in the quantity of inputs used in 2017 relative to the quantity of inputs that would have been used in 2016 to produce the 2017 output. How to compute that?

Detail	Direct material	Conversion cost	Selling & Customer Costs	Develop cost
Actual units of inputs or capacity used to produce year 2017 output	13,199,290.7	16,100,000	55	24
Less:				
Actual units of inputs or capacity that would have been used to produce year 2017 output assuming the same input-output relationship that existed in 2016	13,138,986.58	16,100,000	50	20
Difference in units	60,303.12	0	5	4

Input prices in 2017	\$2.70	\$.82	\$7,250.71	\$14,599.4
Change in operating income - unfavorable	\$162,818.42	\$0	\$36,253.54	\$58,397.6
Total for all inputs - unfavorable	\$257,469.56			

Table (3) Compute the change in operating income between 2016 and 2017 can be analyzed as follows:

	Income Statement Amounts in 2016	Revenue & Cost Effects of Growth Component in 2017	Revenue & Cost Effects of Price-Recovery Component in 2017	Cost Effect of Productivity Component in 2017	Income Statement Amounts in 2017
Revenues	\$222,552,720	\$11,734,788	\$12,014,744		\$246,302,252
Costs	(62,941,490)	(2,105,901)	15,718,315	(\$257,470)	(49,586,546)
Operating Income	\$159,611,230	\$9,628,887	\$27,733,059	(\$257,470)	\$196,715,706
	\$159,611,230	F	F	U	\$196,715,706

The results of table 3 are explained as follows:

1- The Income Statement Amounts in 2016 is equal the \$159,611,230 in table 3 the same results of operating income variance in Table (2).

2- the Operating Income 2016 minus the Operating Income 2016 equal 37,104,476 that is approving the same results of operating income variance in Table (2).

3- the Income Statement Amounts in 2017 is \$196,715,706 that indicated to Change in operating income in 2017 it be computing more than one way the first way is showed in table 3 and the second way is through gathering the result of Revenue & Cost Effects of Growth Component in 2017 with the result of Revenue & Cost Effects of Price- Recovery Component in 2017 and the result of Cost Effect of Productivity Component in 2017 that's bringing the same result in operating income 2017 in table 2.

In conclusion, this paper proves that there is a real relationship between a strategic analysis and operating income.

The researchers came to the conclusion that the Companies that have been successful at cost leadership level will show large favorable productivity and growth components. A company that has successfully differentiated their products will show large favorable price-recovery and growth components. The analysis of operating income indicates that a significant amount of the increase in operating income resulted from product differentiation strategy. The company was able to continue

to charge a premium price while growing sales. Stanmore was also able to earn additional operating income by improving its productivity.

CONCLUSIONS

1-The strategic analysis of operating income is part of the strategic cost tools. Through several entries and in the working methods of purpose to clarify the role of the adopted strategy In achieving profits and the change in the components of profit and the factors that contributed to achieving that this is done through analysis.

The results showed a strategic analysis of the company's operating income for the overall effect is favorable for total analysis element; the three components (growth, price recover, and productivity) were the same as the increase in operating income for the year 2017 for the year 2016 that shone in table 2.

3-The results showed a strategic analysis of the company's operating income based on its overall cost leadership strategy basically, this is confirmed by the study results as well as its strategy of differentiation through the quality of its products.

4- The results show that the overall effect of operating income has an appropriate effect to pursue a growth strategy in operating income Due to revenue generated by increased sales volumes that cover costs and generate growth in operating income this is the main objective of the Department and helps it to continue and expand.

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