The Internet as a Driver for Unbundling: A Transaction Perspective from the Stockbroking Industry

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INTRODUCTION

In the context of transaction cost theory, firms, as legal entities representing ‘a nexus of contracts’, (Jensen and Meckling 1992) exist to minimize the overall transaction costs between producers and consumers (Coase 1937). The advent of the Internet decreases transaction costs (including information search costs) as it brings consumers closer to the initial producers, and this naturally impacts on inter-firm exchange relationships and on the optimal size of firms. A supportive example is stockbroking, where the evolution of online trading models still presents the industry with yet to be realized opportunities and changes.

In the traditional, non-Internet trading model a single entity performs the entire trading process (information provision, trade order, trade execution, settlement and accounts keeping). Online brokers are able to offer these trading processes at lower rates than under traditional, offline brokering arrangements. Discount brokers specialize in particular process steps along the value chain and are able to cut costs further. This increased competition from new business models requires brokers to address the issue of unbundling services with separate revenue models applied to each unbundled service. For example, traditional brokers would regard the provision of stock market information as customer service and may build charges for such services into their fee structures, while online traders are usually unable, or unwilling, to provide such individualized assistance.

On the demand side, online investors expect the flexibility of choosing separate service providers for separate phases of electronic market transactions to minimize transaction costs incurred through trading. Pressure from both the supply- and demand-side will lead to new business models, and the advent of new competitors from within and outside the traditional industry presents serious threats to current market leaders.

These ‘unbundling’ trends are not restricted to the brokerage or financial services industries. Hagel and Singer (1999) predict similar scenarios as described above for all industries:

As more business interactions move onto electronic networks like the Internet, basic assumptions about corporate organization will be overturned. Activities that companies have always believed to be central to their business will suddenly be offered by new, specialized competitors that can do them better, faster, and more efficiently.

This paper concentrates on the stockbroking industry and aims to put forth an explanatory framework for
the unbundling of transaction-oriented processes of electronic market transactions. However, many of the identified concepts are likely to be applicable for other industries with similar structures.

UNBUNDLING IN THE ONLINE TRADING CONTEXT

The general approach for non-quantitative process analysis has been to break down, or disaggregate, the operations and their associated business processes (compare Porter 1985; and Schmid and Lindemann 1998) and review each component individually. When analysing the unbundling of business processes for separate provision by different market entities, the granularity of disaggregation where unbundling is advantageous becomes difficult to define. According to transaction cost theory and common sense, once a certain level of disaggregation is achieved these processes must be performed by the same organizational entity. The close interaction and interwoveness of processes can make the separation economically unjustifiable or even technically infeasible. In such situations, the transaction costs associated with coordinating each low-level process between different providers are too great and these processes remain provided within the hierarchy of a single market entity (Hagel and Singer 1999). In unbundling, business processes will be broken down to such a level that each component can (theoretically) be provided by separate market entities, regardless of whether these entities actually provide other adjacent processes.

ANALYSING UNBUNDLING EVOLUTION WITH BUSINESS PROCESS MODELS

This research aims to disaggregate and analyse the trading processes qualitatively. The occurrence of electronic markets (as opposed to electronic hierarchies) favours the coordination through market mechanisms (as opposed to internalized, hierarchical coordination mechanisms) (Malone et al. 1987). Figure 1 outlines five major sub-processes of investor trading within the context of the ASX (Australian Stock Exchange) and depicts the general path for the unbundling of these processes into separate sub-processes to be provided by distinct business entities. Stockbroking services offered and delivered through the Internet channel typically mirror the sub-processes in the traditional channel closely. However, the characteristics of the Internet channel will ultimately permit breaking down of the sub-processes into separate services.

NEW BUSINESS MODELS IN THE FACE OF UNBUNDLING

Bundled trade transactions are set to become a lower margin operation, so much so that it is already considered a commodity. Figure 2 illustrates potential new business models that may act as investor interfaces to the individual markets for unbundled sub-processes: industry incumbent specialization, re-intermediaries and agent/client software. Each labelled column represents a separate market for the provision of a trading sub-process. This overall market is likely to have room for a small number of broad-based financial service providers that bundle all processes for their clients. These will come either in the form of new ‘re-intermediaries’ (Bailey and Bakos 1997) that bundle processes from each individual market, or industry incumbents that have survived to adapt to the Internet medium. Nevertheless, there will be increasing opportunity for specialist process providers to gain market share through effective service provision and a low cost pricing structure (Burnett et al. 1999). Tools to help investors independently navigate through the selection task for each trading process (such as intelligent agents and standards-based client software) will emerge, bringing into question the need for stockbroking firms. Furthermore, when the services

Figure 1. The Major Sub-processes of Investor Trading and the General Path for the Unbundling of these Sub-processes
of the few broad-based incumbent firms are disaggregated, it is highly likely that a number of sub-process outsourcing arrangements (to specialist firms who are more efficient at that particular process) will be discovered. In the following sections this paper will look at industry players reaction and emerging business models.

Industry incumbent specialization

Industry incumbents should specialize in those sub-processes that they perform better than the rest of the market, and source all remaining sub-processes from industry leading specialist providers. By sourcing sub-processes from specialist providers, incumbents access cost advantages from economies of scale. Thus, full-service offerings decrease in price and become more competitive in the marketplace. Furthermore, by providing their specialized sub-process to the market, incumbents can achieve further scale advantages to be passed on to their full-service customers through lower priced offerings. This provides revenue from both full-service offerings to investors (that are now lower cost), and from the provision of specialist sub-processes to other firms looking to source from lower cost providers. This way, incumbent firms maintain the full-service offerings at lower prices and supplement their revenue through markets for individual sub-processes they provide at industry leading prices.

Re-intermediaries

As sub-processes unbundle and competition for their individual provision develops, opportunities for re-intermediaries (who provide none of the trading sub-processes themselves) will become significant. These firms will concentrate on sourcing the most appropriate combination of trading sub-processes from specialized providers that offer an advantageous service/price ratio. These sub-processes will then be bundled and provided to specific groups of investors as a ‘one-stop’ option, at a small premium. Because such firms are simply bundling sub-processes not owned by them, they maintain the flexibility to easily offer one-stop trading services to multiple investor segments, thus providing them with multiple revenue streams and increased volume to gain scale advantages. Such multiple offerings will be achieved by sourcing sub-processes based on ‘investor-specific’ sets of preferences. As the automation of sub-process sourcing improves, the business model of these re-intermediaries becomes highly customized through updating the investor-specific variable to reflect the demand characteristics of the respective investor.

Intelligent agents/client software

In an ultimately dynamic and frictionless securities market, an investor would trade from her interface (standardized Web-based or client software) and input a number of parameters for the intelligent agent to use as guides for its sourcing decisions. Such parameters may include what strike price to sell at, a maximum price for settlement and execution services and which accounting service features are most important and at what prices. Once she has specified the trade parameters, the intelligent agent will proceed to piece together the trade dynamically. Software firms, that already offer standards-based financial services programs such as Intuit and Microsoft, are well poised to take advantage of this opportunity.
DRIVERS FOR UNBUNDLING STRATEGIES

The automation of information (and data) flows between entities, the decrease of transaction costs of (electronic) market transactions, the availability of micro-pricing arrangements and the obsolescence of legislative regulation are the major characteristics of online services working in favour of unbundled business models. These drivers differentiate online from traditional trading through the technical feasibility of new solutions and/or the economic change of market structures and powers. The drivers introduced in this section are mainly generic and equally applicable to other industries. The following sections explain each of these drivers in greater detail.

Automated data-flows

The inter-organizational exchange of information is a time-consuming and costly process by non-electronic means. Even electronically, inter-organizational data communication processes can be difficult and indeed economically prohibitive in the absence of a global information infrastructure and common data interface standards. Global standards for the syntactic and semantic definition of data-flows will be achieved through XML (eXtensible Markup Language). XML DTDs (Document Type Definitions) and schemas enable the exact specification of the data-flows between business entities. XML’s impact on general intra- and inter-business interoperability continues to gain significant momentum, as public document repositories based on industry specific and horizontal DTDs and schemas begin to appear (for example http://www.fpml.org, http://www.biztalk.com and http://www.ebXML.org). As industry specific DTDs and Schemas become standardized, the automation of sending, receiving and processing of data becomes manageable for multinational corporations, small- and medium-sized enterprises and consumers alike. The organizational structures of unbundled online trading are infeasible without global electronic networks and standards for interoperability. In the case of the stockbroking industry it is the very nature of automated data-flows on the Internet that allows the separation of the overall trading process into its sub-processes, to be handled by separate organizational entities.

Reduced transaction cost in electronic markets

Transaction cost theory attempts to explain the superiority of market coordination mechanisms on the continuum between markets and hierarchies by minimizing transaction costs. The net effect of electronic networks and inter-organizational systems on transaction costs is a reduction, which favours electronic market coordination over electronic hierarchies. While transaction cost economics have been criticized as a tool of analysis at the micro-(firm) level (Ghoshal and Moran 1996), the theory can predict the competitive environment and the general trends of electronic markets. In fact, the theory has been applied frequently in support of electronic market models ever since their occurrence (Malone et al. 1987).

The technical requirements for widely interoperable electronic financial markets as outlined previously, also sets a precedent for low marginal costs of additional information transfers between different businesses specializing in an individual sub-process. In line with Bakos and Brynjolfsson’s extensive research on aggregation and disaggregation of information goods (Bakos & Brynjolfsson 1998), as these businesses master such interoperable technology, the marginal costs of transacting with businesses specializing in other stockbroking sub-processes (both up and down stream from their position) are diminished to almost zero. Such low marginal costs are a major incentive for unbundling at the sub-process level where stockbroking firms can realize low operational costs through technology as well as scale, scope and expertise advantages.

Micro-prices and sub-processes as new revenue models

Micro-pricing arrangements allow clients to source several ‘sub-processes’ for a very small charge from several stockbroking firms, which can achieve superior economies of scale through specialization. Again, Internet technology becomes instrumental as an enabler, providing the infrastructure for micro-payment mechanisms and automating communication processing and account maintenance. The emergence of business models to fit such arrangements will also be driven by client demand. In addition to better bargaining power, the option to select the most attractive providers for specific activities and combine their strength according to the client’s demand offers an added incentive for such arrangements from the investor perspective. In the long-term, electronic market systems with advanced search and comparison facilities and (intelligent) agent systems will reduce the transaction costs (most notably search cost) for the organization of such arrangements prior to trade.

Weaknesses of regulatory environments

Currently legislative regulation of the stockbroking industry is still a major barrier to unbundling trends. However, only a limited number of processes or data-flows can be regulated through legal requirements. The disaggregation of stockbroking into its sub-processes and the creation of global electronic marketplaces for the sourcing of those activities may provide a vehicle to circumvent local jurisdictions. This detouring of local jurisdictions is occurring in many industries where local firms shift major
process components of their business offshore to decrease cost and to achieve more frictionless operations.

A case in point is the New York Stock Exchange (NYSE), which in December 1999 abolished Rule 390 that previously prohibited NYSE members (brokerage firms) from trading on any other exchange other than the NYSE (Biglari and Hunt 2000). NYSE members are since permitted to trade on any other exchange on behalf of their clients in order to secure the ‘best deals’.

CONCLUSION AND FURTHER RESEARCH

The full extent and direction of the changes that the Internet will bring to the economic landscape are difficult to predict ex-ante. In this paper, the unbundling of stockbroking services, and in particular transaction-based trading sub-processes, has been analysed as one of aspect that is leading towards new business models on the Internet. The closer scrutiny of these transaction sub-processes unveils the potential for disaggregation and re-aggregation of business processes for existing market players and re-intermediaries alike. This paper also identifies the socioeconomic and technological drivers behind the unbundling of sub-processes.

At a certain level, there are inherent interdependencies between process that are a major obstacle to a frictionless financial market. In the foreseeable future, a trader would necessarily be required to prescribe the complete path her trade would follow from the trade order process to the account keeping process, prior to the placement of the trade. In an environment where comparison and search facilities as described above are available, such decisions will be made dynamically at the point where each process provider has finished with the individual trade and is ready to pass to the next process provider. But even before such dynamic (sub-)process configurations become feasible, the new business models (industry incumbent specialization, re-intermediaries and agent/client software) will compete with existing businesses and shape the competitive landscape of the stockbroking industry.

References


