FORMALIZATION OF MARKETING AND FINANCE MANAGEMENT INTERFACE

Sviesa Leitoniene, Assoc. Prof. Dr.
Alfreda Sapkauskienė, Assoc. Prof. Dr.
Lina Klovienė, Dr.
Kaunas University of Technology, Lithuania

Abstract:
Actually, in the theory of company’s finance management and marketing is more often acknowledged that marketing activity create company’s financial value, however in practice it is complicated to valuate the contribution of marketing in creating firm value and substantiate marketing investments in the viewpoint of value based management. In this article attempts are made to formalize the impact of marketing/finances management systems interface for firm value. The scientific problem handled in the article is defined as following: formalization of marketing/finance management systems interface impact to the firm value. The purpose is using mathematical logic carry out comparative analysis of theoretical models as well as empirical investigations, analyzing interface of marketing and finance management from the viewpoint of firm value. Theoretical interpretation of marketing/finance management systems interface as well as its effect for firm value has been presented, basing on which the main contact points of marketing and finance management systems are highlighted. Two dominant business objectives: establishing competitive advantage and creating shareholder value, are not conflicting rather equivalent objectives originating from a single economic framework. Comparative analysis of models investigating the effect of marketing decisions to firm value has been performed it singled out the relationship between market-based assets and cash flow as the main connecting-link in creation of marketing decisions and firm value.

Key Words: Marketing and finance interface, shareholder value, value based management

Introduction
In the environment of growing competition the greater importance creation firm value is attributed to intangible company assets, among which is the assets created by marketing (market-based assets), for instance, brand, relations with customers, etc. That is why a very complicated scientific problem for nowadays researchers is how to estimate that contribution of company and its systems work which create intangible assets and their performance are difficult to valuate by financials indicators, i.e. to express in monetary units. The interface of marketing and financial management systems in the context of firm value creation using different theoretical aspects were researched by different scientists: Srivastana, Shervani, Fahey, Doyle and others. Nobody questions the truth about the use and value of marketing decisions, aiming at this financial purpose, that is creation firm value, but there is still a lack of thorough explanation and investigation mechanisms of this relationship of marketing and firm value. It is important to conceive, formalize and base, how financial firm value creation concept principles can be related to strategic marketing decisions, and in what way strategic marketing decisions and the intangible assets created by them participate in increasing financial value. That is why in this article attempts are made to formalize the impact of marketing/finances management systems interface for firm value. Consequently, the scientific problem handled in the article is defined as following: formalization of marketing/finance management systems interface impact to the firm value. The object of research is marketing/finance management systems interface. Thus, the purpose is using mathematical logic carry out comparative analysis of theoretical models as well as empirical investigations, analyzing interface of marketing
and finance management from the viewpoint of firm value. In the article, using mathematical logic while systemizing and comparing the main ideas of the scientific research, is analyzed the variety of interface theoretical models of company marketing and finance management systems as well as the level of the empirical research and substantiating of this interface co-relation. Conceptual essence of company’s marketing and finance management systems interface are investigated, rendering theoretical background for conception of value and obtaining the link between sustainable competitive advantage and firm value creation. Generalizing, the main theories and conceptions as well as their contact points analyzing this interface, are presented.

**Main research directions of marketing and financial management interface**

In the course of history the role of marketing and financial management in the company has changed, today main goal of the company’s value maximization that covers all company’s goals emphasizes the importance of concord between marketing and financial management in the company. However, now it is possible to distinguish four research groups of different views.

First view claims that for a long time the theoreticians and practitioners of marketing have held the view that the customer’s value naturally determines the shareholder’s value (Day and Fahey, 1988), and the financial ones – took a different attitude (second one) which claimed that focusing on the maximization of the shareholder’s welfare almost automatically impels to please the customer (Reiman, 1989, Rappaport, 1998). Moreover, social responsibility theory (the third one) criticized both previously mentioned views (Luo and Bhattacharya, 2009). The third view claims that the company has social commitments as well and that beside the shareholder or customer in business there are other stakeholders: employees, suppliers, society. It is being argued that executives tend to ignore other social responsibilities in order to maximize the value of the shareholder or customer, and so they lose the balance regarding the interest of different stakeholders. The fourth view studies the interface of marketing/financial management by trying to combine the positions of the shareholder and the customer (Srivastava, Shervani, Fahey, 1997; 1998; 1999) If placed in formulas these four main views could be expressed as provided below:

1) Traditional marketing point of view: \( \square p \square \)

2) Traditional financial management point of view: \( \square b \square \)

3) Social responsibility theory view: \( \forall a \to (p \cdot t \cdot d \cdot b) \)

4) The interface of marketing/financial management is analyzed in the sense of compatibility between customer’s and shareholder’s value: \( (\square a \square) \cdot k \)

here: \( p \) – customer’s value; \( a \) – shareholder’s value (company value); \( k \) – competitive advantage; \( d \) – value of the employees; \( t \) – supplier’s value; \( b \) – society value; “\( \square \)” (dot) – conjunction; “\( \cdot \)” – contradiction; “\( \rightarrow \)” – implication; \( \exists \) – existence quantifier; \( \circ \) – unity quantifier.

Traditional marketing position regarding the augmentation of the company’s value has been developed while creating many sorts of “the best/universal” strategy, for example Hammer and Chamy “Reengineering the corporation” and other. That has significantly emphasized the importance of symbiotic relations between the strategy creation and evaluation. During the recent year a major part of the business strategy works have had been shaping up a strategy, predicted the advantages it might create but has not shown why these results should significantly increase the company’s value.

Some authors claimed that these inferences are indisputable; therefore the analysis of company’s value is not necessary. This claim could be expressed as follows: \( \square (p \square) \square \). However, as confirmed by practice the outcomes of the value creation strategy are not always so obvious. The company’s value will materialize only when the customers will be ready to pay the incurred costs.

The traditional financial management view had been developed in the works of value based management, which basically analyzed the problems of value measuring instead of its creation. The core assumption of this philosophy is that: the main obligation of the executives is to create shareholder wealth. It is possible to distinguish three stages of value management development: the creation of calculation models for business value estimation is the more characteristic of the first stage; at the second stage attention to the strategic point of view became more prominent; the third (current) stage of integration analyzes company’s value in a broader and more holistic view (Morin and Jarrell, 2001). Most recent works on the concepts of company’s value estimation next to the financial strategy emphasize the importance of marketing strategy to the value creation. It is stated
that without forward shaping and development of an original marketing strategy methods of company value estimation are just simple calculations. It has been agreed that the objectives of winning competitive advantage and of company value creation do not contradict each other but are equivalent. In mathematical logic this claim is expressed as follows: (a\equiv k), here: “\equiv” – equality status. Though in these works the importance of original marketing strategy is already being emphasized and the influence of marketing and financial activity to the value factors is shown as well, the management solutions for marketing and financial management interaction are not being actualized.

The attitude of social responsibility theory are revealed through various models (for example: EFQM, The Balanced Scorecard and other) analysing the interrelations between the company's employees, customers and financial results as well as evaluates different aspects of the company's performance. In models based on social responsibility theory company's performance are being equally evaluated by the attitude of customers, employees and shareholders, though some of them are only a measurement system for achievements, others indicate interrelations and the third group attempts to determine the reasons. In this case the main problem is that so many goals can lead to confusion and making of bad decisions. Besides, these models are very clumsy, complicated and subjective.

In order to maximize the company’s value, while analyzing the main researches on marketing and financial management interface it is possible to classify them into three groups: empirical research of how various marketing elements influence the company’s value, theoretical models of finance and accounting intangible asset evaluation methodic, and theoretical models of marketing and financial management integration.

Attention to the role of marketing in the process of company’s value creation is relatively minor in the literature about marketing. It is possible to distinguish research of the event which relates the “event” such as for example: launching of a new product, with an uncharacteristic change of the company’s stocks prices. Also, an important part of literature (e.g. PIMS project) connects such marketing elements as consumer satisfaction, brand and quality, parts of market with various measures of estimating the changes in business results, such as profit and investment revenue, cost of capital (Luo, 2008; Tipton, Bharadwaj, Robertson, 2009; Luo, Homburg, Wieseke, 2010; Joshi, Hanssens, 2010; Bharadwaj, Tuli, Bonfrer, 2011; Kim, McAlister, 2011; Rego, Billet, Morgan, 2011; Mintz, Currin, 2013). These studies do not evaluate how marketing activity influences the company’s value, but they prove the marketing activity’s importance to the maximization of the company’s value.

It could be stated that in parallel financial literature ignored marketing activity’s contribution to the process of company’s value creation, except for the suggested variety of methods for financial accounting assets evaluation, which attempts to evaluate even the intangible assets (including the intangible assets created by marketing) (Reilly, Schweis, 1994; Anderssien, Tissen, 2000; Tissen, Anderssien, Deprez, 2000; Wiesel, Bernd, Julian, 2008; El-Tawy, Tollington, 2008). Both in theory and practice it is accepted that company’s results tend to increasingly depend on the intangible assets of the company, such as company’s culture, relationships with customers, brand value, etc. The variety of methods for evaluation of the intangible assets verifies both: the importance of this problem as well as the challenge of evaluation.

A deeper insight into this problem is given in the third theoretical research direction – theoretical models which investigate the intangible assets created by marketing as a source of company’s value creation (Glazer, 1991; Feurer, Chaharbaghi, 1994; Slywotzky, 1996; Cleland, Bruno, 1996; Srivastava, Shervani, Fahey, 1997, 1998, 1999, ; Walters, Halliday, 1997; Doyle, 2001):

\[ \Lambda = \langle M, V \rangle, \text{ when } M=f(p, m_1, m_2, \ldots, m_n); V=f(v_1, v_2, \ldots, v_3). \] 

Here: \( m_i \) – drivers of the marketing system; \( v_r \) – value drivers.

To sum up the analysis of the main concepts and models for marketing/financial management interaction several conclusions can be drawn:

The intangible assets created by marketing conjoin the marketing activity with the creation of company’s value, because assets are the economic resources from the usage of which the company gets profit and value. So, the marketing expenditure will increase the value only if it creates an asset that will generate a positive value of the present cash flows. It is possible to distinguish four main
types of the intangible assets created by marketing: marketing knowledge, brand, relationships with customers and strategic relationships.

The fundamentals of marketing/financial management interface are based on the network principle of company’s value drivers. The process of company’s value creation is projected, analyzed and controlled with financial, marketing and value drivers. Though various modular company’s value models are used, one of the mainly used and suggested implicit evaluation indicators for the strategic marketing decisions and the impact of created intangible assets to the company’s value is cash flows and their characteristics: velocity, size, time, volatility and vulnerability. Only the predicting and analyzing of cash flows and their characteristics would help answer the question how much have marketing investments added to the company’s competitive advantage in the market and how has this advantage influenced the earnings. The usage of cash flows could expand the evaluation of alternative marketing strategies; emphasize the flaws characteristic to each alternative, and to explore each alternative’s sensitivity to the changes of cash flows.

**Assumptions for the development of the conceptual model of marketing and financial management interface**

Both in theory and practice a new attitude towards the importance of the interface of company’s marketing/financial management systems is currently developing which raises new demand for the research on this interface. The developmental research on the attitude towards the possibilities of integrating marketing and financial management decisions into the context of company's strategy development and the analysis of the most recent theoretical concepts and models investigating this interface has highlighted the main assumptions that have to be followed while development a model for the marketing decisions' integration into the company's financial management in a contemporary changing environment, i.e.:

1. A value-based marketing is a management process which seeks to maximize the company's value by forming and implementing strategies creating sustaining competitive advantage and reliable interrelations with customers.

2. Company's financial management as an integral part of the management function is described as a process of making financial decisions which is related with the distribution of the company's limited resources according to the decisions of various company's areas (including marketing) in order to maximize the company's value.

3. In the context of the interaction between the company's marketing and financial management systems the creation of company's value is a synergetic process, and the company's value is a function of marketing, financial management and value creation drivers: \[ \text{company's value} = f(\text{marketing drivers, finance management drivers, value drivers}) \]

According to these assumptions the goal of any business is to determine favourable market circumstances and to use once resources so that the value would be created for both: customer and the shareholder, i.e. to gain a sustaining competitive advantage in the market and to create an additional value for the company. Marketing can determine these favourable circumstances, and the financial management, but only in accordance with the marketing decisions, can assure an effective usage of the resources. Consequently, strategic marketing choices should be evaluated not only by the achievements they generate while determining their impact to the creation of sustaining competitive advantage and company's value, but also by tracing their influence to the financial strategies, because in some cases specific restrictions related to the issue of financial resource distribution may apply. So, the process of decision making is an interactive process. The main problem is that strategic marketing decisions which would create a requested additional company's value and at the same time would optimize the achievements of marketing and financial management have to be selected. Though in the theoretical level this problem seems to be simple it is quite complicated to deal with in the practical level since it requires a comprehensive research on empirical interrelations.

**A conceptual model of the marketing and financial management interface**

In the model of marketing decisions’ integration into the company's financial management, the principal structure of which is provided in the picture 1, the interface of marketing/financial management related to the company's value creation is formalized by combining the concepts of value-based marketing, financial management system and value drivers; i.e. the interface of marketing/financial management is formalized by exploring the interrelations between the marketing system, financial management system and value drivers. Summarizing the theoretical
conceptualization results of this interaction: \( \Box_X K(x) \) (i.e. the goals of gaining sustaining competitive advantage in the market, suggesting unique value for the customer, and company's value creation do not contradict each other but complement each other; because the customer's value (aspects of marketing) and the shareholder's value (aspects of financial management) each separately are necessary but not sufficient conditions for acquiring sustaining competitive advantage and company's value maximization) and \( (K \cap A) \sim \forall x(x \in K \cdot x \in A) \) (i.e. from the value management point of view the class of new strategic marketing decisions’ seeking to create the sustaining competitive advantage (customer's value) and to increase the company's value (shareholder's benefit) becomes important) and relying on the assumptions which claim that:

Company's value = f(marketing drivers, financial management drivers, value drivers)\( \Box \) max or \( A = \{M, F, V\} \rightarrow m \) when \( M = f(p, m_1, m_2, ..., m_n); F = f(f_1, f_2, ..., f_n); V = f(v_1, v_2, ..., v_n) \) and by the implication threshold law \( (M \Box F) \Box (F \Box V) \Box (M \Box V) \) (i.e., if marketing decisions/drivers influence the financial management decisions/drivers and the latter influence company and its drivers, then marketing decisions/drivers also influence company's value and its drivers) the interface of marketing/financial management systems can be formalized with the following equation system:

\[
\begin{align*}
A_i &= f(M, F, V, W_1); \\
M_i &= f(A, F, V, W_2); \\
F_i &= f(M, A, V, W_3); \\
V_i &= f(M, F, A, W_4); \\
\end{align*}
\]

here: \( W_1, W_2, W_3, W_4 \) are the vectors of the supplementary determinants of four main variables.

The main idea of this model is that evaluation of the decisions has to be based with an optimal combination of marketing, financial management systems and value drivers at the same time assessing their possible effect on each other and company's value.

One of the greatest advantages of the value analysis is that it allows the executives to determine which activities in their business should be developed more actively. Therefore, in order to select and assess strategic marketing alternatives, first of all the most important drivers to this alternative such as of marketing, financial management systems and company's value should be selected and evaluated as well as the impact of their reciprocal synergy to the company's value. Marketing position in the model is expressed through the marketing system drivers: marketing knowledge, brand equity, relationships with customers, strategic relations, marketing investments; financial position – through the drivers of finance system.
Figure 1 Conceptual model of marketing and finance management interface
management, which evaluate the investment portfolio, financing structure, structure of fixed assets, and effectiveness of the current assets management. Value drivers (or success criteria) are described as the size of cash flows, the velocity of cash flows, the duration of cash flows, the volatility and vulnerability of cash flows. The value of residual cash flows which is more necessary for the aspect of calculation when models and methods of the company's value assessment are being applied. It is important to note that financial and value drivers are only relatively discerned, because all of them could be assigned to the group of financial drivers. Company's value in a functional and business unit levels is expressed with an adequate model of company's value assessment.

Main drivers are provided in the conceptual model of the marketing solutions' implementation in the company's financial management system, however while evaluating the contribution of separate strategic marketing solutions to the company's value creation process, firstly selected are such marketing system and financial management system drivers which influence competitive advantage and fixed cash flows. The main drivers should have three basic characteristics. First of all this should be such current asset or faculty that would have a long-term influence to the competitive advantage and company's value. Second, they should be measurable and informative, and third, they should be manageable.

In addition, proper selection and establishment of the factors requires perception and thorough investigation of the company's micro and macro environment. It is understandable that the company's value as well as its factors depend not only on the activity of the company's internal activities and marketing external activity solutions with the intangible assets that they create, but also in the external drivers. External drivers may arise, for example, during the change of company's status in the competitive struggle or industry, or due to the macro environment’s technological, political, economic, legal, government regulation or social changes. The change of macro environment is often the reason for the changes of the initial company's market value or cash flows. In this case important are such drivers as the cyclicality of the global and individual country's market, stock market efficiency level, change of the interest rate, fluctuations of exchange rate, tax changes, political, legal, social changes, ecological events, natural disasters, etc. Changes of the macro environment can directly change the company's market value, cash flows, sales and cost structure, or they can influence the company indirectly by changing the company’s competitive or industrial conditions. The dynamics of every competitive area or industry inevitably influences the value of any company or market as well as the fluctuations of income and expenditure flows.

So, in principle it is essential to select and integrate the main drivers of marketing system which create exceptional advantage: drivers of the financial management system which reflect optimal distribution of the resources and the ability to quickly react to the new favorable opportunities in the market, and the value drivers which cause the creation of company's value.

**Conclusion**

The main research on the interface of marketing and financial management has shown that namely the intangible assets' created by marketing activity impact to the cash flows is the main connecting link between the marketing solutions and company's value creation, because:

- Evaluation of the company’s gained wealth is related to the effective usage of the assets in pursuit of this wealth. Therefore, intangible assets can associate marketing activity with the creation of the company’s value. It is possible to distinguish four main types of the intangible assets created by marketing: marketing knowledge, brand equity, relationships with customers and strategic relations. Marketing investments will augment the value only when they will create an asset which will generate pure positive present value of the future cash flows.

- One of the main and usually suggested implicit assessment indicators are the cash flows and their characteristics: velocity, size, time, volatility and vulnerability. While predicting and studying cash flows and their characteristics it is possible to answer the question of how much have marketing investments contributed to the company’s competitive advantage in the market and how this advantage has influenced the earnings. The usage of cash flows expands the assessment of strategic marketing alternatives at the same time enabling the highlighting of the flaws inherent to every alternative and investigating each alternative’s sensitivity to the change of cash flows.

The core idea of the created conceptual model for the marketing decisions’ integration into the company’s financial management is that the evaluation of decisions has to be based on the optimal combination of marketing, finance management systems and value drivers alongside evaluating their possible effect on each other and the company’s value. There are several drivers of the marketing
system included into this conceptual marketing model (marketing knowledge, brand equity, relationships with customers, strategic relations, marketing investments), drivers of financial management system (which evaluate the investment portfolio, the financing structure, structure of fixed assets, effectiveness of the current assets management), value drivers (it’s the amount of cash flows, the velocity of cash flows, the duration of cash flows, the volatility and vulnerability of cash flows and the value of residual cash flows), company’s value and its constituents (the cash flows, cost of capital, debt capital) and the shareholder value (dividends and shares at market price). This model provides an opportunity to analyze the nature of interrelations between these drivers and to simulate various situations of marketing decisions. With the usage of this model the most influential to the specific company drivers can be determined in relation to the varying micro and macro environment. Company’s value in the functional and business unit levels, analyzed in relation to the characteristics of cash flows, in a general company’s level is expressed through a model of discounted cash flows.

Conceptual model expands the limits of marketing and financial management theories by integrating them into the context of company’s value and shareholder’s value creation and by formalizing the interrelations of marketing, financial management and company’s value drivers. This model could be applied in the practice of management, because: (1) it expresses the effect of marketing decisions through cash flows and their characteristics which are understandable to the managers of all company’s functional areas; (2) it emphasizes the fact that marketing expenditure are investments; and (3) it can be used while building and analyzing company’s strategic marketing solutions in relation to the company’s value creation.

All in all, it is stated that the prepared conceptual model of the integration of marketing solutions evaluation system into the company’s financial management newly enables the improvement of marketing decision making and implementing process in pursuit of company’s value maximization. This conceptual model adds to the marketing theory, provides a more explicit explanation of the interrelations between marketing activity achievements and company’s value achievements. In addition, on the grounds of this model an opportunity is provided to relate the aspects of marketing, financial management and accounting and to prepare students for a more efficient work in the inter-functional company’s environment. Finally, by acknowledging the assets created by marketing, company’s value drivers and their interrelations, this conceptual model could cause a more profound perception of marketing, financial managers, marketing content and their role in the organization.

References:


