Fachhochschule
Münster University of Applied Sciences

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Dr. Wolfgang Wicht and Brian Sweeney

Multi-National Electronic Brokerage – Pan-European IT Platform for domestic and cross-border securities business & processing

Contents

Abstract

The former bull market has led to developments in the online brokerage industry such as over-capacity, profit-margin pressure, high fixed costs and unprofitable country expansion in the current bear market environment. In order to manage this situation, tactical measures like cost containment programs and closing of international brokerages have been applied. More strategic approaches like order flow consolidation by brokerage franchises, integrated online & branch brokerages and multinational electronic brokerages are valid alternative responses to these developments. This article outlines the Multi-National Electronic Brokerage approach from a strategic, functional, operational and technical perspective.

1. Business Context

Following a period of spectacular growth in recent years, the online brokerage industry is restructuring in response to a number of challenges and brokers are seeking to reposition themselves for the future opportunities in this sector. Where once the goal was to gain first mover advantage in the marketplace, the focus is now on building sustainable business models that will allow firms to be profitable during bear markets and to prosper in bull markets. [1]

The online brokerages today face a number of challenges. Firstly, the enthusiasm of recent years has led to over capacity in the sector with too many firms chasing too few customers. This competition has been good for customers with better tools and services being delivered and lower charges, but it has put significant pressure on profit margins. Secondly, an online brokerage offering requires substantial technology and operational resources. This leads to a high fixed operating cost, which is difficult to finance during periods of depressed stock market activity. [2] Finally, there has been a shift in customer demand from online-only offerings to integrated offerings, which combine both branch and online access. This coincides with the entry into the market of more traditional financial services firms who want to include online brokerage in their service offering to their customers.

However, industry analysts also see tremendous opportunities for online brokerage. The overall client market is continuing to grow as equity ownership in the general population increases and as an increasing proportion of customers are prepared to use online and telephone channels. Established financial services brands are able to increase customer profitability by marketing brokerage as an additional product offering. Also, specifically in Europe, the introduction of the single currency and convergence of equity markets is leading to demand for more internationally focused products.

2. Alternative Models

As the online brokerage industry matures and consolidation continues, three distinct business models are emerging: domestic, multi-domestic and multi-national brokerages. These changes are being driven by the need to achieve substantial trading volumes to cover the high operating costs involved. The characteristics of the three models are summarised in Table 1.

Criteria	Domestic	Multi-Domestic	Multi-National
Legal Entity	Single legal entity	Legal entity in each country	Single legal entity for all countries
Brand	Local brand	Single or multiple brands	Single brand across all countries
Transaction Volume	High volumes in home market	High in primary market, lower in other markets	High volumes due to aggregation of country volumes
Product Range	Full offering for home market	Broad offering for primary market; core offering for other markets	International offering with some local customized products
Market Coverage	Local markets with some segments of international markets	Local markets in each country with some segments of international markets	Multiple international markets
IT Platform	Single platform	One platform (i.e. back-end) in each country with some shared components (i.e. front-end)	Single, centralised platform (front and back-end)
Set-up cost	High set-up cost in home country	Significant incremental set-up cost in each additional country	High initial cost; low cost of entry to each new country
Operating cost	High operating cost in home country	Very high operating costs due to maintenance of multiple platforms	High operating cost for centralised platform, but low operating cost for each country (full sharing of platform)

Table 1: Comparison of online brokerage business models

The domestic operators target substantial market share in the country in which they operate. Their product offering is tailored to the demands on their local customer base. To be successful, they will either leverage a well-established local brand or invest in building a brand in their home country. The legal entity and operations centres will be based in their home country. These firms are usually either local start-up companies or established local brokerages that have added an online brokerage offering to their existing capabilities. Start-up companies normally outsource their main processing platforms to an established local service provider.

Multi-domestic operations have been created when local firms have expanded into other European markets by developing or acquiring a local presence in these markets. With this approach, organisations and operating platforms are normally replicated so that the firm effectively operates as a series of independent domestic operations. This approach was more common in the past when speed to market was a higher priority than operating efficiency.

Multi-national brokerages are seeking to establish a substantial global or regional market share but do not need to be a market leader in every country in which they operate. Their marketing strategy involves building an international brand and co-operating in each market with locally respected brands. Their operations are centralised under a single legal entity and operate through regional operations centres. They need to offer international product coverage to attract a broad customer base. Initial set-up costs for a multi-national operation will be higher than for a domestic operation. However, their centralised model allows them to enter new markets with limited additional implementation costs. The emergence in recent years of international service providers allows them to operate in multiple markets with a core operating model.

3. Implementation of Multi-National Model

3.1. Business Considerations

The legal and regulatory framework is a key consideration for brokerage services. Although not a pre-requisite for implementation of a multi-national brokerage, establishment of a single entity offers a number of advantages. Under financial regulations, it can be easier for an established regulated entity to enter a new market than to create a new regulated entity in that market. A uniform financial and legal structure also allows the centralisation of management, accounting and control functions.

Another business issue is the marketing strategy for branding and market development. In common with other e-commerce ventures, online brokerages have found it very expensive to build a market for their offering. This is a particular challenge in financial markets where customers tend to favour established brands and can be reluctant to place financial assets with new, online-only firms. One potential solution is to partner with an existing firm that is well established in the local market. For the partner, this arrangement generates additional revenues without the set-up costs and fixed running costs of implementing their own brokerage platform. The online brokerage gains access to a loyal customer base, a physical presence in the market and an association with a trusted local brand.

3.2. Functional Requirements and Architecture

Figure 1 illustrates the basic functional components for a brokerage service. These functions are required whether the offering is provided through a physical, online or integrated model. The functions can be categorised into those relating to customer services, product delivery and market access.

Customer services encompass all business functions with direct interaction to the customer both in the initiation and ongoing management of the relationship. Product delivery provides the financial

instruments needed to meet the client's investment objectives. Order capture provides the access point to the products for the client. Finally, product execution requires access to a range of financial markets. The client can choose from different trading models when accessing these markets such as:

- Agency trading which utilises an execution broker to place the order at a stock exchange for matching
- Quote-based or direct trading where the client requests a firm quote from an exchange or market marker
- Price improvement where the client deals directly with a market maker to obtain a better execution price than that available on an exchange. The price improvement trading model is an emerging approach applying trade and settlement netting in order to reduce transaction costs and obtain better execution prices (e.g. Deutsche Börse's XETRA BEST, OM's Jiway, Deutsche Bank's WCEE).
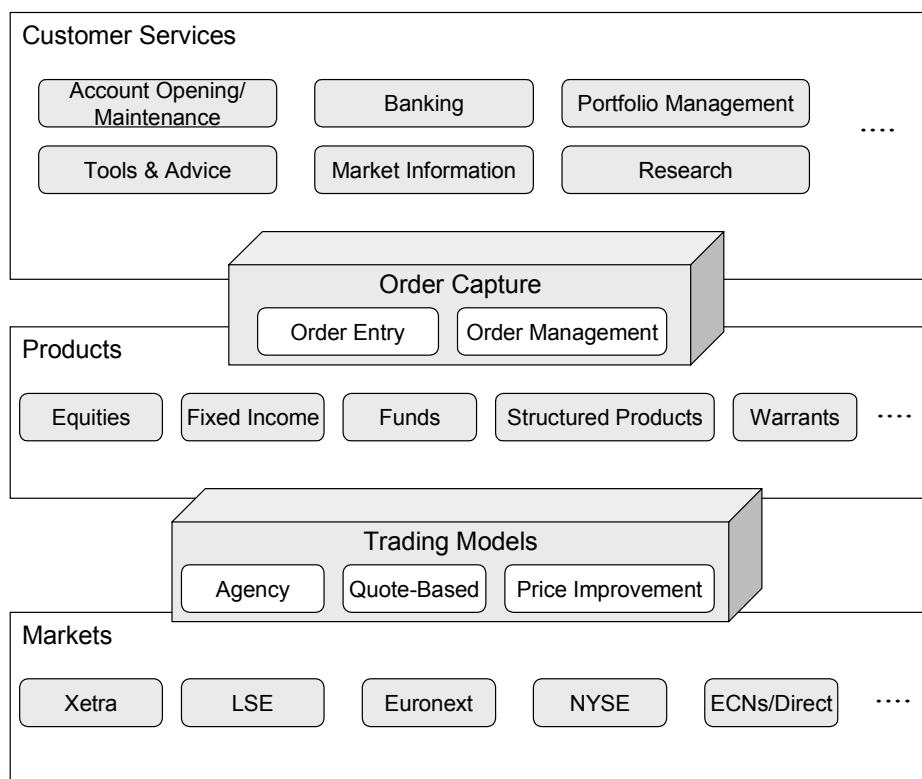
Figure 1 – Brokerage Functional Architecture

To support a multi-national brokerage, a number of additional requirements apply, e.g.:

Local Product Coverage
In addition to providing a broad set of international products, it is also necessary to package the product offering to meet local conditions. For example, many countries encourage long-term savings by offering tax incentives for special investment portfolios. In the UK for instance, there is the Individual Savings Account ("ISA") where a portfolio of investments is subject to favourable tax treatment. Also the full coverage of respective markets for the respective product is mandatory for a Multi-National Electronic Brokerage.

Multi-Currency Support

It is necessary to offer support for cash accounts in each client's home currency. For those clients interested in international products, additional currency accounts need to be offered so that foreign exchange conversions are not required when executing trading or processing interest income or dividends.

Cross-Border Payments

Clients of a multi-national brokerage require payment services for funding or withdrawing funds from their brokerage accounts that are comparable in speed and cost to payments within their local banking system. Since the current fragmentation of payment systems across Europe makes normal cross-border payments expensive to execute, it is necessary for multi-national brokerages to execute client payments within the local banking system and to net the related cross-border payments to support centralised treasury operations.

Multi-Language Support

All communications with clients need to be available in their own language. This includes not only website functionality and branch services but also content such as research and investment tools.

3.3. Operating Model

The operating model for brokerages is complex due to the large number of closely integrated processes that can involve multiple internal and external parties. In the case of a multi-domestic brokerage, complexity arises from the need to support legal entities in each jurisdiction while providing each with access to multiple markets via multiple execution broker. Country-specific settlement platforms and transaction service provider as well as fragmented agent network are further characteristics of this approach.

In comparison with the multi-domestic approach the Multi-National Brokerage model reduces complexity through the consolidation of retail broker entities, execution brokers (optional), transaction service providers and settlement platforms and through the migration to a global custody model. Both models are illustrated in Figure 2.

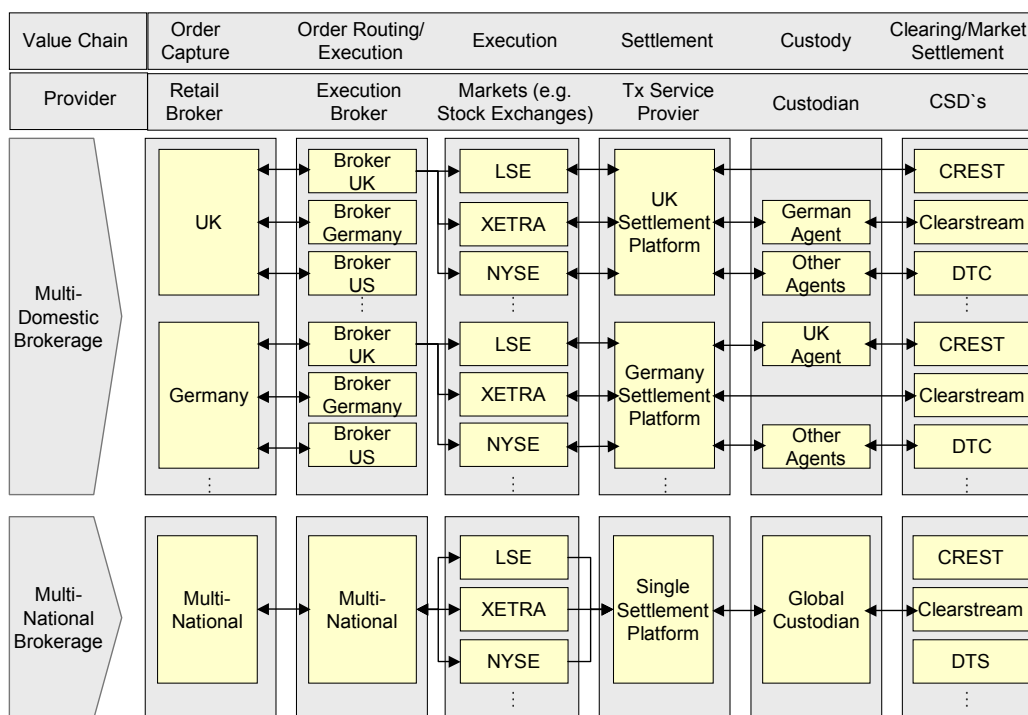| Value Chain	Order Capture	Order Routing/ Execution	Execution	Settlement	Custody	Clearing/Market Settlement
Provider	Retail Broker	Execution Broker	Markets (e.g. Stock Exchanges)	Tx Service Provier	Custodian	CSD`s
Multi-Domestic Brokerage	UK	Broker UK / Broker Germany / Broker US	LSE / XETRA / NYSE	UK Settlement Platform	German Agent / Other Agents	CREST / Clearstream / DTC
	Germany	Broker UK / Broker Germany / Broker US	LSE / XETRA / NYSE	Germany Settlement Platform	UK Agent / Other Agents	CREST / Clearstream / DTC
Multi-National Brokerage	Multi-National	Multi-National	LSE / XETRA / NYSE	Single Settlement Platform	Global Custodian	CREST / Clearstream / DTS

Figure 2: Multi-Domestic versus Multi-National Brokerage

While multi-entity processing platforms may be leveraged, there is nevertheless a need to comply with local accounting, regulatory and consumer protection requirements. Depending on the level of consistency between implementations, the front office, transaction processing and execution services may be shared or implemented separately in each jurisdiction. A simplified view of the operating model for a multi-national brokerage operation is shown in Figure 3.

The front office processes are those experienced by external clients either via branch or website. The back office functions are needed to support the legal entity and include areas such as financial accounting and regulatory reporting. The securities and cash processing is frequently carried out by a specialised service provider that handles interactions with Central Securities Depositories ("CSDs"). Leveraging a global custodian allows assets from a range of international markets to be efficiently managed. Finally, one or more execution brokers can provide global market access.
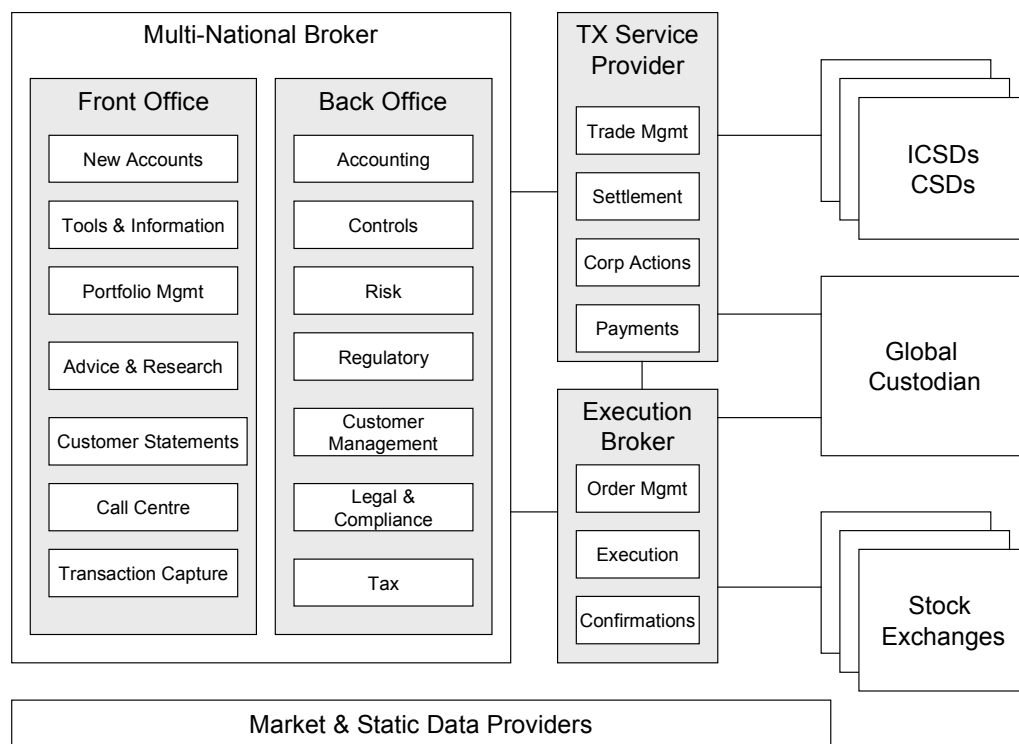

Figure 3: Multi-National Brokerage Operating Model

In the operating model for a domestic brokerage , the front and back office will be similar to those for a multi-national brokerage. If only local products are supported, then a local custodian and access to a single stock exchange and CSD will suffice.

3.4. Application Architecture

An online brokerage must implement all of the above processing services. However the customer service requirements are significantly increased. A range of information and tools are needed to

support a self-directed investor. Clients demand access to the services through multiple channels such as branch, website or telephone. They expect that all functions are simple to use and can be completed instantly. This applies equally to account opening, trade execution, delivery of news & quotes and reporting of portfolio data.

In addition, there are other factors that influence the application architecture for an online brokerage. If the services are to be part of an overall client offering, then the processes and platforms must be closely integrated with external partners to achieve an attractive customer experience. In addition, each partner may require a different combination of services to be contributed to the overall offering. Furthermore, from the broad range of international products available, it is necessary to determine which products should be offered to each client segment and how these products should be packaged and presented to meet their individual needs.

The resulting application architecture is comprised of 3 tiers as illustrated in Figure 4.
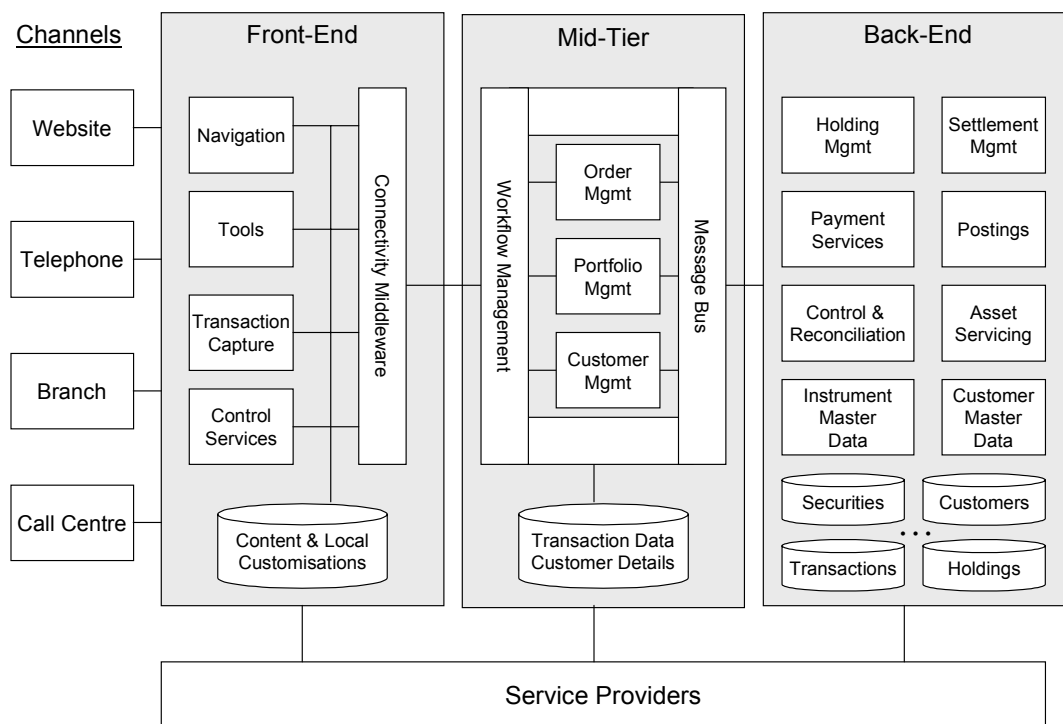

Figure 4: Application Architecture of Multi-National Brokerage

Front-end
The front-end is where the services are packaged for different access channels and customised to particular customer segments. For multi-national brokerages, content management services allow the language and content of the website to be tailored without impacting the implementation of business logic and processes. Middleware connectivity services ensure that mid-tier and back-end services can be implemented independently of access channel.
Market data and tools that do not utilise client data such as research reports are provided directly via the front-end access channels. This applies whether these services are provided directly by the brokerage or via specialised content providers.

<u>Mid-tier</u>
The mid-tier provides transaction services to the front-end channels. This includes account opening, authentication of customers, client specific tools such as portfolio analytics and the capture and management of orders. Rule-driven validation ensures that constraints relating to specific clients, products or jurisdictions can be applied prior to transactions being committed. Since multiple execution providers will be required to deliver a broad range of products and markets, use of standard interfaces for order routing is essential to provide flexibility and ease of maintenance. The workflow management engine controls the workflow over multiple applications and ensures the transactional integrity with roll-back and guaranteed delivery. The message bus provides routing, queuing and formatting services and reduces the interface complexity by eliminating point-to-point application interfaces.

<u>Back-end</u>
The back-end tier provides traditional back-office services such as trade settlement, customer holding management and maintenance of legal books & records. In addition to supporting multiple markets, a multi-national client base requires sophisticated tax services to ensure that the tax treatment of income for specific individuals is consistent with their tax status.

Box 1: Steps to Implementation of Multi-National Brokerage Model

1) Define the scope of the offering in terms of product coverage, markets offered and client services to be provided.
2) Establish the legal entity & regulatory framework. The single entity model adopted must support offshore operation in each of the target jurisdictions.
3) Develop the detailed operating model. A critical issue is the definition of the boundary between services to be delivered internally and those to be outsourced to external providers.
4) Implement/customise the back-end platform in conjunction with chosen service providers.
5) Implement the front-end and mid-tier platform on basis of defined requirements (see 1). This will require integration of external data service providers for news, market data, tools etc.
6) Run the platform on a pilot basis to ensure that all IT and operational procedures are robust. Gather feedback from real customers to optimise the ease of the use of the systems and to assess the appeal of the offering.
7) Establish partnerships with existing organisations to launch the offering in each target jurisdiction. Some additional implementation effort will be required for integration with the systems of each partner.

4. Conclusion

There are three business models in place for offering electronic brokerage services: domestic, multi-domestic and multi-national. The multi-national model is a valid model for Brokerages which act as a global scale looking for a consistent product offering, better control, reduced set-up and operating cost.

Developments in the industry have enabled the creation of a multi-national brokerage model. This paper has outlined the critical operational and technology pre-requisites for the implementation of such a capability. The operating model for a multi-national brokerage supports the centralisation of functions through the creation of core capabilities such as financial controls or market access that are independent of client jurisdiction The application architecture must build on these basic processing capabilities to deliver the flexibility that a multi-national brokerage must demonstrate in order to meet the needs of multiple jurisdictions, partners, delivery channels and client segments.

References

[1] Van Steenis, H. and Haerle, P.: The Future of Equity Trading in Europe, Research Report of JP Morgan and McKinsey & Company, February 2002, London, pages 8 ff.
[2] Van Steenis, H. and Mueller, J.: Asset Gathering in Europe – European Discount Brokerage, Research Report of JP Morgan, November 2001, London, pages 1 ff.
[3] Weiss, David M.: Global Securities Processing, New York Institue of Finance, New York 1998, pages 163 ff.
[4] Reddy, Michael T.: Securities Operations, New York Institute of Finance, New York 1995, pages 18 ff.
[5] Celent ltd.: Cross-Border Equities Trading in Europe, Celent Research Report, October 2001

Contact

Prof. Dr. Wolfgang Wicht
University of Applied Science Münster
Departement of Business Administration
Institute of Information Management
Corrensstrasse 25
48149 Münster
Germany
Phone: +49 (0) 251 83 6552; +49 (0) 251 83 65501
Fax: + 49 (0) 251 65502
E-mail: wolfgang.wicht@fh-muenster.de
Web: http://www.fh-muenster.de/fb9/person/wicht