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TEACHING THE MANAGEMENT OF MARKETING PROFIT FIRST

Abstract:

The need for a metric, which measures the profit being generated by the firm's expenditures on marketing activities, has been recognized for many years. Investors and executives are no longer satisfied with traditional marketing metrics, such as customer satisfaction, retention and sales revenues, as measures of marketing performance. More marketers and marketing departments are being held accountable for the profitability of marketing activities. Teaching students about the nature of marketing profit is particularly difficult because the mathematics used to define marketing profit and its rate of return on marketing expense, ROMI, are complicated. The mathematics are more complicated than necessary because conventional definitions make explicit reference to the sales response function that drives the revenues. In this paper the authors advocate using a new and simpler definition of marketing profit that does not make explicit reference to revenue. The proposed definition presents the concave relationship between marketing profit and marketing expenditures as a simple quadratic equation. A simple definition of marketing profit and ROMI as functions of expense that makes no explicit reference to revenue means that courses in marketing management can start, rather than end, with marketing profit as the central topic of marketing management.

Keywords:

marketing return on Investment, MROI, ROMI, marketing management, marketing profit

JEL Classification: A12, M31, I29

Introduction

Marketing profit and its rate of return on marketing investment, ROMI, are the crucial metrics that today's marketing managers use to 'prove' that marketing activities, measured in financial terms, generate profits for the firm. When the generation of profits is the overarching goal of marketing, then it is logical that a financial metric of marketing should be the theoretical and practical starting point for teaching marketing management. However, the topics of marketing profit and functional rates of return, if they are raised at all, are not raised at the beginning of marketing management texts.

The simplest reason for instructors and textbooks to avoid the topics associated with marketing profit and rates of return, ROMI, is that students find the financial metrics of profitability very difficult to conceptualize and operationalize as marketing metrics. Marketing profit and ROMI are financial metrics and marketers, almost by definition, are uncomfortable with the analysis of financial metrics. However, the new emphasis on 'proving' the profitability of marketing requires the next generation of marketing managers to be experts in measuring marketing profits and rates of return on marketing investments.

Traditionally the topic of managing profits has taken a back seat to the more concrete issues of managing demand, customer retention, market share, sales revenue, etc. However, the overarching goal of modern marketing is now being recognized as profit. "Every strategy and tactical decision (of marketing) should be intended to raise profits (Lenskold, 2003)". The need for students to understand the relationship between marketing activities and profits is taking center stage. The topic of managing marketing activities to maximize profits should move from the back to front of the textbooks and the topic of profit management should be the starting point for introductory courses in marketing strategy. The argument in this paper is that the theory of managing marketing profit should be taught before the theory of demand and revenue management. The current difficulty with adopting a 'profit first' approach to teaching is that the conventional definitions of profit and ROMI explicitly include reference to the sales response functions, which generate revenues. The conventional definitions all but guarantee that topics of demand and revenue management are raised before the topic of profit management and, yet, marketing management is expected to be central focus of modern marketing.

Definitions of Marketing Profit

It is impossible to have meaningful dialogues about the profitability of marketing strategy unless one starts with a meaningful definition of marketing profit or marketing's contribution to the firm's profits. Definitions of marketing profit, Z, come in two basic flavors:

1) Definitions of profit based upon accounting principles of reporting and statements of performance. Accounting based definitions of profitable performance are easy to understand. However, they are not very useful for explaining the causal relationship between marketing expenses and profits. Examples of accounting based definitions of marketing profit would include:

Profit, Z = Gross Margin – Marketing Investment (Lenskold, 2003).
Profit, Z = (Revenue x Contribution Margin%) – Marketing Cost (Farris et al, 2010).
Profit, Z = (Sales x Percent Margin)–(Marketing & Sales Expense) (Best, 2013)

The great difficulty with accounting based definitions of marketing profit is that they do not provide proper explanation of the factors that drive the size of the profit. Students find accounting based definitions of the rates of profit being returned on marketing investment to be confusing and even misleading.

2) Definitions of profit based upon models of marketing management are far superior to accounting definitions for explaining how marketing expenses or 'investments' are the causes of marketing profits. However, the mathematics of the marketing models can be extremely complex. Popular definitions of marketing profit explicitly invoke complex sales response functions to explain revenue. Examples would include:

Profit, Z = Revenue as a function of advertising – cost of advertising (Kotler, 1971, Lilien et al, 1992).

Profit, Z = (Incremental Financial Value generated by Marketing – Cost of Marketing (Farris et al, 2014).

The great difficulty with definitions of marketing profit, which are drawn from models of marketing management, is that they are complex and extremely difficult to use in the introductory lectures in marketing management. If the management of marketing profit is to be the starting point of courses in marketing management, then simpler definitions of marketing profit and marketing rates of return must be identified and adopted for the classroom.

The purpose of this paper is to propose a definition of marketing profit as a function of marketing expenditures that is simpler than conventional definitions. Conventional definitions of marketing profit invariably make an explicit reference to sales revenue and/or demand. The proposed definition is simpler because it does not explicitly invoke revenue or the complex sales response function, which generates revenue.

A definition of marketing profit, without an explicit reference to revenue, is an unorthodox, perhaps an extreme, way to simplify the definition of marketing profit. However, to create a syllabus with a primary focus on profit management rather than sales management, it is necessary to present the theory of marketing profit before presenting the theory of sales revenue.

A Conventional Model-Based Definition

A mechanical approach is to define marketing profit as the sales revenue, R, minus the marketing expenses, I, that generated the revenue,

Marketing Profit, Z = Revenue, R – Expenses, I

The conventional approach to modeling marketing profit is to define the revenue, R, as a function of the marketing expense, I, such that R = f(I). A very traditional example of a simple sales response function, f(I), is

Revenue, $R = kI^e$

where k = a scaling constant incorporating the selling price

e = the elasticity of the sales response to the expense, $0<e<1$

When marketing profit, Z, is defined as an equation, then marketing profit becomes a function of the sales response function, kI^e,

Marketing Profit, $Z = kI^e$ – Marketing Expense, I

The conventional profit function is very satisfactory in advanced classes since it reflects the concave relationship between profit and marketing expense. By the time students reach advanced classes they have been exposed to many lectures on the nature of the sales response functions that determine demand and revenue management. However, seniors in marketing management still find the conventional equation defining marketing profit to be intimidating. Instructors are invariably forced to spend considerable time reviewing the exponential nature of revenue function based upon the sales curve before they can discuss the nature of the relationship between profit and marketing expense. To embark on the unorthodox approach of teaching profit management before sales response management requires a simpler function, Z = f(I), for describing the concave relationship between profit and marketing expense.

Proposed Definition of Profit as a Function

In order to teach profit management before revenue management, it is necessary to have profit defined as a very simple function of marketing expense without any reference to a sales response function. The proposed definition of marketing profit, Z, is to present the concave relationship between marketing profit, Z, and marketing expense, I, as a simple quadratic equation (Figure 1). That is to say,

Marketing Profit, $Z = aI – bI^2$

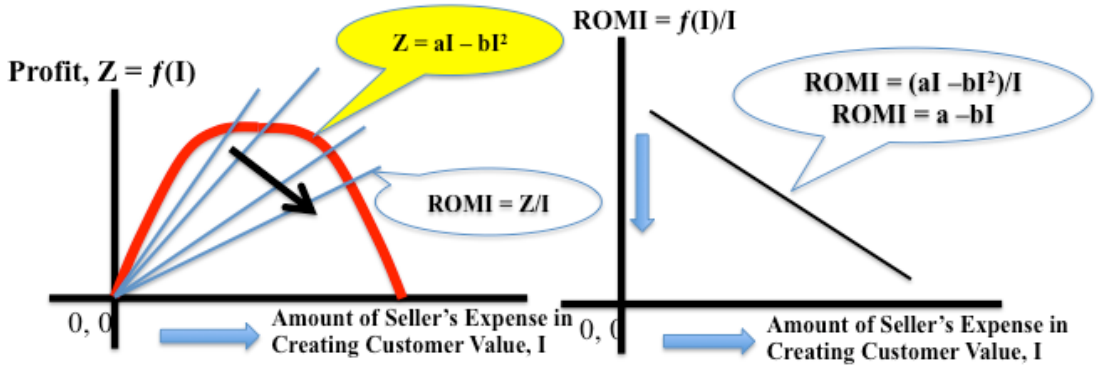
where marketing research provides the values of the constants ‘a’ and ‘b’.

Both the conventional definition and the proposed definition of marketing profit are functions of the marketing expense, f(I), invested in the seller’s offering. However, the proposed definition is simpler than the conventional definition,

Marketing Profit, $Z = kI^e – I$

because there is no reference to the sales response function, kI^e.

Figure 1: The Proposed Profit Function and the Rate of Return Curve

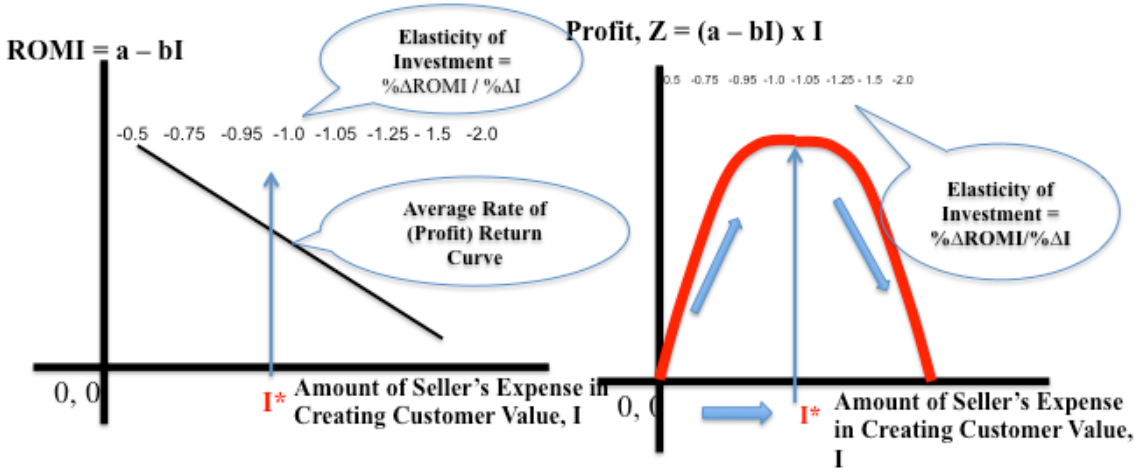


No Explicit Reference to Revenue

With no explicit reference to the sales response function that drives revenue, the discussion of managing profits can simplify several key, albeit conventional, characteristics of the concave relationship between profit and marketing expense. Examples include:

1) There is an optimal level of marketing expense, I* = a/2b, which maximizes profit.
2) The average rate at which profit is being returned from marketing expense, ROMI, is dependent on the size of the marketing effort. (i.e., ROMI = f(I).
3) The average rate at which profit is being returned is always decreasing as the amount of marketing expense is increasing (Figure 1) and is written as a linear function of expense with a negative slope (i.e., ROMI = a-bI).
4) There is a level of marketing expense from which further increases in expense reduce the total profit being generated (i.e., Marketing Profit, Z = ROMI x I).

Figure 2: Elasticity of Investment Expense and ROMI



Further, there are new characteristics that are not easily available in the conventional definitions of profit built upon sales response functions. Examples include:

1) There is an elasticity of marketing expense, e, which indicates the point at which the optimal level of marketing expense, I*, has been achieved (i.e., e=–1.0).
2) The elasticity at any given level of operation can be estimated from as little as two observations (i.e., e = %ΔROMI/%ΔI)

3) The current elasticity, e, provides the direction in which marketing expense should change to increase the profitability of the operation. (i.e., if e is elastic, reduce expense; if e is inelastic, increase expense)

The mathematics associated with the proposed definition of profit and the rate of return, ROMI, are much simpler than the conventional definitions and the students are seeing the same constructs they were taught in microeconomics. In one sense there is nothing new in the proposed definition or its implications except for its marketing context. The proposed definition of profit needs a theory of marketing management in which the quadratic relationship makes sense.

The Theory Behind the Math

It is radical to propose that introductory courses in marketing management should start with managing marketing profit in an equation without any explicit reference to the type of sales response function driving the sales revenue. However, it is the simplification of the mathematics that is being advocated. The importance of demand and revenue in the explanation of profit is crucial. The nature of sales responses and marketing expenses are necessary parts of the rationale behind the quadratic equation and must be in the preamble to the proposed definition of marketing profit.

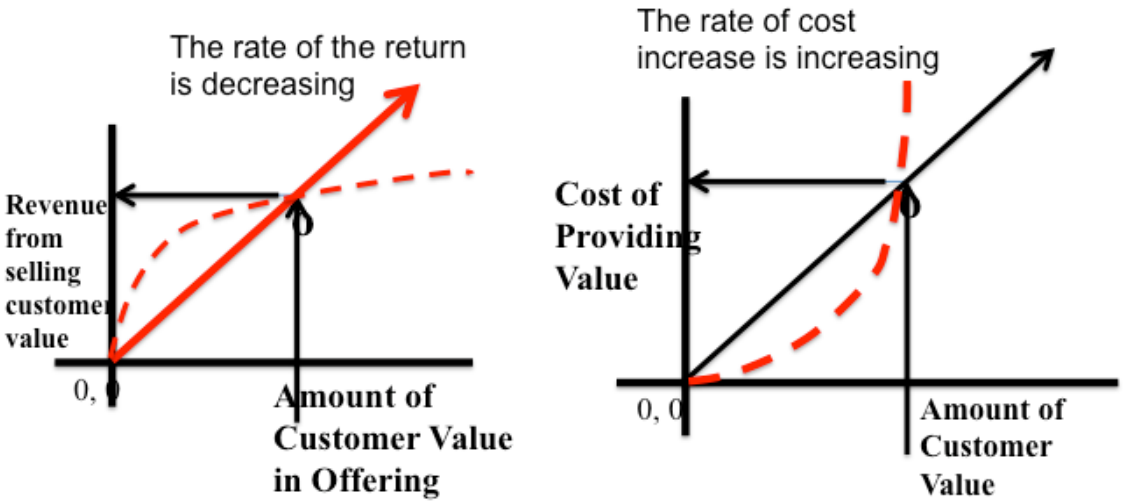
In the 50's and 60's it was not uncommon for people, particularly economists, to refer to marketing as demand management. The four P's of the marketing mix (Product, Place, Promotion and Price) were the tools by which marketers would manipulate the demand for the firm's products. However, the four P's of the marketing mix have remained a staple of the marketing syllabus for sixty years because they reflect the ingredients that marketing managers use to create the value that customers see in the firm's offering. The amount of the 4 P's determines the amount of customer value in the seller's offering.

Any simple explanation of marketing profit must maintain basic premises of revenue management:

1) When there is an increase in the amount of customer value, U, there will be an increase in customer demand and the amount of revenue the firm earns.
2) There is a diminishing rate at which revenue is being returned as expenses are increased.

The classic concave relationship between revenue, R, and customer value, U, is easily modeled as the response function, Revenue, $R = kU^e$, where $0<e<1$. The result is marginal rate revenue being return that is always decreasing with every additional unit of customer value in the offering.

Figure 3: Revenue and Cost as Functions of Customer Value



The most obvious things that a seller can do to increase customer value is to increase the amount of product quality, the convenience of place and time for the transaction, and the usefulness of the information in the product's promotion. However, the increases in these ingredients cause increases in the seller's marketing expenses.

A Simple Model of Marketing Expenses

A traditional premise of marketing management is that sellers must spend money to increase the amount of value a customer sees in the seller's offering. For simplicity it is often assumed that cost of creating customer value has a linear relationship with the amount of value added. However, it is more reasonable to assume that costs, I, would increase exponentially with additional efforts to increase customer value U. The simplest way to describe the increasing rate of cost for increasing customer value is with an exponential equation (e.g., Cost, $I = kU^e$) and the result is an increasing marginal cost for every additional unit of customer value included in the offering.

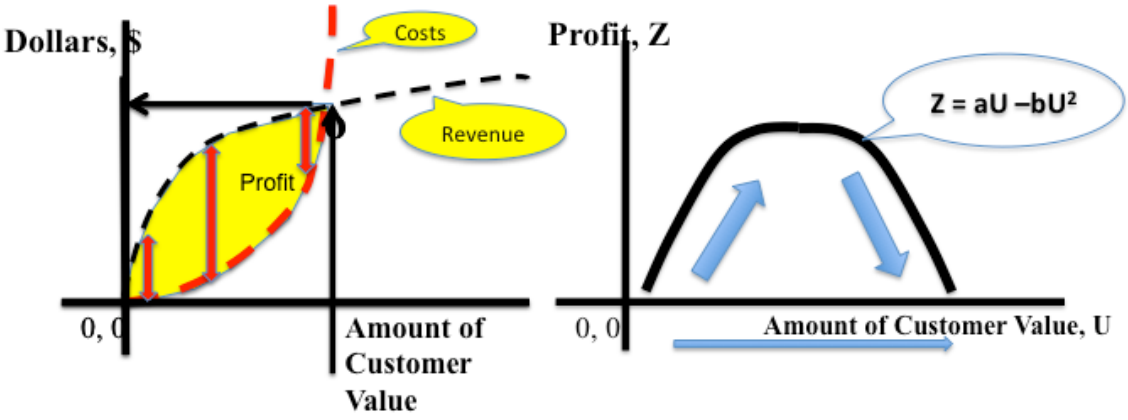
Profit as a Function of Customer Value

Marketing profit from a mechanical point of view is revenue minus marketing cost. Given the assumption that revenues, R, decrease at an exponential rate and that costs, I, increase at an exponential rate with increases in the amount of customer value, U, then the relationship between profit and customer value is strictly concave. There is an optimal level of customer value, U*, when the marginal cost of additional customer value is equal to the marginal revenue from the additional unit of customer value. The quadratic equation which best describes this relationship is

$$\text{Marketing profit, } Z = aU - bU^2$$

The perpetual difficulty, which can convert marketing science into an art, is the measurement of customer value, U. A traditional and simple approach to solving this difficulty is to assume, rather heroically, a direct relationship between customer value, U, and the marketing expenses, I, that generate the customer value. In this way the definition of marketing profit as a function of customer value, $Z = f(U)$ becomes equivalent to the definition of marketing profit as a function of marketing expense, $Z = f(I)$.

Figure 4: Profit as Function of Customer Value



The Advantages of Using A Simple Definition

When customer value is measured as the amount of marketing expense spent on creating customer value in the offering, then the proposed definition of marketing profit, Z, as a simple quadratic function of marketing expense, I, is

Marketing Profit, $Z = aI - bI^2$

It has several significant advantages over conventional definitions:

1) Calculating the optimal level of the marketing expense from the first derivative of a quadratic relationship is much easier than calculating the first derivative from the conventional derivative. The conventional definition leads to

$dZ/dI = ekI^{(e-1)}$

The proposed definition with a simple quadratic leads to a first derivative

$dZ/dI = a - 2bI.$

When the marginal rate is set to zero, then optimal expense or investment is calculated as

Optimal Investment, $I^* = a/2b$

2) Expressing and simplifying the definition of the average rate of return on the marketing expense or investment, ROMI, is easier. The conventional definition of ROMI is the ratio of marketing profit over marketing investment

$ROMI = (f(R) - I)/I$
$ROMI = (kI^e - I)/I$
$ROMI = kI^{(e-1)} - 1$

The proposed definition allows a simpler definition of the rate of return as a linear relationship to the amount of expense.

$ROMI = f(Z)/I$
$ROMI = (aI - bI^2)/I$
$ROMI = a - bI$

3) Demonstrating how the average rate of return is always falling is easier with the proposed definition. The conventional definition of ROMI is an equation in which the downward sloping nature of the Rate of profit Return curve is difficult for students to see.

$$ROMI = kI^{(e-1)} - 1$$

The proposed definition of profit allows the presentation of ROMI as a straight line with a negative slope, –b.

$$ROMI = a - bI$$

4) Forecasting the amount of profit, Z, from a proposed level of investment, I, is easier to calculate and understand. The calculation using the conventional definition of ROMI is

$$\text{Marketing Profit, } Z = ROMI \times I$$

$$\text{Marketing Profit, } Z = (kI^{(e-1)} - 1) \times I$$

The calculation of profit with the proposed definition is simpler because the average rate of return, ROMI, is simpler.

$$\text{Marketing Profit, } Z = (a - bI) \times I$$

$$\text{Marketing Profit, } Z = (aI - bI^2)$$

Although the proposed formulation of the profit function (without a specific reference to a sales response function) leads to the same basic insight as the conventional definition, it is a much easier concept to teach and students find it easier to grasp.

Pedagogical Usefulness

There are many advantages to starting a course on marketing management with the proposed framework dealing with the management of marketing profit apart from the general idea that when the overarching goal of marketing is to maximize profit then profit should be the first point of discussion. The most important advantage is the simple mathematical segue it provides for maximizing the profit, Z, generated by the manager's choice of the price tag's size, P.

The concept of having profit generated indirectly from a manager's choice of marketing expense, I, and to treat profit as a function of marketing expense, $Z = f(I)$ are the foundations of the lecture. The next step is to supplement the foundation with the concept of the price tag generating profits directly. That is to say, the initial framework for managing marketing profit, Z, from expense is extended to include profit as a function of the price tag size, $Z = f(P)$.

The Price Tag's Contribution to Marketing Profit

The simplest function that provides for marketing profit being generated by the management of the price tag is a version of the quadratic function found in microeconomics. The amount of marketing profit, Z, being generated from the size of the price tag, P, is the revenue function without any transaction cost,

$$\text{Marketing Profit, } Z = aP - bP^2$$

where marketing research provides the values of the constants 'a' and 'b'.

Marketing profit, as a quadratic function of the price tag, has the same characteristics as the marketing profit as a quadratic function of the marketing expense, I.

The average **R**ate at which profit, Z =f(P), is being **R**eturned **O**n the size of the **Price** tag, P, is called RROP, and is defined as the ratio, f(P)/P, of marketing profit to the size of the price tag.

RROP = f(P)/P

RROP = (aP –bP^2)/P = a –bP

The rate of return, RROP, has the same linear structure as ROMI. However, in Microeconomics the average rate of profit (revenue) being returned on the price tag is referred to as the Demand Curve. In marketing management the Rate of (Profit) Returned curve is more appropriate because the price tag is the independent variable in the relationship.

Piggybacking Marketing concepts such as the RROP and ROMI onto the price and quantity concepts of micro- economics can be rather confusing to students. For example, students find it confusing that in economics the 'price' is not the price tag and is properly called the average rate of revenue returned per unit sold, and in marketing the 'quantity sold' is properly called the average rate of revenue being returned per dollar of price tag.

However, a definition of profit, which allows the students to build on the mathematical parallels between managing profit as a function marketing expense, f(I), and managing profit as a function of the price tag, f(P), and the basic mathematics of Microeconomics, is very efficient from a pedagogical point of view.

Summary

The goal of preparing students to be marketing managers of the future is more easily achieved when the pedagogical focus is the same as the focus of those in the profession. The modern focus of the marketing professional is the profit created by marketing activities and the financial efficiency at which the profit is being generated. A definition of marketing profit and a simple pedagogical framework in which to study its properties should be the starting point for the teaching of marketing management. The definition and framework proposed in this paper has many pedagogical properties that lend themselves to being a useful starting point for the modern course in marketing management.

The strategic metrics of performance which marketing managers will be expected to provide in the future are the financial measures of profitability. Some executives may want the analysis of marketing profitability to proceed as if it was a general extension of capital budgeting theory or some new labels on the accountant's income statement. Some may want marketing managers to treat the marketing budgets as if they were financial investments. However, all must learn that managing the profitability of marketing expenses and treating the firm's strategic commitment to future marketing expenses over time as if it were an investment is nothing like making a commitment to a fixed asset with its profitability tied to the present value of future expenses and revenues. That is to say, managing an investment in the firm's operating capital (e.g., marketing expenses) has very different characteristics from managing a capital investment in a revenue-producing asset. The unorthodox definition of marketing profit proposed in this paper makes it easier to

demonstrate the difference between an investment in marketing expense from a conventional investment.

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