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lakyara

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Introduction

Finance and information technology have become increasingly inseparable. Advances in IT and their adoption by the financial sector have made the impossible possible and driven major change in the world's financial systems. This trend is especially pronounced in the field of trading. Electronic trading and other advances are spurring rapid change in the equity trading environment for asset management firms, where the growing use of algorithmic trading has been reflected in frequent coverage by newspapers and other media. To gauge these unfolding changes, we conducted a survey of traders at asset management firms. This report summarizes recent trends in trading at asset management firms in Japan as revealed by the survey.

We begin with a summary of key points concerning trading at asset management firms and then examine each point in detail. For reference, raw survey data are provided in the "Commentary" following each point.

We hope this report will give readers a better picture of the present state of trading in Japan.

Shin Kusunoki

Division Manager, Center for Financial Technology Research
Nomura Research Institute

Survey Details

Date: Feb–Mar 2007

Methodology: Mail survey

Sample: 121 traders of Japanese equities at 48 asset management firms, chiefly readers of our monthly e-mail newsletter *Trading & Monthly*

Valid responses: 48 (34 firms)

Tabulation method: To eliminate firm-related bias, each firm received the same weighting in the results, regardless of how many responses it produced.

Seeking Best Execution —Equity trading at asset management firms—

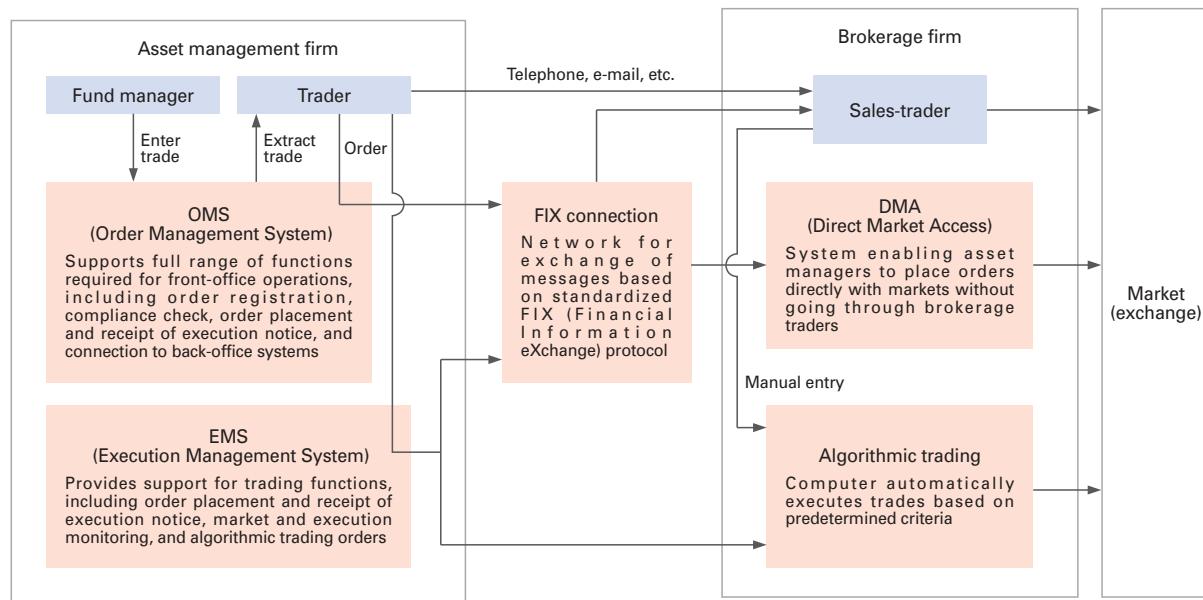
Equity trading at asset management firms has undergone dramatic changes during the last few years, and these changes continue today. They affect organizations, systems, and business processes, but they all have one goal: best execution.

Hiroki Kato

For many years at Japanese asset management firms, fund managers were responsible for all aspects of the asset management process, from asset allocation to the selection of investments to the execution of trades. Over the last several years, however, many firms have adopted a so-called trader system under which trading is handled by specialists. Factors contributing to this change included the liberalization of brokerage commissions and the elimination of regulations requiring all trades to occur on an exchange. These changes increased both the variety of execution methods available to asset managers and their choice of brokerages. As a result, trading is no longer the simple operation it once was.

Adoption of the trader system has driven a need for specialization, which has been supported by information technology (see Exhibit below). The use of order management systems (OMS), execution management systems (EMS), and Financial Information eXchange (FIX) connections has increasingly computerized the trading process, enhancing the accuracy and efficiency of operations. Further, this electronic trading infrastructure has provided the basis for the development of technologies offering direct support for execution, including direct market access (DMA) systems and algorithmic trading. To the extent that proper utilization of these technologies requires increased specialization, such advances in IT have been partly responsible for the adoption of the trader system.

Exhibit . Trading workflow and related systems



Towards best execution

The increased freedom in trading had led to a greater interest among the sponsors that are the clients of asset management firms in whether trades are being optimally executed. Interest in this area has mounted as they realize that trading skill can have a significant impact on performance. As a result, best execution has become a key goal for asset managers.

To achieve best execution, asset management firms must (1) have a suitable organization and administrative processes in place, (2) utilize IT effectively, and (3) create structures to verify and improve execution. While these elements involve a variety of aspects, three key issues emerged from our survey: (1) trader discretionary authority, (2) algorithmic trading, and (3) transaction cost analysis. In this report we take a closer look at these three topics.

Trader discretionary authority

A major issue when adopting the trader system is how much discretion traders should have over the actual trading process. Given the growing specialization of trading and the increasingly complex procedures involved, providing traders with more discretionary authority generally leads to higher-quality execution. However, fund managers—who prior to the advent of this system had full control over the entire process—are naturally hesitant to give up their authority. Section 1 discusses how to remove the obstacles standing in the way of greater discretionary authority for traders.

Algorithmic trading

At present, the topic receiving the most attention in terms of applying IT to the trading process is algorithmic trading. These systems for automated trading, originally developed in the United States and now being made available

by brokerages in Japan, represent the combination of sophisticated quantitative expertise and the most advanced IT available. But expectations at the asset management firms using them are offset by concern about their black-box-like nature. Section 2 discusses what must be done to make algorithmic trading more acceptable to asset management firms.

Transaction cost analysis

Traditionally, the main reason for using cost analysis was disclosure to the customer or sponsor—i.e., reporting. But as asset management firms increasingly understand the significant impact of execution cost on performance, they are trying to analyze execution cost and tap this information to improve trading operations. This shift in emphasis from reporting to analysis has driven demand for new features in transaction cost analysis systems. In Section 3 we offer recommendations for future systems.

Finally, we have included some of the relevant data from the survey in the “Commentary” sections following each article and hope that readers will find this information useful.

Section 1: Trader discretionary powers

Toward greater discretionary authority for traders

Determining how much authority traders should have over the trading process is critical to achieving best execution. The decision should be made without regard for the existing roles of fund manager and trader.

Nobutaka Uesugi

Many asset management firms in Japan have put in place a trader system, and it is now standard practice for fund managers and traders to have separate responsibilities. But the amount of discretionary authority given to traders appears to vary greatly from one firm to the next. In this report, we survey the day-to-day responsibilities of traders at asset management firms and consider the optimal amount of discretionary authority.

Trader discretionary authority today

The graph on the following page shows various ways in which responsibilities can be divided between fund managers and traders, listed in order of least to most authority for the trader. In Pattern 2 ("Trader as agent"), for example, the trader is responsible only for execution, and all decisions affecting execution cost are made by the

fund manager. But in Patterns 4 ("Broker discretion") and 5 ("Trader discretion"), decisions affecting trading costs are made by the broker or trader, and the fund manager's degree of involvement is relatively small.

Patterns 4 and 5 appear to be the most common at asset management firms, as they allow fund managers to focus on investment selection and other duties that only they can perform. It may also be the case that traders are given more discretionary authority because it is difficult for fund managers to obtain accurate information about trading.

However, traders are not given complete discretion over the timing of execution. For example, it is standard practice to spread large-volume trades over several days to prevent the firm's own buying and selling from significantly affecting the market price, otherwise known as market impact cost. But it appears that many asset management firms give their traders authority over the timing of same-day trades (Pattern 5) but do not allow multi-day executions (Pattern 6).

Exhibit . Breakdown of fund manager and trader duties—various patterns

Pattern	Item	Issue	Quantity	Timing		Price	Execution method	Broker	Execution
				Multi-day	Same-day				
(1) No separation						Fund manager			
(2) Trader as agent						Fund manager		Trader	
(3) Time priority						Fund manager		Trader	
(4) Broker discretion				Fund manager		Broker		Trader	
(5) Trader discretion (same-day)				Fund manager			Trader		
(6) Trader discretion (multi-day)				Fund manager			Trader		

Section 1: Trader discretionary powers

Not all asset management firms need to execute multi-day trades. But when investment style or trade size requires this type of execution, it is preferable that Pattern 6 be adopted. This pattern enables traders to flexibly manage execution costs by reading price trends and, for example, executing the trade earlier or later than planned. In practice, however, a number of factors make this difficult.

between the roles of fund manager and trader. As such, these improvements in the investment process itself have probably been more difficult for firms to implement than systems-related changes. But ultimately a more flexible delegation of authority to traders will contribute to improved investment performance through reduced execution costs.

Two obstacles to greater discretionary authority for traders

One issue concerns the trading systems used by asset management firms. At some companies, for example, systems may not be able to manage fund balances or transactions over a number of days, requiring all trades to be concluded by the end of the day. As the discretionary authority given traders expands, the functions that trading systems must provide will also evolve. It is therefore important that systems development does not lag behind changing business practices.

Even if systems-related problems were resolved, however, an immediate increase in traders' discretionary authority is unlikely. Before this can happen it will be necessary to alleviate the concerns that fund managers have about the shift of authority.

If traders were given the authority to carry out multi-day trades, it would not be surprising if some fund managers grew concerned about execution costs and possible lowered returns due to market conditions or the trader's execution skills. Some companies have dealt with this problem by estimating in advance the market impact cost and sharing this value with both the fund manager and trader. In other words, the fund manager builds the estimated market impact into the trade, and the trader attempts to execute within the estimated cost framework. The establishment of explicit criteria helps to reassure fund managers when greater authority is delegated to traders.

It is not easy to consider operational improvements that involve a breaking down of existing distinctions

Section 1: Trader discretionary powers

Commentary

1. Trader discretionary authority today

Traders have significant discretion over orders

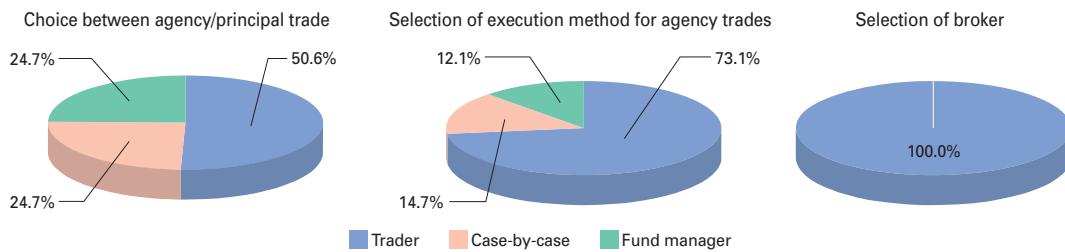
Many asset management firms give traders discretion over activities related directly to the order process (Exhibit 1-1). Their authority extends over the following areas:

- Choice between agency/principal trade¹⁾: This decision was made primarily by the trader at 50.6% of the firms surveyed.

- Selection of execution method for agency trades: This decision was made primarily by the trader at 73.1% of the firms surveyed.

- Selection of broker: The trader was primarily responsible for this decision at all firms surveyed.

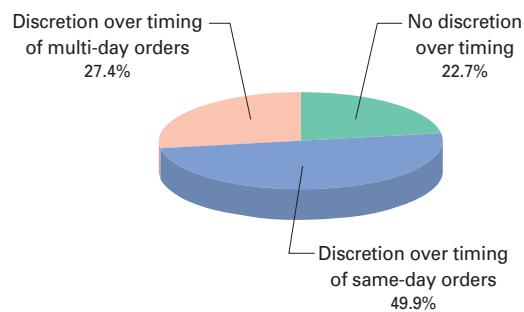
Exhibit 1-1. Authority over order process



Traders given discretion over same-day execution timing for half of all orders

Traders were given discretion over the timing of same-day executions for about half (49.9%) of all orders (Exhibit 1-2). Multi-day orders represented 27.4% of all orders.

Exhibit 1-2. Trader discretion over execution timing (as % of orders)



Section 1: Trader discretionary powers

Outlook for and obstacles to greater discretionary authority for traders

When traders were asked for their thoughts on the outlook for greater discretionary authority, some 40% of respondents said they thought their authority would increase in all four areas shown below (Exhibit 1-3). On the other hand, more than half predicted no change, underlining the guarded nature of their views on this subject.

When asked about the obstacles to giving traders discretionary authority, 58.5% of the respondents answered "Fund manager views" (Exhibit 1-4). It can be inferred from these results that fund managers do not always support moves to allow traders greater authority, in part because they enjoyed control over all aspects of trading prior to the introduction of the trader system.

Exhibit 1-3. Outlook for discretion over various aspects of trading process

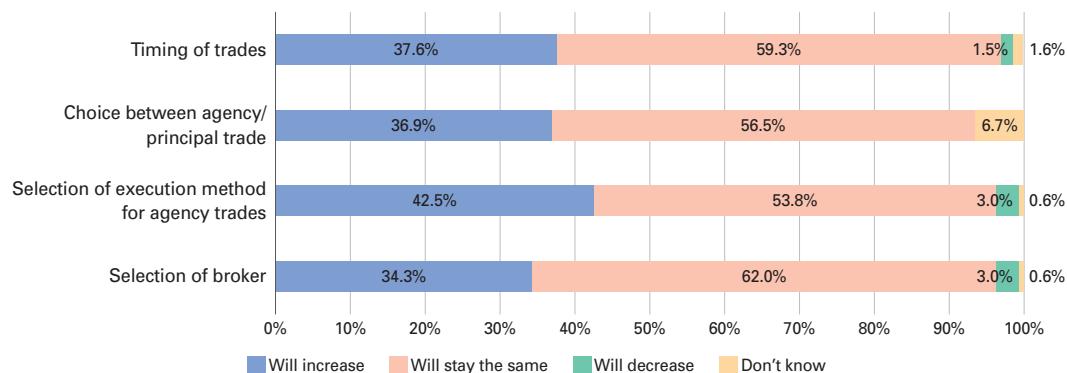
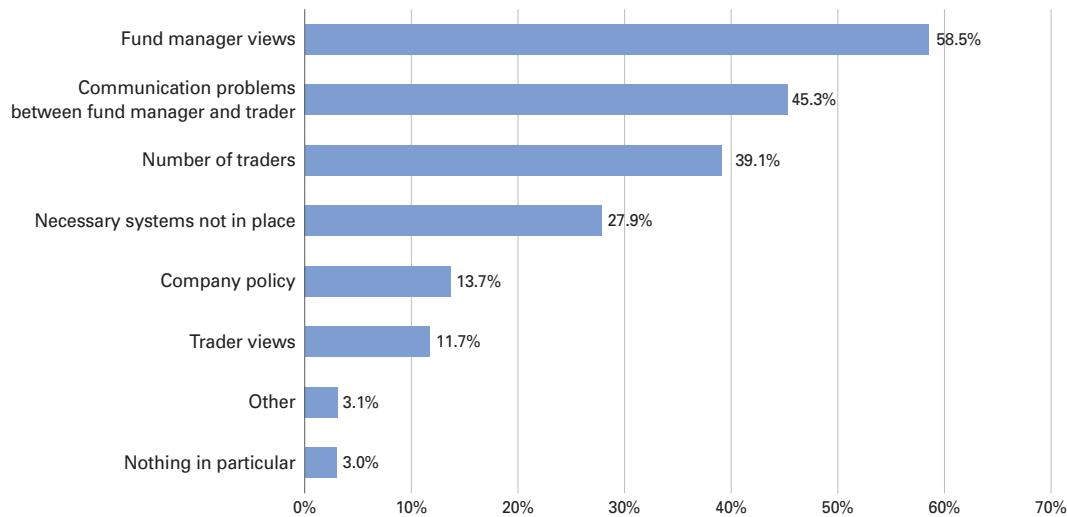


Exhibit 1-4. Factors inhibiting greater discretionary authority for traders



Section 2: Algorithmic Trading

What Asset Managers Seek from Algorithmic Trading Systems

Some asset management firms continue to have concerns about algorithmic trading. To assuage these concerns, brokerages need to provide them with algorithm management screens that enable confirmation of the current operation, execution analysis, and finely tuned control over the execution process and to show them why algorithms can be such a valuable tool.

Mitsuhiko Tsunoda

The percentage of asset management firms in Japan using algorithmic trading rose slightly last year to about 30%. Many expect 2007 to be the "Year of Algorithms" as a growing number of second-tier brokerages adopt such systems, following in the footsteps of the large foreign securities firms. Will algorithmic trading actually be adopted industry-wide? From the perspective of asset management firms, there are two main issues involved.

Concerns

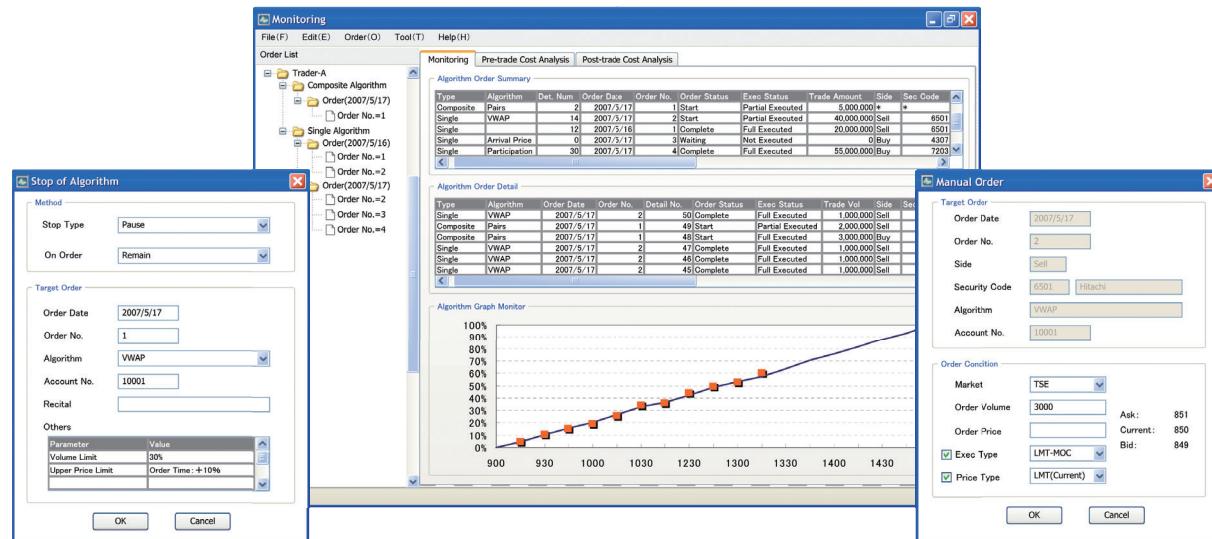
Algorithmic trading, which uses software to execute trades automatically, causes uneasiness for the simple

reason that it is a computer system and the trades are not executed by humans. It is hardly surprising that asset managers would worry about the logic driving these systems and wonder about their response to sharp inflections in the market.

Brokerages could largely alleviate such concerns by providing asset managers with algorithm management screens. By enabling traders to monitor in real time the system's execution of their orders and change or cancel the order conditions at any time, such screens would give users the absolute reassurance that comes from having full control over the program.

In addition to worries about system reliability, there are concerns about the lack of methods for assessing the

Exhibit . Hypothetical algorithm management screen



Section 2: Algorithmic Trading



performance of algorithms. Here we need quantitative tools that can help answer questions like "Which algorithm should be used for this trade?" and "Did the algorithm deliver the expected execution performance?" For asset managers, which have the duty to provide sponsors with explanations, the lack of such tools can be a key obstacle to the adoption of algorithmic trading.

In the case of VWAP trading, which seeks to achieve an execution price as close as possible to the average execution price throughout the market, the algorithm's performance can be determined by a simple comparison with that day's VWAP. In general, however, the difficulties involved in creating benchmarks for assessing individual algorithms are one reason why systems remain short on algorithm analysis features. The incorporation of such features in the management screens noted above would further enhance their convenience. Ideally, the analytical services of a neutral third party should be used given the need to compare algorithms across a number of brokerages.

Insufficient promotion of benefits

If removing the concerns noted above is a necessary condition for promoting the adoption of algorithmic trading, then making asset managers aware of the benefits of these systems is a sufficient condition. Use of VWAP, which has become the most common algorithm, has increased as asset managers seek to improve operational efficiency by using the system to carry out tasks once handled by traders. But another benefit of algorithmic trading is the ability to execute trades possible *only* with machines.

A key factor in the successful trading of illiquid issues, for example, is the ability to wait for an offsetting order to appear and quickly take advantage of it. It is difficult for human traders to monitor the market for such situations continually, and when a number of issues must be followed at the same time the task becomes almost impossible. But algorithms make it possible. The ultra-high-speed processing involved in the "illiquid issue" algorithm

described above, for example, would be possible only with an algorithmic trading system. It will be up to the brokerages to demonstrate these benefits to asset managers.

An additional benefit of the algorithm management screens noted above is that they allow for more flexible execution. Traders at asset management firms cannot help but feel reluctant to call up their brokerage and request a change to or cancellation of an algorithmic trade in progress. Given the time and effort needed for brokerage staff to fulfill such requests, they would be hesitant, for example, to call and ask for repeated modifications to the conditions of a trade because of shifts in market conditions. The ability to make such alterations on a computer screen would therefore make possible trades that are closer to the original conception.

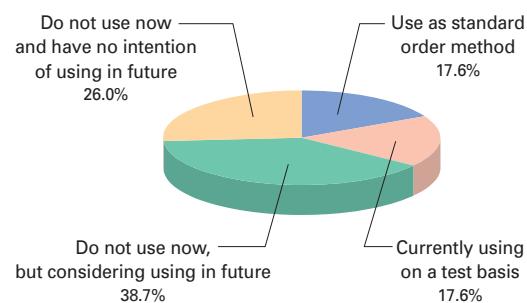
In the United States, DMA systems have enabled asset management firms themselves to flexibly manage orders on the computer. With DMA yet to be adopted to the same extent in Japan, algorithm management screens may have to provide some of the flexible execution controls that would otherwise be delivered by DMA. In the United States, where algorithmic trading has come into its prime, brokerages are competing intensely to offer the fullest range of features on algorithm management screens. It has even been reported that the presence of a profusion of screens from different brokerages is sometimes actually lowering operational efficiency on trading floors. Japan is a long way from having to worry about such problems.

Commentary 2. Algorithmic trading today

Some 30% of asset managers use algorithmic trading

When traders were asked whether their firms used algorithmic trading, 17.6% answered that it is used as a “standard order method,” 38.7% that they do not use it now but are considering using it in the future, and 26.0% that they do not use it now and are not considering using it in the future (Exhibit 2-1). Even when those firms using it on a trial basis are included, only a little more than one-third of asset managers are using algorithmic trading systems today. This finding suggests that the adoption of algorithmic trading in Japan is still in its early stages.

Exhibit 2-1. Use of algorithmic trading

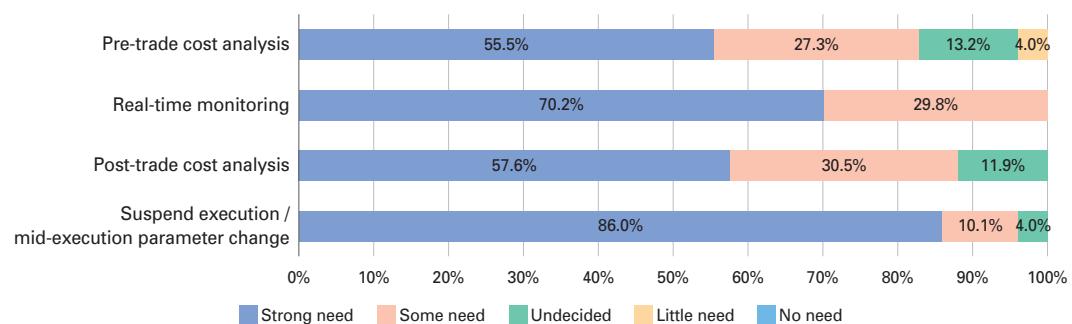


Concerns about algorithms and the need for control

When traders were asked why their firms had no intention of using algorithms in the future, the most common replies were “worries about lack of human involvement” (56.6%) and a “lack of tools to properly assess the algorithms.” Both of these answers reflect persistent concerns at asset management firms about the black-box-like nature of these systems.

When traders were asked about the features required of an algorithmic trading system, they were most likely to answer the ability to suspend execution or carry out mid-execution parameter changes (86.0%), followed by “real-time monitoring” (70.2%) (Exhibit 2-2). This focus on features allowing control over the trading process can also be interpreted as a reflection of concerns about algorithmic trading.

Exhibit 2-2. Perceived need for various algorithmic trading features



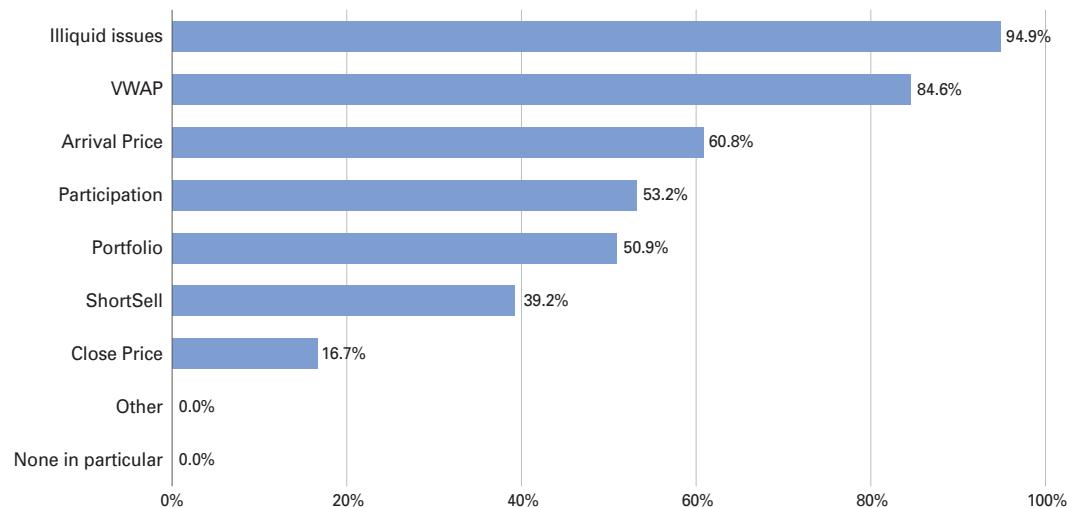


Expectations for features unique to algorithmic trading

When traders at firms considering adopting these systems were asked which algorithms they wanted to use, they were most likely to answer “illiquid issues” (94.9%), followed by VWAP (84.6%) and Arrival Price (60.8%) (Exhibit 2-3). At firms already using such systems, the algorithms they wanted to use more in the future were again “illiquid issues” (33.3%), Arrival Price, and Portfolio. These results

suggest that in addition to orthodox algorithms like VWAP, companies want to avail themselves of features available only from computer-based algorithms, such as the ability to sit quietly monitoring the market at times of low liquidity and then move the moment liquidity appears.

Exhibit 2-3. Algorithms sought by traders at firms considering their use



Reference: [Algorithm types](#)

Type	Description
VWAP	Designed to achieve average execution prices near or better than the VWAP.
Arrival Price	Takes market impact and timing risk into account to minimize gap between average execution price and price at time of order (arrival price). Implementation Shortfall algorithm has similar objectives.
Participation	Executes trades while maintaining a constant percentage of total trading volume. Also referred to as TPOV (Target Percentage of Volume) or Volume Inline.
Close Price	Takes market impact and timing risk into account to minimize gap between average execution price and close price.
Illiquid issues	Generic term for algorithms used to trade illiquid issues. Also called Iceberg.
Portfolio	Simultaneously manages trades for a number of issues. Includes functions to minimize tracking error and to adjust execution speed to prevent cash shortfalls.
ShortSell	Designed for compliance with short-selling regulations.

Commentary 3. DMA today

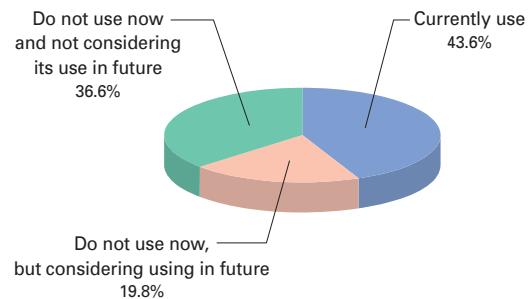
Direct Market Access (DMA) systems enable faster execution by allowing traders at asset management firms to place orders directly with

the exchange via brokerage systems. This section describes the current state of DMA in Japan with reference to the results of our survey.

Less than 50% of firms use DMA

Of the respondents, 43.6% said they currently use DMA, 19.8% that they do not use it now but are considering using it in the future, and 36.6% that they do not use it now and are not considering using it in the future. All told, less than half the firms surveyed are using DMA today (Exhibit 3-1).

Exhibit 3-1. Use of DMA

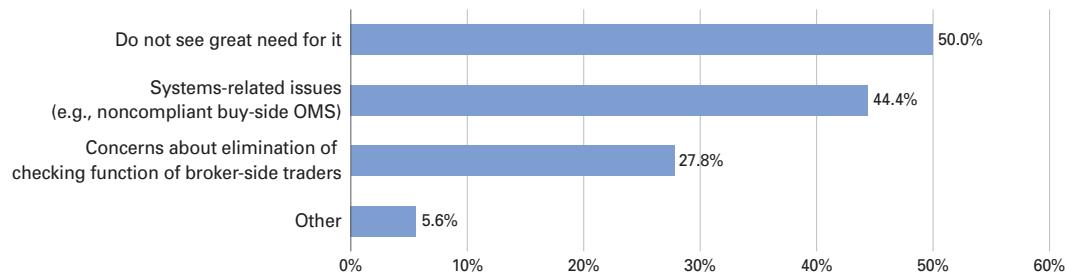


Adoption of DMA may have peaked

The most common reason given for not using DMA was "do not see great need for it," noted by 50.0%, followed by "systems-related issues (e.g., noncompliant buy-side OMS)" at 44.4% (Exhibit 3-2). While we think some companies would likely

adopt DMA if systems-related problems could be ironed out, many firms felt no need at all to use DMA. As such, we cannot rule out the possibility that adoption of these systems has peaked for now.

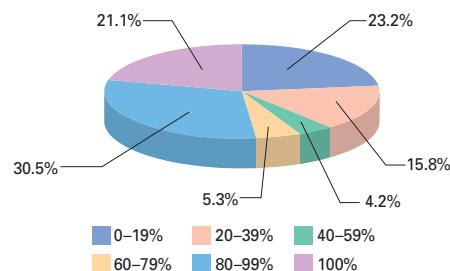
Exhibit 3-2. Reasons for not using DMA



Traders already using DMA are enthusiastic about it

Traders at firms that have already adopted DMA said they use these systems for 59.2% of their orders on average. Critically, 51.6% said they used DMA systems for more than 80% of their orders (Exhibit 3-3). In short, traders at firms that have adopted DMA are very enthusiastic about its use.

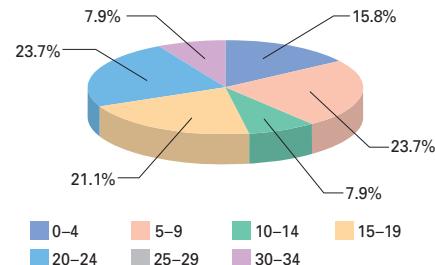
Exhibit 3-3. Percentage of trades on which DMA is used



DMA services have become standard offering from brokerages

Firms that have already adopted DMA placed DMA orders through an average of 13.5 brokerages. More than 30% of traders said their firms placed trades through at least 20 brokerages (Exhibit 3-4). These results suggest that DMA services have become a standard offering to brokerage clients.

Exhibit 3-4. Number of broker DMA systems currently in use



The Evolution of Transaction Cost Analysis

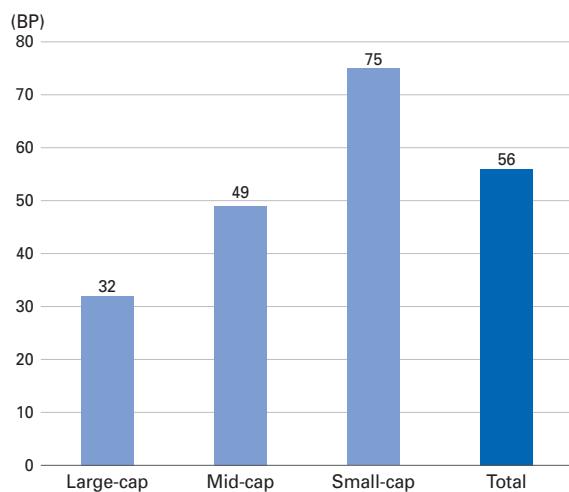
Originally carried out mainly for reasons of disclosure, transaction cost analysis (TCA) is now becoming a driving force behind improvements in the trading process. Amid growing awareness of TCA at asset management firms, the next generation of systems will need to provide dramatic improvements in accessibility and timeliness.

Yuya Sugai

No matter how good an investment idea, higher-than-expected execution costs during the actual transaction²⁾ can hurt performance and make it difficult to obtain the originally expected returns. A survey by NRI³⁾ indicates that execution costs on each trade average 56bp, a not-insignificant level from the standpoint of fund management (Exhibit 1).

TCA is performed to determine the actual level of execution costs. There are two main types of analysis: pre-trade, designed to estimate execution costs before the trade is implemented, and post-trade, which measures actual execution cost after the trade is completed. Some 80% of asset management firms already use some form of TCA, and a majority of them use vendor products (which entail costs). Most asset management firms in Japan now acknowledge the need for such analysis.

Exhibit 1. Average execution cost by market cap of traded issue



Changing objectives of transaction cost analysis

TCA is increasingly establishing a place for itself at asset management firms. In the past, however, it was chiefly seen as a means of providing disclosure to sponsors—i.e., of reporting execution results. This is partly because asset managers have responded to a growing awareness among sponsors of the need for best execution by using TCA to provide objective assessments. Evidence of this view is offered by the fact that asset management firms choosing not to adopt such systems explained their decision by saying that they were “not asked to by sponsors or consultants.”

Today, however, the reasons for using TCA are changing. Asset managers are focusing less on disclosure to sponsors and more on improvements to the trading process and hence fund performance.

Transaction cost analysis moving to the next stage

In terms of the PDCA cycle, execution typically involves a repeated process of Planning and Doing. But by adding Checking and Acting steps, we can create a complete PDCA cycle describing the flow of improvements in execution (Exhibit 2).

Reporting, traditionally the primary objective of TCA, can be seen as one product of the “Check” phase. On the other hand, the use of TCA to improve the trading process represents the PDCA cycle itself, with the results of analysis being used to identify potential areas for

Section 3: Transaction Cost Analysis

improvement ("Check") and the findings then being fed back into the execution strategy ("Act").

In effect, the changing reasons for using TCA are transforming it from being just a part of the PDCA cycle into being a driver of the entire cycle.

The next generation of transaction cost analysis

Now that many asset management firms are using TCA to improve trading operations, we need to think about the features that will be required of these systems in the future. Here there are two key requirements.

"Closer"

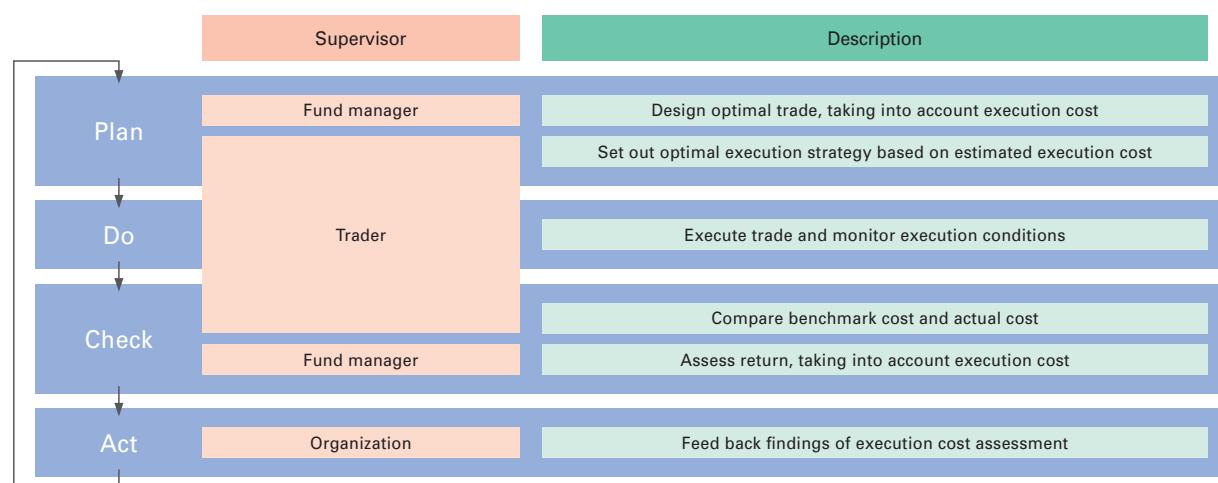
Most current-generation TCA tools tend to be independent applications. But TCA needs to be integrated with the operational process in order to realize the "Act" phase of the PDCA cycle. To this end, it would be effective to make these tools more convenient by building TCA functionality into the OMS itself.

"Faster"

Good execution strategies could be more formulated more quickly if the execution results could be fed back immediately (e.g., if executions could be assessed on the same day immediately after the close of trading).

What emerges from the above is a need for more efficient trading improvement activities. It is hoped that the next generation of TCA tools will further enhance the value added by execution by increasing the speed of the PDCA cycle.

Exhibit 2. PDCA cycle for execution



Commentary

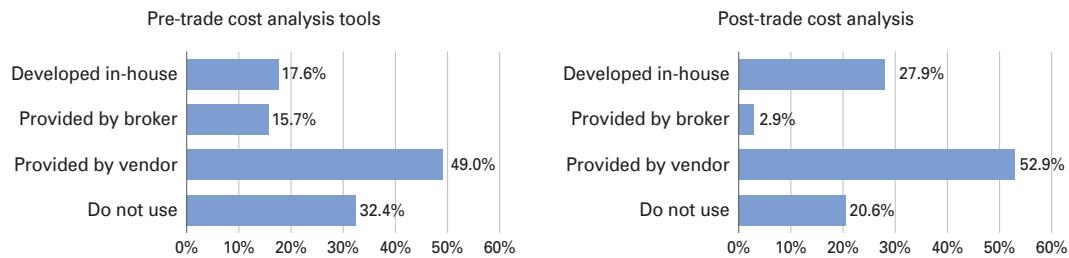
4. Transaction cost analysis today

Most tools in use are provided by vendors

Fully 67.6% of the asset management firms surveyed used pre-trade TCA tools, and 79.4%

used post-trade tools (Exhibit 4-1). Both kinds of tools were most likely to be supplied by vendors.

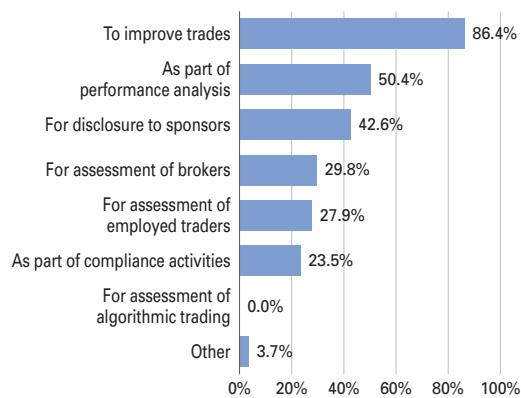
Exhibit 4-1. Use of transaction cost analysis tools



Different interpretations of the significance of transaction cost analysis

The most commonly noted reason for using post-trade TCA tools was “to improve trades” (86.4%), followed by “as part of performance analysis” (50.4%), and “for disclosure to sponsors” (42.6%) (Exhibit 4-2). Meanwhile, the most commonly noted reason for *not* using post-trade TCA tools was “not asked to by sponsors or consultants” (75.0%), followed by “cost of tools” (62.5%). These findings indicate that the firms using these tools viewed their significance differently than those not using them.

Exhibit 4-2. Reasons for using post-trade cost analysis tools



Strong need for transaction cost analysis in buy-side OMS

When traders were asked how necessary various features in pre-trade cost analysis tools were, they were most likely to indicate a need for “pre-trade analysis based on real-time monitoring of market conditions” (48.7%), followed by “pre-

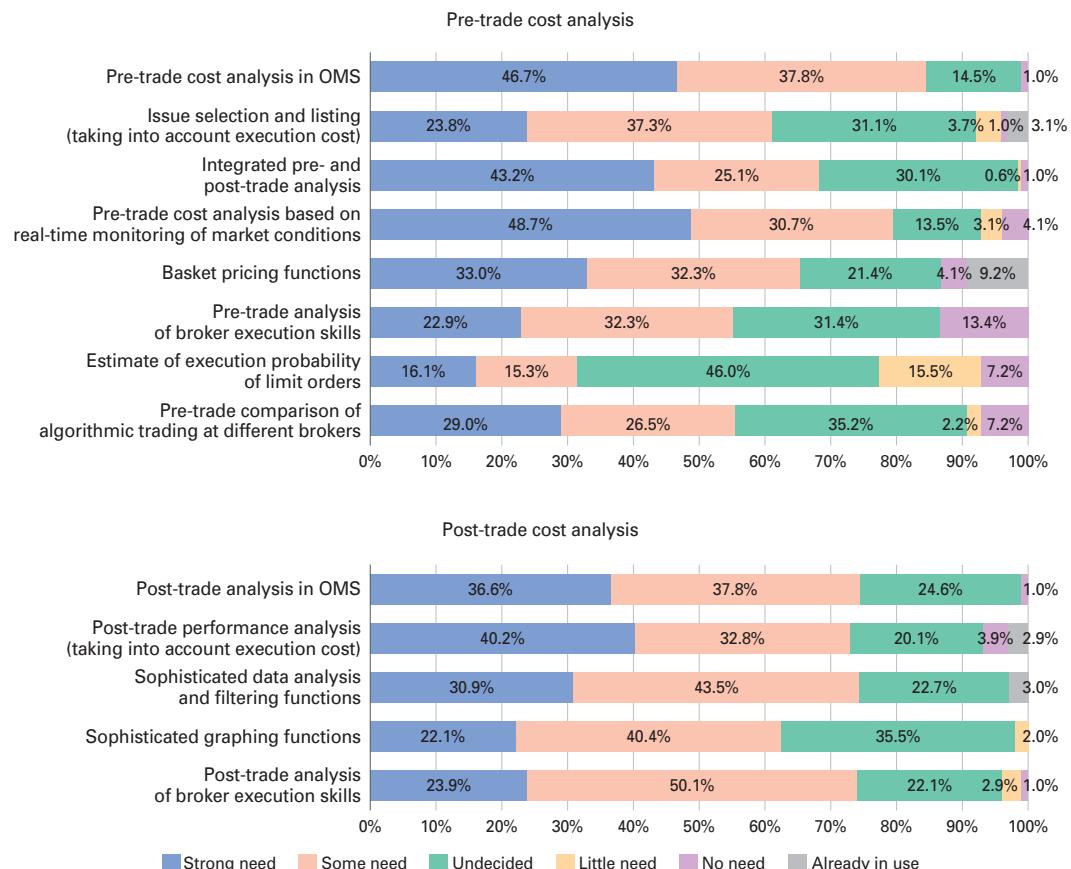
trade analysis in OMS” (46.7%) and “integrated pre- and post-trade analysis” (43.2%) (upper graph in Exhibit 4-3). The post-trade analysis feature for which traders voiced the strongest need was “post-trade performance analysis

Section 3: Transaction Cost Analysis

(taking into account execution cost)" (40.2%), followed by "post-trade analysis in OMS" (36.6%) and "sophisticated data collection and filtering

functions" (30.9%) (lower graph in Exhibit 4-3). In other words, a strong need was expressed for TCA in the OMS both pre- and post-execution.

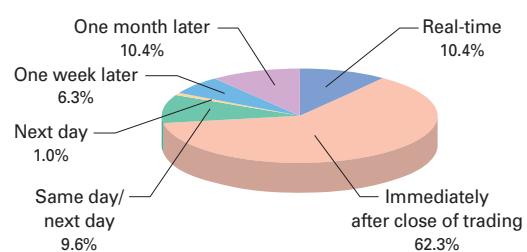
Exhibit 4-3. Perceived need for various features in transaction cost analysis tools



Traders seek results of post-trade cost analysis as soon as execution is complete

When traders were asked about the preferred timing of post-trade cost analysis, fully 62.3% answered "immediately after close of trading," followed by "real-time" and "one month later," each at 10.4% (Exhibit 4-4). In other words, there is strong need for TCA at an earlier stage than the monthly reporting that is standard today.

Exhibit 4-4. Preferred timing of post-trade cost analysis



Commentary

5. Current use of trading systems at asset management firms

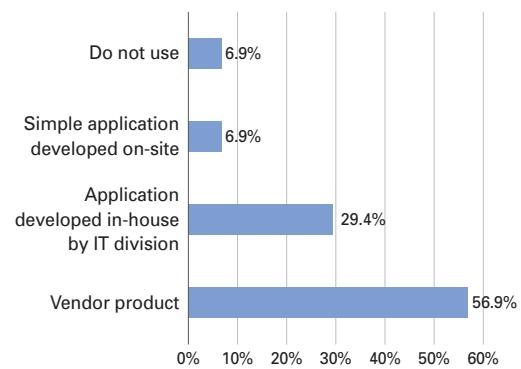
Standard systems used in electronic trading at asset management firms include buy-side OMS (Order Management System) and EMS (Execution Management System). The former provides features to support the internal workflow at asset management firms, including designing trades, performing compliance checks, and connecting to back-office systems. In contrast, EMS specializes in the exchange of data with external systems,

including submitting orders to brokerages and monitoring the market. The EMS that brokerages provide to asset manager clients as a vehicle for their execution services such as DMA and algorithmic trading are typically referred to as the “front end.” The current use of buy-side OMS and EMS will be discussed below with reference to the survey results.

Most firms rely on vendor solutions for buy-side OMS

More than 80% of the asset management firms surveyed use buy-side OMS, a figure that does not include simple applications developed on-site using Excel, etc. (Exhibit 5-1). And they were more likely to use vendor solutions than systems developed in-house. Previously the latter pattern was reported to be more common, but now a growing number of firms appear to be turning to specialized vendor solutions in order to keep up with rapid changes in trading.

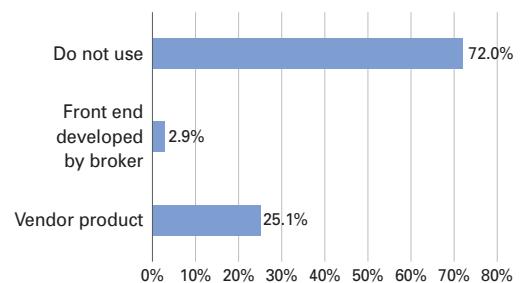
Exhibit 5-1. Use of OMS



Adoption of EMS remains low

More than 70% of the firms surveyed do not use EMS, underlining the limited take-up of such systems in Japan (Exhibit 5-2). Further, just 2.9% said they used the front ends provided by brokerages. Most firms feel that there is little need as yet for the external connectivity that EMS provides and that the features included in buy-side OMS are sufficient.

Exhibit 5-2. Use of EMS



Still much room for improvement in buy-side OMS features

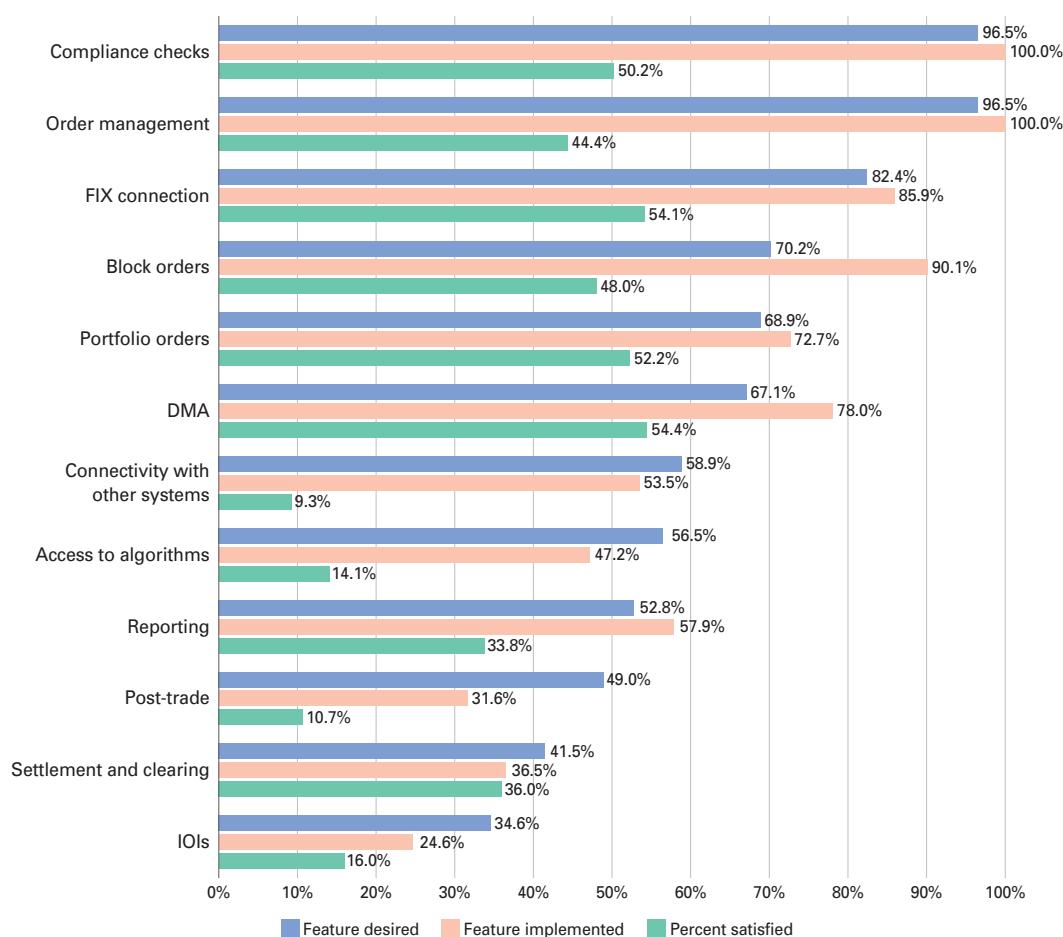
Satisfaction is less than 50% for nearly all buy-side OMS features (Exhibit 5-3). Regarding basic features such as order management and compliance checks, for example, 55.6% of companies were dissatisfied with “order management” and 49.8% with “compliance checks.”

The feature with the lowest satisfaction rating was “connectivity with other systems,” at 9.3%. Many companies appear to be unhappy

with connectivity to external systems, such as exchanging order data with EMS and collecting external information.

One feature respondents would like to be seen implemented in buy-side OMS but which tends not to be implemented today is “post-trade” capabilities. This suggests that users would like to see buy-side OMS provide better post-trade execution processing functions.

Exhibit 5-3. Implementation of and satisfaction with various OMS features



Note

- 1) In an agency trade a broker acts as agent to the exchange for the asset manager. In a principal trade, the broker effects the transaction for its own account and thus becomes the counterparty.
- 2) In this report, "execution cost" refers to the difference between the price at the time the decision to execute the trade was made and the actual execution price. It consists of both explicit costs such as taxes and commissions and invisible costs such as market impact costs.
- 3) The survey was based on one year of trading data (Apr 2006–Mar 2007) taken from NRI's TCA service "Trading α". For exchange-listed issues, those in the top 50 in terms of market cap were defined as "large caps"; those ranked 51st–300th, mid-caps; and those ranked 301st or lower, small caps.

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