
The marketing-finance interface towards financial services with special reference to the new services provided by futures exchanges

The marketing-finance interface

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Abstract *The financial services industry is one of the fastest growing service industries. The financial services industry includes financial derivatives markets such as options and futures markets. In order to ensure survival, firms providing financial services show a rapid product innovation. However, for financial services the risk of failure is considerable. Argues that a synthesis between the financial approach and the marketing approach towards financial services provides a conceptual framework for analysing the possible success or failure of futures contracts. The synthesis is illustrated by an empirical study of a new futures contract that might possibly be introduced.*

Introduction

Several authors have argued for a multidisciplinary approach to research into services (e.g. Brown *et al.*, 1991; Fisk *et al.*, 1993; Swartz *et al.*, 1992). Most advances in this respect have been made at the interface between the fields of marketing and organisational behaviour (cf. Bowen and Schneider, 1988). In this paper we will focus on the interface between marketing and finance. We will deal with financial services from the marketing perspective and finance perspective.

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We will concentrate on customer financial services such as the services provided by futures, options and other financial derivatives. Our specific goal is to provide a better understanding of the following research issue: how do marketing and financial approaches differ in modelling key success factors for financial services and can the integration of these approaches be fruitfully applied to futures contract innovations?

This article is organised as follows. We begin by reviewing the financial and the marketing approach towards financial services and go on to discuss how integrating these approaches can enhance our understanding of the successful introduction of financial service innovations. Because we focus on futures contract innovations as an example of financial services innovations we provide a brief overview of the futures industry and give a short review of the financial approach towards futures contract innovation. Next, we will discuss the marketing approach towards futures contract innovation and derive a conceptual model which integrates both approaches. Finally, an empirical study is used to illustrate the usefulness of the proposed model. We conclude by discussing our results and making suggestions for further research.

Financial and marketing approach towards financial services: a brief review

Financial management is concerned with the raising and allocation of financial funds (e.g. van Horne, 1986, p. 2). Norms for efficient financial management can be derived once the financial environment and the functioning of financial instruments have been understood. This approach to financial services, such as the price-risk management services of futures markets, will create the necessary conditions for success. The financial approach to financial services is a normative one: what conditions have to be fulfilled for a financial service to be a success? It is an approach that is particularly valuable to the manager of a financial institution.

However, fulfilling these necessary conditions does not guarantee the market success of financial services. The success or failure of these services also depends on the extent to which financial services satisfy the needs of potential customers at competitive prices. It is a point of view familiar in marketing: products and services are determined on the basis of the customers' wants and needs (Churchill and Peter, 1995).

In the marketing approach, the customer's need for financial services and the market potential of a specific financial service will be determined qualitatively and quantitatively. From this, hopefully, a specific financial service can be derived. However, often one is left with a set of alternative financial services which can satisfy the customer's wants and needs. A combination of the marketing approach, "which service is desirable from the customer point of view" and the financial approach, "which service is feasible from the technical point of view" seems a useful approach to adopt when selecting and introducing a potentially profitable new financial service (see Figure 1).

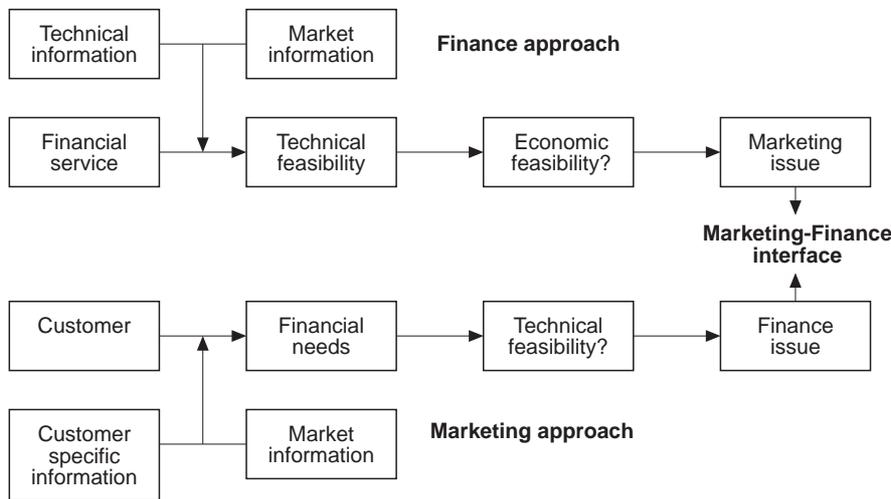


Figure 1.
The marketing-finance
interface

The way information is used is crucial to understanding the way the financial approach differs from the marketing approach. The financial approach makes use of technical information. Technical information consists of prices, rates of returns, volumes of transactions and historical data on all these items at different locations and on different markets. Use is made not only of technical information but often market information is also introduced, i.e. information concerning buyers and sellers of real and financial items.

The marketing approach draws on market information and customer-specific information. The latter type of information includes time preferences, investment opportunities, and the risk preferences of individual economic agents. Customer-specific information is essential for determining market needs and profit opportunities. A problem of financial institutions *vis-à-vis* customers may be information asymmetries such as hidden information and hidden action, which might result in adverse selection and moral hazard (see Dietrich, 1996). The cost of information asymmetry can be reduced by marketing research if the expected value of perfect information is positive (Dietrich, 1996; Lovelock, 1996). Customer-specific information is also useful in selecting target markets. Targeting market segments and designing effective positioning strategies requires that managers have an insight into how the attributes of a service-product are valued by current and prospective customers. Customer-specific information can provide that insight (Lovelock, 1996).

Marketing of financial services can benefit particularly from the attainments of services marketing as a sub-discipline of marketing (Fisk *et al.*, 1993; Swartz *et al.*, 1992). In their meta-study Zeithaml *et al.* (1985) identify four discriminatory features of services *vis-à-vis* goods:

- (1) intangibility;
- (2) inseparability of production and consumption;

(3) heterogeneity; and

(4) perishability.

They are also generally acknowledged for financial services (Ennew, 1990; Betts, 1994). The characteristics of (financial) services have led some authors (Booms and Bitner, 1981) to complement the 4P model of the marketing mix by three additional Ps:

- people;
- process; and
- physical evidence.

Service quality plays a pivotal role in the current literature on services marketing (Parasuraman, 1995; Rust *et al.*, 1996). Parasuraman *et al.* (1988; 1991) propose five underlying dimensions for service quality, which are mainly concerned with the process of service delivery, and with the interaction between service employee and customer in particular. The service delivery process (or functional quality) is complemented by the outcome of the service delivery process (technical quality) (Grönroos, 1990). Therefore, both outcome quality and process quality are paramount in service quality.

It is often difficult to derive from the marketing approach alone the successful functional and technical properties of financial services. On the other hand, it remains unclear whether the feasible properties of financial services as determined in the financial approach generate sufficient demand. It seems, therefore, that the financial and marketing approach to financial services, whether from the perspective of supply- or demand side, complement each other in the process of developing, producing and marketing financial services. Below we elaborate on the synthesis of both approaches to new financial services provided by futures exchanges.

Futures industry: a brief review

Futures markets make it possible for those who want to manage price risk – hedgers – to transfer risk (hedging service of the exchange) to those who are willing to accept it, i.e. speculators (speculation service of the exchange). Futures contracts are standardised legal agreements to make or take delivery of a specific commodity at a designated place some time in the future.

The futures industry is one of the fastest growing industries. In the last decade there has been an almost exponential growth of futures activity, and in its wake options have also grown rapidly. In 1995 1.8 billion contracts, both futures and options, were traded throughout the world. Not only do futures exchanges compete with other futures exchanges, they also compete with other financial instruments such as cash forward contracts and options. In order to ensure survival, futures exchanges show a rapid product innovation (Carlton, 1984; Miller, 1990). For futures contracts there is a substantial risk of failure

(Carlton, 1984; Johnston and McConnel, 1989; Tashjian, 1995). In 1995 40 new futures contracts were launched throughout the world. Only a few of these proved successful in their first year (Davey and Maguire, 1996).

Silber (1981) estimates that exchanges spend a year or more in developing a new to the world futures contract before bringing it to the market. The development of a competing futures contract takes considerably less time because the futures exchange can use the “me-too” policy: copying the futures contract specification from the competitive exchange. So, introducing futures can be an expensive and time consuming process, especially as the futures are new to the world. Hence, insight into an efficient and successful introduction process of futures seems valuable.

Financial approach towards futures contract innovation

In the financial approach the development of financial innovations is analysed from the supply side of the market for financial services. As stated by Merton (1990, p. 461):

The financial innovation came about in part because of a wide array of new security design, in part because of the advantages in computer and telecommunications technology, and in part because of important advances in the theory of finance.

In the financial literature on futures contract innovation the commodity characteristics approach and the contract design approach can be distinguished.

Commodity characteristics approach

The commodity characteristics approach defines feasible commodities for futures trading based on an extensive list of required commodity attributes and in doing so focuses on the technical aspects of the underlying commodity. The following attributes were considered crucial for qualifying a commodity for futures trading: the commodity should be durable and it should be possible to store it; units must be homogeneous; the commodity must be subject to frequent price fluctuations with wide amplitude; supply and demand must be large; supply must flow naturally to market and there must be breakdowns in an existing pattern of forward contracting (Black, 1986). This approach fails to explain the success of some types of futures contracts, such as financial futures and other exotic futures that do not have attributes mentioned above.

Contract design approach

The contract design approach views the contract specification (standardisation process of the contract) as the critical factor in attracting the interest of traders to the futures market and hence focuses on the technical aspects of the contract. Gray (1978) identified the importance of contract design. He argued that a contract must reflect the commercial movement of a commodity both closely and broadly enough such that price distortions are not a result of specifications in the contract. To warrant hedging, the contract must be as close a substitute for the cash commodity as possible (Thompson *et al.*, 1994). Johnston and

McConnell (1989) have shown that the hedging effectiveness is a very important determinant in explaining the success of futures contracts and as a result considerable attention has been paid to the hedging effectiveness of futures contracts. Authors who have proposed measures of hedging effectiveness include Chang and Fang (1990), Ederington (1979) and Pennings and Meulenberg (1997). In summary, the financial approach provides an answer to the question of whether it is technically possible to establish a futures contract for a specific commodity and what conditions have to be fulfilled to do so.

Marketing approach towards futures contract innovation

The marketing approach tries to provide an answer to the question of whether the futures contract is able to satisfy the needs of potential customers. The total set of customer needs with respect to a futures contract can be differentiated into instrumental needs and convenience needs. The customer will choose that "service-product" (futures, options, cash forwards, etc.) which will satisfy his or her total set of needs, both instrumental and convenience at acceptable prices (see Figure 2).

Instrumental needs

Instrumental needs are needs for price risk reduction in the case of hedgers and the need to make a gain in the case of speculators. Hedgers wish to reduce, or if possible, eliminate portfolio risks at low cost. There are several different ways of managing price risks. One can take positions in the futures markets, buy or sell cash forward contracts or make an agreement to defer the pricing of the commodity. Speculators wish to make a profit by taking the opposite position to hedgers and other speculators. The instrumental needs are related to the core service of the futures market, which consists of reducing price variability and providing an opportunity for speculation.

Convenience needs

Hedger and speculator do not only wish to reduce price risk and to create an opportunity for gain. They also want flexibility when it comes to doing business, easy access to the exchange and an efficient clearing system, for example. These needs are called convenience needs. They reflect the customer's

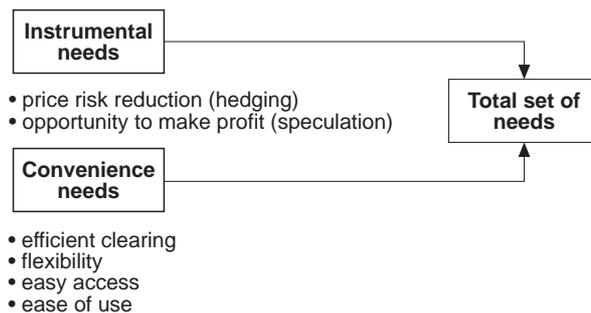


Figure 2.
Total set of needs

need to be able to use the core service provided by the exchange with relative ease. The extent to which the futures exchange is able to satisfy the convenience needs determines process quality (Grönroos, 1990). The service offering is not restricted to the core service but it has to be complemented by so-called peripheral services. The core plus peripheral services constitute the augmented service offering (Grönroos, 1990; Kotler, 1990; Ozment and Morash, 1994; de Ruyter and Wetzels, 1996).

After having analysed both the instrumental needs and the convenience needs, marketing will engage with designing the service and in the development of the service delivery process. Both the service design and the service delivery process affect the nature of a customer's service experience (Rust and Oliver, 1993; Rust *et al.*, 1996). These aspects of service marketing will be discussed for futures as a financial service.

Service design

Compared to the literature on new manufactured goods, the material available on service innovation is very limited (de Brentani, 1995; Edgett and Parkinson, 1994; Scheuing and Johnson, 1989). Discriminatory features of services *vis-à-vis* manufactured goods have a substantial impact on the service design process (de Brentani, 1989; 1991).

Intangibility presents a challenge to new service development because it requires the management of the futures exchange to cooperate closely with customers and to stress the use of tangible cues to make the service more physical (Parasuraman *et al.*, 1985). Tangible cues in the futures industry are the trading floor, the information provided by the trading system and the clearing system. Furthermore, intangibility may reduce the time needed to complete the new product development process for services. As a result, the futures industry may be able to respond more quickly and effectively to customers' needs. However, since services can be easily imitated ("me-too" products) there is a proliferation of similar services in the futures industry (de Brentani, 1991; Easingwood, 1986). Specific to futures as a financial service is the time between the placement of the order and the actual execution of the order, which determines the financial result of a service (Pennings *et al.*, 1998). Simultaneous production and consumption entail that both customers and service providers closely interact at the time of the first service encounter and in subsequent service encounters in later stages of the relationship (Parasuraman *et al.*, 1985; Shostack, 1984).

Service delivery

In the services sector the personal interaction between service provider and customer lies at the heart of most operations (Bitner *et al.*, 1994; Rust *et al.*, 1996). This interaction is sometimes referred to as the service encounter (Czepiel *et al.*, 1985) or "moment of truth" (Norman, 1991). The quality of the service delivery process in the futures industry is largely dependent on the

interaction between the brokers of the exchange and the customer (Pennings, 1998).

Synthesis of financial approach and marketing approach to new futures trading: a conceptual model

A successful development of new futures requires a simultaneous use of the marketing and financial approach (see Figure 3). The marketing approach investigates whether potential customers can satisfy their needs by using the new futures contract innovation. The financial approach is concerned with the technical feasibility of the new futures contract innovation. We will illustrate the usefulness of integrating the financial and marketing approach in one conceptual model by the following case study.

Illustration

Our conceptual model is illustrated for the feasibility of an as yet non-existent whey powder futures contract, a potential futures contract innovation which would be entirely new. Whey is a liquid product released in the manufacture of cheese and casein after the curd has been separated, and is a result of the action of acids, rennet and/or physico-chemical processes. Whey powder is used as a functional and nutritional ingredient in the food and pharmaceutical industries. Its most popular and probably agreeable application is for the production of Bailey’s Irish Cream (Bowens-Jones, 1986). The sharp price fluctuations of whey powder harm both processors of whey powder and end-users of whey powder. Both market parties have a considerable interest in reducing price risk.

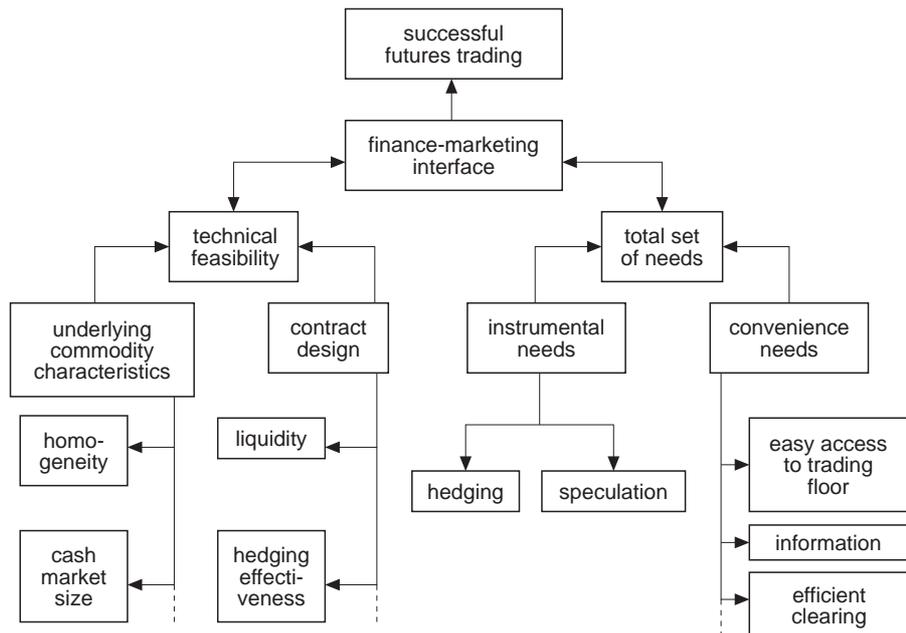


Figure 3.
A synthesis of the financial and marketing approach: a conceptual model for futures contracts innovations

For that reason the European Whey Products Association (EWPA) decided to investigate the idea of launching a whey powder futures contract.

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Research design

In order to investigate the necessary technical criteria in the financial approach for a whey powder futures contract, we gathered data on prices, trade volume and product specifications of whey powder in Europe. The data covered the period January 1989 up to and including June 1996. A survey was conducted to make it possible to apply the marketing approach. A questionnaire was mailed to the directors of 16 whey powder producing enterprises in seven European countries. The companies were contacted by the EWPA before the mail questionnaire was sent, to encourage participation and to ensure that the questionnaire would be sent to the correct individual. Although a personal interview would be able to generate deeper and richer insights, it was not feasible to use this approach in this study. The majority of the respondents targeted for this study were unable to spare the time for an in-depth interview and therefore we resorted to a mail survey. In order to understand the decision process of CEOs in the whey powder market and to make sure that the questionnaire would be interpreted correctly, the relevant literature was consulted and in-depth interviews were carried out with three senior executives. All respondents were senior managers involved in the marketing of whey powder. Eleven questionnaires were returned, i.e. a response rate of 69 percent. Note that the EWPA covers all companies involved in whey powder production; although our sample of 11 executives is small in absolute terms our sample nevertheless covered 75 percent of the total European whey powder sector in terms of volume. Moreover, our respondents were key-subjects and particularly well informed.

From in-depth interviews with senior managers it appeared that cash forward contracts and inventory control are perceived as alternative instruments for futures. For that reason we included in our survey cash forward contracts (a legal agreement between seller and buyer in which the price is fixed for delivering the product in the future) and inventory control (which determines the price level in the total cash market between a predetermined upper and lower level by an inventory authority). Hence, we take the influence of competition between alternatives into account as suggested by Laroche and Sadokierski (1994). Beliefs about the three alternatives were measured using statements describing the characteristics of the alternatives. Respondents indicated on a scale ranging from 1 ("I strongly disagree") to 7 ("I strongly agree") the extent to which they agreed with the statement. The respondents were asked to indicate on a scale from 1 ("I would definitely not intend to select") to 7 ("I would definitely intend to select") the intention to select the alternative. The probability of using the price risk management instruments is measured relatively by asking the respondents to distribute 100 points over the alternatives to indicate the probability of using one of the three instruments (van den Putte *et al.*, 1996). Furthermore, we measured some relevant aspects of

futures contracts which were strongly related to instrumental needs and convenience needs. These aspects were generated by the in-depth interviews conducted with a number of senior managers. The respondents were asked to indicate importance. Each aspect was measured on a scale ranging from 0 ("No importance") to 10 ("Overwhelming importance").

Results

Financial approach

Criterion 1: the price volatility. In order to conclude whether the volatility of whey powder prices are comparable to commodities, for which futures markets already exist, we have calculated the coefficient of variation, i.e. the standard deviation expressed as a fraction of the mean (the coefficient of variation is a stable expression of price volatility and furthermore it is dimensionless) for soybeans in the USA, since this commodity has a long tradition of successful futures trading. The coefficient of variation of whey powder, being 0.23 (based on 78 monthly observations) is relatively high compared with the coefficient of soybeans, being 0.07 (based on 78 monthly observation covering the same period as for whey powder). Thus, from the price volatility point of view a market for whey powder futures looks promising.

Criterion 2: size of cash market. The underlying value of the cash market is about 1 billion US dollars: the underlying value of the cash market for Dutch potatoes (successfully traded at Amsterdam Exchanges), by comparison, is 300 million US dollars.

Criterion 3: standardisation possibilities. Whey powder can easily be standardised (whey powder is a rather homogeneous product).

Criterion 4: number of participants. The number of potential participants is rather small which could lead to problems as far as squeezing the market (market manipulation) is concerned. Attracting speculators to the market therefore seems very important.

Based on the above mentioned criteria, futures trading in whey powder looks promising.

Marketing approach

In order to gain some insight into the opinions of the senior manager about the whey powder market, respondents were asked to indicate the extent to which they (dis)agree with a series of statements on the whey powder market. These scales ranged from 1 ("I strongly disagree") to 7 ("I strongly agree"). Table I summarises the opinions.

From Table I it is clear that CEOs do not consider themselves capable of predicting the prices of whey powder in the future and this unpredictability is seen as a risk. The CEOs wish to eliminate this risk by stabilising the total cash market. This can only be done by inventory control at the level of the industry itself. From these findings we might expect that CEOs favour inventory control over cash forwards and futures.

Statement	Mean	Standard deviation	Range
I am able to predict the price of whey powder three months from now	2.55	1.57	4
I am able to predict the price of whey powder six months from now	1.82	1.17	3
I am able to predict the price of whey powder nine months from now	1.82	1.40	4
I am able to predice the price of whey powder 12 months from now	1.82	1.47	4
The cash traders in the whey powder market ensure a clear price discovery	2.89	1.90	5
In the past I did use price risk management instruments in order to eliminate price risk	2.91	2.02	6
The price fluctuations in the whey powder market are large	6.55	0.93	3
I perceive price fluctuations in the whey powder market at risk	5.36	1.50	5
I want to eliminate price risk, irrespective of the price level	5.27	1.68	5
I want the whey powder market to be stabilized around predetermined price levels	5.55	1.57	5

Table I.

Statements on the whey powder market

Note: 1 = I strongly disagree; 7 = I strongly agree

In order to gain some insight in both instrumental and convenience needs the CEOs were asked to indicate the importance of some aspects of futures trading. Important aspects of futures trading were considered to be: reducing price variability (mean important score (MIS) 8.2, standard deviation (SD) 1.2), reliable clearing system (MIS 8.2 and SD 2.3), availability of price information (MIS 7.7 and SD 1.9), competent brokers (MIS 7.5 and SD 2.9) and easy access to the trading floor (MIS 7.0 and SD 1.9). The first aspect represents instrumental needs whereas the other aspects represent convenience needs. There is a clear hierarchy in convenience needs. A reliable clearing system is perceived as the most important aspect of futures trading, which can be explained by the fact that the clearing system directly affects the financial position of the participants, followed by availability of information, competent brokers and easy access to the trading floor.

The likelihood of whether one of the alternative ways of price risk management would be used was measured directly. The respondents were asked to distribute 100 points to indicate the probability of using one of the alternatives. Table II summarises these results.

Price risk management instrument	Mean	Standard deviation
Future contracts	35.5	24.55
Inventory control	44.5	27.44
Cash forward contracts	20.0	18.03

Table II.

Probability of using one of the alternatives by distributing 100 points

From Table II it becomes apparent that inventory control (44.5) is favoured over futures contracts (35.5) and cash forward contracts (20.0). Inspection of the frequency distributions of constant sum scale representing the probability of using the alternative price risk management instruments revealed two typical response profiles. Profile 1 consists of five respondents who favour the use of futures (Response profile: futures 48; inventory control 24; cash forwards 28). Profile 2 consists of four respondents who favour inventory control (Response profile: futures 20; inventory control 70; cash forwards 10). The respondents of profile 1 consisted of whey powder producers who trade their whey powder themselves whereas the respondents of profile 2 consisted of whey powder producers who did not trade whey powder themselves but who sold the whey powder directly to a cash market trader. The latter group are mainly bulk producers without any interest in the marketing of whey powder. We did not find a higher intention to use futures when senior managers had experience with price risk management instruments, nor did we find significant higher intention to use futures when senior managers were familiar with futures trading.

Implications

The marketing and finance approach suggests that the opportunities for trade in whey powder futures are limited. From a technical (finance) point of view there might be problems of liquidity and hence hedging effectiveness. With respect to the cash market size and the homogeneity of the underlying product, futures trade would not be hindered. So, from a technical point of view, whey powder futures trade looks promising only when a sufficient number of speculators are in the market to offset the lack of liquidity, which is to be expected when only hedgers enter the market (see Figure 4). From a customer point of view we see that the majority of the whey powder producers favour price stabilization by inventory control (see Figure 4). Figure 4 uses a plus or a minus sign respectively to indicate which aspects of the marketing-finance approach have a positive or negative effect on the viability of a whey powder futures market.

From the survey it appeared that the customer's understanding of the futures trade is an important determinant of the customer's engagement in the futures trade. Information dissemination of the pros and cons of futures trading may lead to a better understanding, thus reducing the psychological distance to a complex service such as the one provided by futures exchanges[1].

Note that inventory control, the alternative favored by the majority of the respondents, is difficult to establish, because it requires a central authority and strict discipline from all whey powder producers. During the in-depth interviews it appeared that it was hard to establish a central authority with the power necessary to take actions to restrict the behavior of individual firms. Moreover, inventory control might not be allowed by the European Union's anti-trust law. Therefore, futures may well be a second-best solution for whey powder producers.

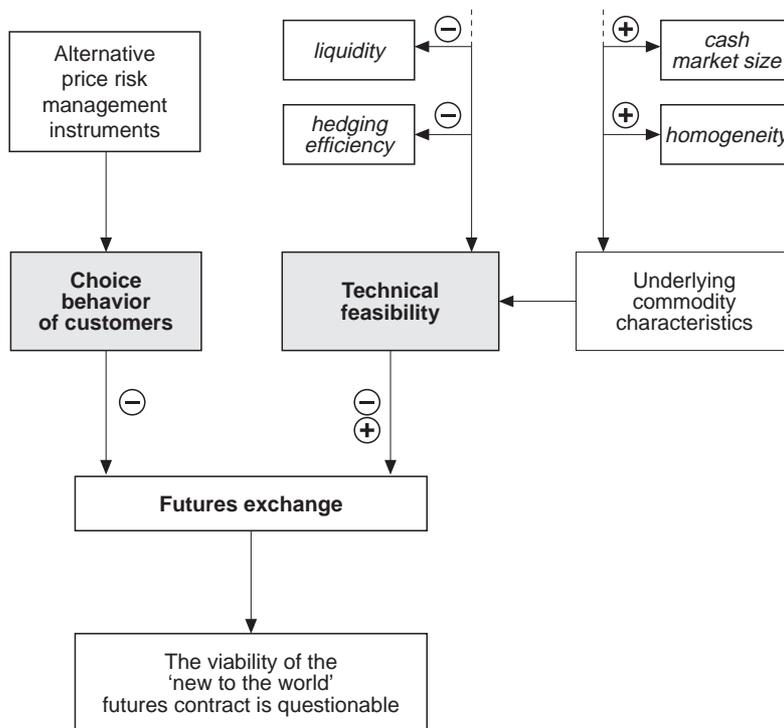


Figure 4.
The marketing and
finance approach
applied to whey powder
futures contracts

Within the framework of this study it is interesting that the peripheral services such as price information and competent brokers are perceived as important by whey powder producers. Therefore, it seems valuable that the management of exchanges should pay attention to the peripheral services. Thus, using the marketing-finance approach, the viability of whey powder futures is questionable. Both the finance and marketing approach, the latter in particular, show the weak market potential of a whey contract. The complementarity of the results from the marketing survey with customers and the financial evaluation of a possible contract in the whey powder example demonstrates the value of the marketing-finance approach.

In this article we did not examine the needs for price risk reduction of the whey powder consumers, such as large food and feed companies, which might have an impact on our conclusions on the viability of whey powder futures.

Discussion and conclusion

In this article we proposed a multidisciplinary approach to financial services innovations. More particularly, we concentrated on the interface between marketing and finance in futures contract innovations. The marketing approach begins with the customer's needs without considering in any detail the technical problems which might arise in designing futures contracts to meet

these needs. The financial approach starts off by considering the technical feasibility of a specific futures contract without considering the needs of the customer in any detail. Both approaches are complementary, therefore we proposed a synthesis of them. Our conceptual model implies a simultaneous use of both the marketing approach and the financial approach.

We illustrate the multidisciplinary approach by investigating the opportunities for a whey powder futures contract, a topic of considerable interest in Europe at the moment. It appeared that it is technically possible to design a whey powder futures contract. However, from the marketing perspective, inventory control is perceived by managers as fulfilling the need for price risk management better than whey powder futures contracts. However, inspection of the frequency distributions revealed two typical response profiles: profile 1 favoured futures trading whereas profile 2 favoured inventory control. We found that the two profiles differed in terms of their knowledge/understanding of futures trading and in whether or not they traded whey powder. Our conclusions regarding whey powder futures should be interpreted with care. We did not examine the needs of the whey powder consumers, such as large food and feed companies. The empirical analysis serves simply to illustrate our conceptual model. Further empirical research that will focus on the success or failure of financial innovations should be an interesting avenue to elaborate the proposed conceptual model.

Note

1. This has been recognised by the Warenterminbörse Hannover (WTB) in Germany, which has put considerable effort into disseminating information about its new futures contracts in order to reach as many customers as possible. In 1998, this exchange will launch new futures contracts for wheat and hogs, being the first agricultural futures contracts in Germany, i.e. the potential customer is confronted with a relatively long (psychological) distance to the futures exchange.

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