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# Liquidity vs. convenience vs. knowledge

How high-touch financial businesses add value  
in a digital environment

Yasuki Okai

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## Executive Summary



**Yasuki Okai**

Executive fellow

Financial Technology Solution  
Division

- 1. How can high-touch financial businesses best add more value and how will their added value evolve in response to digitalization? To answer these questions, it is important to re-clarify the nature of the value added by financial businesses.*
- 2. We examine financial businesses' added value through the lens of zero-commission competition among US online brokers. Specifically, we look at how US online brokers derive revenue from each of their services to identify value-additive factors in financial businesses.*
- 3. Broadly speaking, financial businesses add value in four forms: financial liquidity, market liquidity, convenience and knowledge. In light of the characteristics of each, we expect high-touch financial businesses' added-value mix to become increasingly tilted toward knowledge.*
- 4. While knowledge and digitalization are often seen as being at odds with each other, the US offers at least one good example of digitalization as a lever to add more value in the form of knowledge. In essence, the example bodes promisingly for the emergence of a new, up-to-date knowledge management.*
- 5. In Japan, high-touch financial businesses (particularly full-service brokers) are far behind the curve in terms of deriving added value from knowledge, but knowledge-based business models have substantial potential. Now more than ever, management teams need a mindset makeover toward embracing knowledge as an added-value driver.*

## I. The opaque relationship between digital technology and added value in financial services

Many senior Japanese executives feel that the value added by high-touch (i.e., not exclusively online) financial businesses is being steadily eroded by digitalization. Executives running high-touch financial businesses need to think about how to evolve the value added by their businesses as digitalization continues to unfold or, conversely, how to best leverage digitalization to add more value.

However, high-touch businesses cannot increase their added value without a clear picture of what it is. Even more fundamental is the question of what kind of value do financial businesses themselves add. A service's added value is typically conceptualized as what customers pay for the service. As such, added value tends to be more easily identifiable in nonfinancial businesses.

In the case of a big-box electronics retailer, for example, the difference between its merchandise's retail and wholesale prices is arguably the value that customers pay for customer service provided by the retailer's staff or, in other words, the value added by the retailer. As another example, the prices charged by a beauty salon represent the value of its services in aggregate, including its stylists' haircutting skills and the salon's interior ambience. The salon's prices are therefore a proxy for added value. In such nonfinancial businesses, there is a clear correspondence between added value and service. What the business needs to do to raise its prices by adding more value likewise tends to be clear-cut.

In financial businesses, the situation is a bit different. Take the example of a bank that provides home mortgages to retail customers. What value is added by its mortgage lending service? If analogous to the added value in the above nonfinancial examples, the value added by the bank through mortgage lending might be how well its staff serve customers or its own brand.

On the bank's income statement, the mortgage lending business's net revenues mostly reside on the net interest income (NII) line as interest earned on home mortgages net of funding costs. The mortgage lending business's NII is determined by macro interest rate levels and the overall cost structure of the bank. The value added specifically by the bank's mortgage lending staff is only a small fraction of the mortgage lending business's NII. Because the value added by mortgage lending is ultimately largely a function of interest rates, a macroeconomic factor,

how to increase that value through the mortgage lending staff's own efforts is not clear.

Even in the financial sector, fee-based services appear to have a straightforward correspondence between their added value and the fees charged, including trading commissions<sup>1)</sup>, electronic funds transfer (EFT) fees and financial advisory fees. Recently, however, even EFTs and trade execution are increasingly being offered free of charge. Financial institutions that offer free services do so because they expect to recoup the resultant loss of revenue in some substitute form. In such cases, there is no direct correspondence between the value paid by customers and the services provided to them.

This lack of straightforward correspondence between added value and service is a hallmark of financial businesses that is rooted in finance's intrinsic nature. The value added by a financial business is consequently often difficult to identify. Moreover, when financial institutions seek to add more value by utilizing digital technology, their target tends to be vague.

This paper aims to clarify financial services' added value at the minimum level required to discuss digitalization's impact on high-touch financial businesses.

- Section II discusses high-touch retail financial businesses' added value in the context of the trend toward commission-free trading in the fiercely price-competitive US brokerage industry.
- Section III identifies four sources of added value (value-additive factors).
- Section IV looks at how digitalization figures into the landscape of competition between online and high-touch businesses in light of the four value-additive factors' attributes.
- Section V focuses on knowledge – the most important value-additive factor for high-touch businesses – and presents a case study of one financial institution that is digitally leveraging knowledge. Section V also discusses the growing importance of knowledge management today.
- Lastly, Section VI offers suggestions on what Japanese high-touch financial businesses (particularly full-service brokers) should do to add more value in an increasingly digitalized environment.

#### NOTE

1) As used herein, "trading commissions" include mutual fund sales and redemption charges in addition to commissions on trades in stocks and other listed securities.

## II. Zero-commission competition in US online brokerage industry

In October 2019, Charles Schwab announced it would no longer charge commissions on stock and option trades. Its major competitors, including E\*TRADE and Fidelity, promptly followed suit, ushering in a new era of completely commission-free online stock trading.

However, such zero-commission competition did not originate in 2019. In 2018, Vanguard ceased charging commissions on ETF trades and Fidelity promptly responded by eliminating management fees on certain passive funds. In fact, commission-free trading has been around for over a decade if you count free stock trading offered by certain major banks, including Bank of America, to retail customers who meet certain eligibility requirements (e.g., minimum account balance).

The difference between today and 10+ years ago is that zero-commission competition is now being driven by upstarts like Robinhood that aim to disrupt the brokerage industry with commission-free stock trading. With cloud computing now ubiquitous and the millennial generation expanding its footprint in investment markets, zero-commission business models are now much more feasible than in the past. The upstarts are faring surprisingly well. Their success is putting pressure on online brokers<sup>2)</sup> like Schwab, fund managers like Vanguard and major commercial banks like Bank of America and JPMorgan Chase.

Table 1 tabulates the revenue mixes of three major US online brokers – E\*TRADE, TD Ameritrade and Schwab – to shed light on how zero-commission competition is impacting the online brokerage business.

**Table 1: Major US online brokers' revenue mixes**

	E*TRADE		TD Ameritrade		Charles Schwab	
Net interest revenue	2,043	69%	2,813	52%	5,823	57%
Trading revenue	666	23%	1,969	36%	763	8%
Fee revenue	124	4%	557	10%	3,229	32%
Other revenue	109	4%	113	2%	317	3%
Total	2,942	100%	5,452	100%	10,132	100%

Notes: Revenues are in millions of dollars. TD Ameritrade and Charles Schwab's revenue data are for FY18; E\*TRADE's are for the four quarters through September 30, 2019.<sup>3)</sup>

2) In the US, online brokers are often referred to as discount brokers. For the sake of uniformity, we use "online broker" when discussing both the US and Japanese markets.

3) Refer to the companies' respective websites for more details.

US brokers' financial statements report revenues disaggregated into four line items: net interest revenue, trading revenue, fee revenue and other revenue. Net interest revenue includes interest charged on margin loans to customers and interest earned from sweeping customers' idle funds into deposit accounts and investing them in US Treasuries and/or short-term financial assets. Trading revenue includes stock trading commissions, net profits from OTC (e.g., bond) trading and payment for order flow (PFOF). Fee revenue includes advisory fees, fees from the management of own-brand funds, 12b-1 fees paid by mutual funds to fund distributors to defray the latter's customer support expenses and, in the case of brokers like Schwab with RIA (registered investment advisor) platforms, custody fees charged to RIAs.

What stands out most in Table 1 is that net interest revenue, not trading revenue, accounts for by far the largest share of total revenue across all three brokers. All three derive a majority of their total revenue from net interest revenue, nearly 70% in E\*TRADE's case. Their interest revenues consist mainly of margin interest and interest earned on sweep deposits.

E\*TRADE discloses its net interest revenue in more detail than the other two brokers. In the third quarter of 2019, it derived ~75% of its net interest revenue from investment securities and ~18% from margin loans, earning an average yield of 313bp on the former, 483bp on the latter and 374bp on its total interest-earning assets. Meanwhile, it paid an average interest rate of ~36bp on customer deposits/payables, including sweep deposits, giving it over 300bp of net interest margin for the quarter.

While such a hefty NIM is envy-inducing from the standpoint of the Japanese market's zero-rate environment, the other two US brokers presumably earned similar NIMs. US online brokers, contrary to industry outsiders' image of them, are more banks than brokers in terms of their business models.

Next, trading revenue accounted for 23% of total revenue at E\*TRADE, 36% at TD Ameritrade and 8% at Schwab. Of the three, only E\*TRADE disclosed a breakdown of its trading revenue. Commissions on trades that have since become commission-free accounted for 10 percentage points of its trading revenue's 23% share of total revenue. Its other (e.g., bond) trading revenue and PFOF, both unaffected by the zero-commission move, respectively accounted for seven and six percentage points of the 23%.

For TD Ameritrade and Schwab, neither of which quantified the revenue impact of commission-free trading, we estimate that the move to commission-free trading will result in the loss of ~16% and ~4% of total revenue, respectively, assuming that their trading revenue mixes mirror E\*TRADE's. Schwab's estimated revenue loss is quite modest. Additionally, the elimination of trading commissions should increase customers' cash balances to the potential benefit of Schwab's net interest revenue, fee revenue and/or PFOF. If so, dispensing with stock and option trading commissions could end up being seen as an amply profitable strategy for Schwab on the whole.

Such factors were likely a big reason why (1) Schwab was the first major online broker to get rid of commissions on stock/option trades and (2) TD Ameritrade and E\*TRADE, both of which are more dependent on trading revenue than Schwab, saw their stocks sell off sharply last October on the news of the move to commission-free trading.

Lastly, fee revenue accounts for a mere 4% of revenue at E\*TRADE versus 10% for TD Ameritrade and 32% for Schwab, reflecting that the three differ greatly in terms of emphasis on fee businesses. Schwab in particular has four times more fee revenue than trading revenue, reflecting that it is a major provider of custody services for RIAs in addition to offering its own mutual funds/ETFs and financial advisory services.

### III. Sources of added value in financial businesses

The preceding discussion of online brokers' revenue mixes was intended to offer clues to the nature of financial services' added value. This following delves a bit deeper into how the revenues tabulated in Table 1 were earned.

For example, the online brokers derived much of their net interest revenue from aggregating customers' idle funds as sweep deposits. While the interest revenue brokers earn on sweep deposits may vary somewhat depending on how the aggregated funds are invested, its predominant driver is low funding costs.

The online brokers' net interest revenue can be thought of as value accrued from providing financial liquidity. Though the abstract term "financial liquidity" may muddy the waters for some readers, it allows us to paint a more concrete picture of how to increase added value than we could by focusing solely on the resultant

4) From the standpoint of banks' credit creation function, there is a tendency to think that lenders can increase funds to the extent that they lend, not that they are able lend because they have available funds. This means banks have the ability to create financial liquidity; it does deny not the value of financial liquidity itself.

net interest revenue. If online brokers come up with more advantageous ways to raise funding, their revenues increase. Providing financial liquidity is a source of added value. Net interest revenue is merely the result of providing financial liquidity<sup>4)</sup>.

Similarly, it is convenient to think of trading revenue as a result of providing market liquidity. In simple terms, market liquidity is aggregated trading in various securities. If trading can be aggregated, the resultant market liquidity converts into revenue in multiple forms. The best-known converters of market liquidity into added value are securities exchanges, but assorted other entities likewise add value by creating liquidity, including dark pools, other private trading venues and OTC dealers.

Online brokers' PFOF is value derived from contributing to market liquidity by routing trades to a trading venue that pays for order flow. In contrast, brokerage commissions on, e.g., stock trades are basically compensation for the service of intermediating the trades rather than direct compensation for market liquidity. However, full-service brokers charge much higher commission rates than online brokers even though they both provide essentially the same trade execution services. Full-service brokers' commissions are therefore typically considered to include the value of the information and broader customer support that full-service brokers provide to customers on top of the services that online brokers also provide.

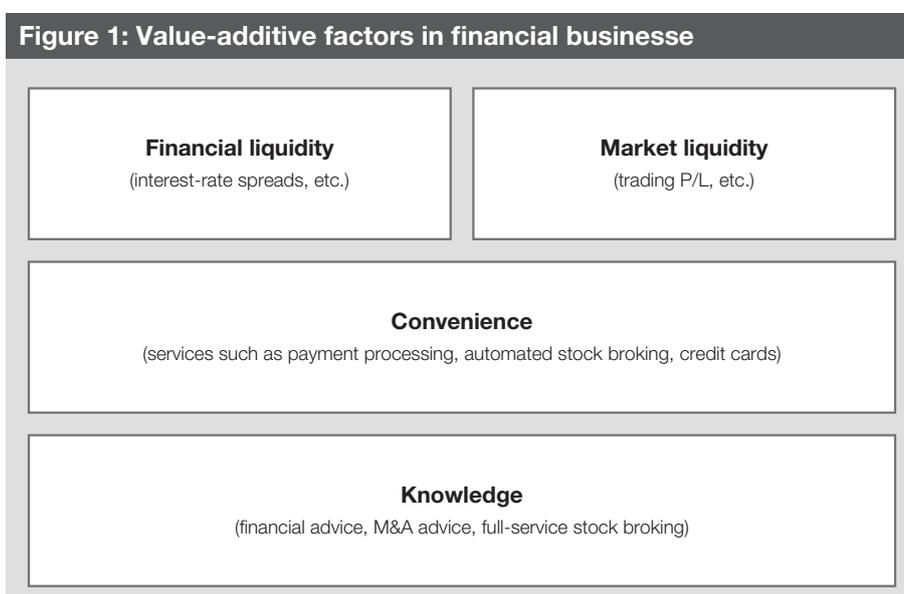
Full-service brokers charge higher commissions because they offer high-touch brokerage services that create extra added value by providing knowledge. We will address what knowledge is in detail later. In the meantime, we tentatively define knowledge as information provided to answer customers' questions or solve their problems.

Of the revenue line-items in Table 1, providing knowledge as a source of added value is strongly related to fee revenue, which includes financial advisory fees, 12b-1 fees, own-brand fund management fees and fees for RIA custody services. Knowledge is usually provided in the form of financial advice in particular. It is also a source of extra added value included in full-service brokers' trade execution services as discussed below. Online brokers, with the exception of well-diversified ones like Schwab, derive little revenue from providing knowledge. For high-touch financial businesses, by contrast, providing knowledge is the primary source of

added value.

In sum, we have identified three value-additive factors for financial businesses: financial liquidity, market liquidity and knowledge. Ancillary to these three sources of added value are back-office support services (e.g., payment processing, trade execution, custody services for RIAs) that can be collectively considered a fourth source of added value. We refer to this fourth source as “convenience.” These four sources account for a vast majority of the value generated by financial businesses<sup>5)</sup> (Figure 1).

5) Added value in financial businesses was recently discussed in a June 2018 report of the Financial System Council's Study Group on the Financial System ([https://www.fsa.go.jp/en/refer/councils/single\\_kinyu/20180619.html](https://www.fsa.go.jp/en/refer/councils/single_kinyu/20180619.html)). The report cited several benefits that financial functions should provide. Two of them are "reliable fulfillment of the function" and "provision of information." These two benefits roughly correspond to convenience and knowledge as discussed herein. The major difference between our framework and the Study Group's is that we consider financial liquidity and market liquidity to be additional benefits that should be provided whereas the Study Group did not.



#### IV. Characteristics of financial services’ added value in the context of digitalization’s impact

Having identified four value-additive factors in financial businesses, we now turn our attention to their respective characteristics.

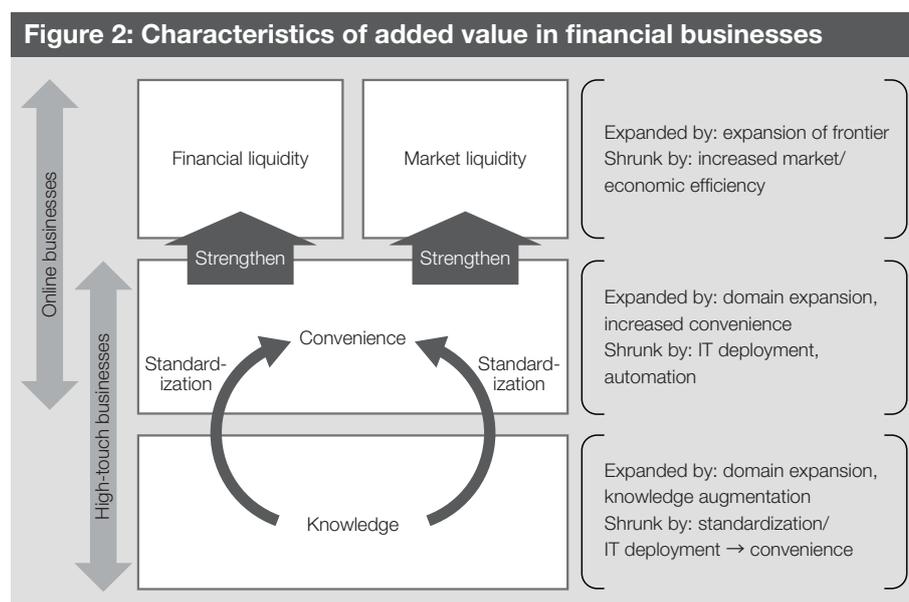
First, financial liquidity is aggregation of funds as already mentioned. If you have a lot of funds on hand, you can accrue added value by lending or investing them. Borrowers will pay for timely funding in the amount they need. Financial liquidity provision has fundamental value that will remain in demand for as long as economic activities entail uncertainties. Indeed, it is a commercial banks’ core mission. All that said, no matter how much funds you have available to lend, financial liquidity’s added value will inevitably be relatively low if lending

rates are low or if no promising investment opportunities exist. In other words, financial liquidity's value varies as a direct function of interest rates' level. Japan's chronically low interest rate environment has spawned a highly anomalous situation where financial liquidity, a fundamental source of added value, is no longer valued much.

Market liquidity, by contrast, is an aggregation of trading volume. It is a fundamental source of added value and a central reason why securities brokers and exchanges exist. The best proxy of market liquidity's value is trading markets' bid-ask spreads.

Both financial liquidity and market liquidity share common characteristics (Figure 2). One such commonality is that they add more value if they are able to contribute to expanding the economy's frontiers and, conversely, progressively less value as the economy matures and becomes increasingly efficient. For example, financial liquidity would add more value if it is available to meet innovative demand for funds in an economy with high growth potential. Similarly, market liquidity adds more value if it can liquify illiquid new trading instruments.

On the flipside, the added value per unit of both financial and market liquidity would steadily decrease in a stagnant economy where new business creation and financial market innovation are scarce and companies focus solely on improving existing businesses' efficiency.



Convenience, the third element of added value, encompasses a broad range of financial services classified as back-office support. In Table 1, we consider the trading commissions included on the trading revenue line and the margin loan interest included on the net interest revenue line to both be value paid in exchange for convenience. Other revenues classified as convenience added-value include payment processing fees and fees for various back-office support services.

Convenience can also ensue from improved financial or market liquidity that is a byproduct of services like payment processing and trade execution. However, such services' convenience value is prone to erode and ultimately be subsumed by liquidity. In other words, their convenience added-value transforms into liquidity added-value, as exemplified by the recent outbreak of zero-commission competition among US online brokers.

Of the four value-additive factors, convenience is the most susceptible to the impact of digitalization and perpetually under pressure from improvement in efficiency. A high level of convenience value is consequently hard to sustain. Such unsustainability is a hallmark of the convenience factor. Players dependent on convenience as their main revenue source must either continuously develop new forms of convenience or shift to sourcing revenue from one or more of the other value-additive factors.

Knowledge, the fourth value-additive factor, has been recognized as an independent form of added value in financial businesses for only the past 30 or so years at most. Knowledge and convenience are like siblings in that they both take the form of services. In fact, convenience could just as aptly be called operational knowledge.

With more and more companies positioning themselves primarily as financial advisors in recent years, high-level knowledge has emerged as a source of added value distinct from operational knowledge. At the opposite end of the spectrum, knowledge providers' services that can be standardized or automated can be classified under the rubric of convenience. In reality, however, the boundary between knowledge and convenience is inevitably blurry. Ultimately, they differ only in terms of the quality of the knowledge provided.

Additionally, many services combine both knowledge and convenience. For example, fund management fees are regarded as payment for knowledge

provided by the fund manager but passive funds' management fees are in part compensation for services that fall into the realm of operational knowledge. Full-service brokers' stock trading commissions likewise are a combination of compensation for trade execution and information provided by broking staff.

To distinguish between knowledge and convenience for our purposes, we define the former as a special value-additive factor that can be provided only by humans. Digitalization is turning knowledge into convenience amid ongoing technological advancement that is making previously human-dependent tasks automatable at an accelerating pace. A classic case in point is robo-advisors. Companies that rely on knowledge as a revenue source must continuously strive to provide knowledge deliverable only by humans in a race against the obsolescence of knowledge. Recent hype surrounding progress in AI has led some people to believe that jobs only humans can do will soon become extinct. Such people are skeptical of the idea of knowledge as a source of added value. Even many people who are not as pessimistic about the future of jobs feel that digitalization is inimical to knowledge.

Section V discusses a US wealth manager's program to digitally augment knowledge and ponders a more constructive relationship between knowledge and digitalization in light of this example's implications.

## V. Leveraging knowledge digitally

The US wealth management industry has been steadily increasing its profitability while expanding in scale over the decade-plus since the global financial crisis. Its main revenue source is advice dispensed by financial advisors (FAs), a quintessential case of deriving added value from knowledge. One wealth manager with a particularly instructive story in terms of the relationship between knowledge and digitalization is Morgan Stanley, a major US bank.

In mid-2017, Morgan Stanley Wealth Management (MSWM) announced a new digital strategy, much of which is universally applicable to other companies in terms of lessons on how to digitally augment knowledge-intensive business processes<sup>6)</sup>.

<sup>6)</sup> For more details, see Morgan Stanley's website.

The strategy identified three issues to be addressed through digitalization: (1) improving FAs' productivity in serving existing clients; (2) improving the efficiency of activities to recruit and onboard new clients and (3) rethinking branch offices'

functions from scratch to support sales activities more effectively.

MSWM addressed the first issue by upgrading its FA support system's analytics functions to help FAs work more effectively; the second by developing DIY (e.g., robo-advisory) tools for new clients to reduce FAs' workload; and the third by automating business processes with tools such as RPA (robotic process automation), making a suite of DIY tools available to clients to reduce branch staff's workload and allocating freed-up resources to FA support.

Of these three digital initiatives, the second and third are fairly common among financial institutions. In contrast, the first—namely, deploying machine learning and other such technologies to upgrade the FA support system—was seen as an innovation when first unveiled and made quite a splash within the industry. Called the NBA (next best action) project within MSWM, it offers a concrete case study on how to free up time in FAs' work schedules with an NBA support system for FAs.

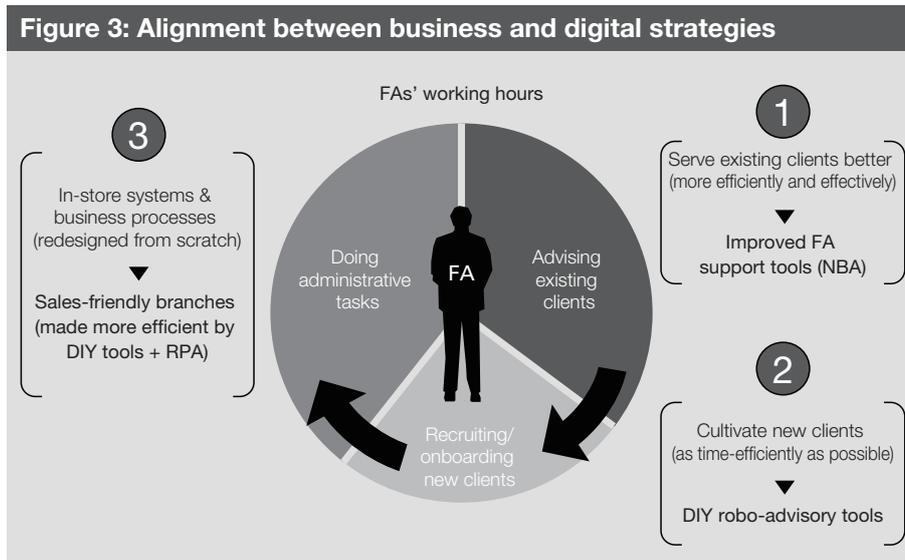
The NBA system delivers effective information to FAs on day-to-day news' implications for their clients' portfolios and offers recommendations on how to respond. The system also has an integrated email interface, enabling FAs to communicate more efficiently with clients. It fully supports FAs' performance of knowledge-intensive tasks.

After MSWM first disclosed its NBA system, interest in NBA systems surged among many financial institutions. Subsequently, however, such interest seems to have subsided a bit as financial institutions have realized that an NBA system is essentially a company-wide knowledge base predicated on continuous improvement, not a standalone system that can be built overnight.

We consider the MSWM example to be valuable not as an NBA system success story but because more universal lessons can be drawn from it with respect to digital strategies in high-touch financial businesses, three of which are highlighted below.

First, business strategies and digital strategies can indeed be well aligned. MSWM's cardinal rule based on past experience is that its profitability is directly correlated with how much time its FAs have available for client support. MSWM is confident that if it can help its FAs to be more effective while increasing their client

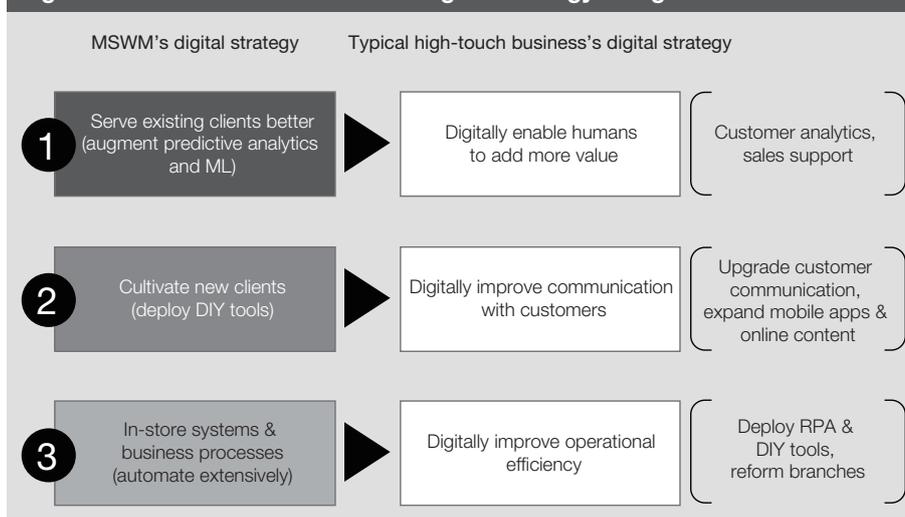
**Figure 3: Alignment between business and digital strategies**



support time, success will naturally ensue. MSWM's three digital initiatives are clearly not separate but all directed at a single objective from a holistic perspective (Figure 3).

Second, MSWM's approach is a blueprint for digital initiatives in high-touch financial businesses. In general terms, MSWM's three digital initiatives demonstrate that digital technologies can be used to reform (1) knowledge-intensive business processes, (2) communication with clients and (3) back-office business processes. While the specifics of and relative priority placed on each of these three reforms will differ among financial institutions depending on their respective strengths and operating environments, all three are essential and, moreover, sufficiently

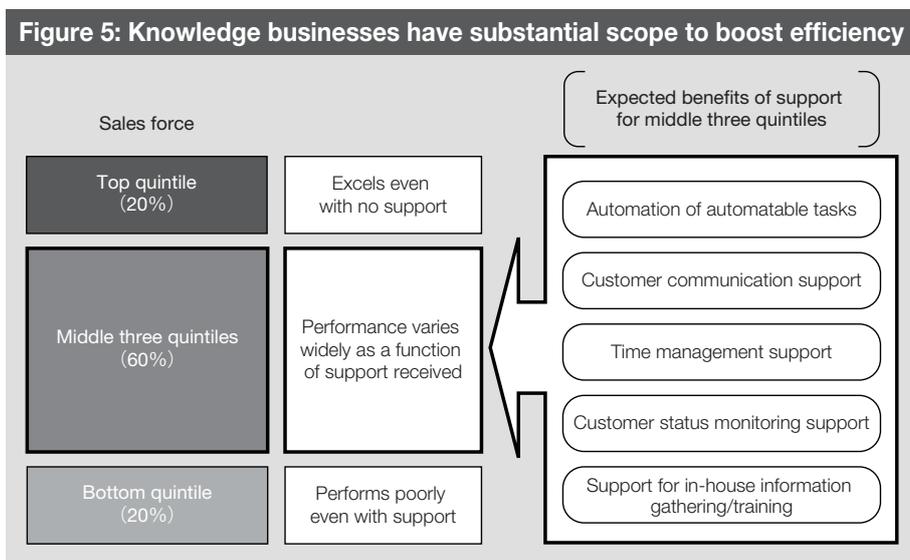
**Figure 4: Three basic elements of digital strategy in high-touch businesses**



comprehensive in aggregate for high-touch financial businesses. In this sense, the three initiatives combined can be characterized as an archetype for high-touch financial businesses' digital strategies (Figure 4).

Third, the underlying premise of business strategies based on digital strategies is that knowledge-intensive business processes can be substantially improved. As a rule of thumb (the so-called 2:6:2 rule), any given sales force consists of 20% elite performers, 60% average performers and 20% subpar performers. According to this 2:6:2 rule, the elite performers in the top quintile can independently rack up lots of sales without any support from the corporate office whereas the subpar performers in the bottom quintile never materially improve their performance no matter how much support they receive. In the middle three quintiles, by contrast, performance varies widely as a function of the amount of support received. It is crucial for high-touch financial businesses' digital strategies to be predicated on the belief that the middle three quintiles' performance of knowledge-intensive tasks can be dramatically improved through such means as eliminating unproductive work and supporting FAs' client communication, time management and information gathering (Figure 5).

While financial institutions have started to deploy digital technologies in the aim of augmenting knowledge in high-touch businesses, the idea of doing so is not new. In the latter half of the 1990s, knowledge management (KM) became a buzzword in anticipation of the advent of a knowledge society. Many companies at the time launched KM initiatives in pursuit of various objectives such as rationalizing



operations, swiftly getting new employees up to speed, expediting management decision-making and ascertaining customer needs.

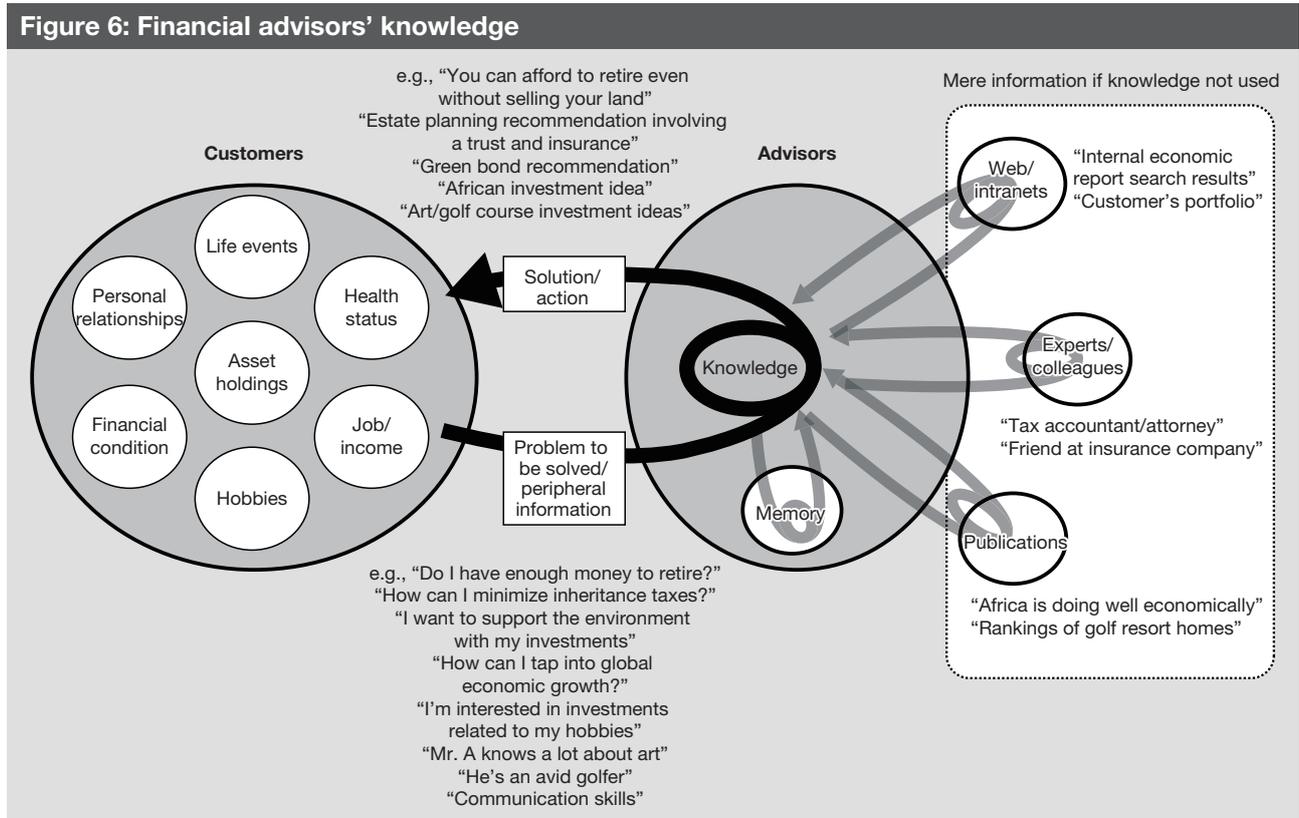
By the early 2000s, however, the KM boom had fizzled out. The term “KM” is no longer used in business circles today. Given our belief in the renewed importance of knowledge augmentation for high-touch financial businesses today, we want to address why KM fell by the wayside two decades ago and whether the factors behind its abandonment can be surmounted today.

There are a number of explanations for why corporate executives lost interest in KM two decades ago. The most persuasive is that the late-1990s version of KM was too IT-centric. At the time, companies invested heavily in a variety of IT system projects in the name of KM, including file sharing servers, intranet sites, data warehouses and groupware installations. In many cases, however, the data stored in those IT systems wastefully ended up not being utilized as knowledge.

One purported reason that the data were not exploited is that IT staff were not adequately involved in user organizational-units’ projects. In such projects, data use decisions do indeed tend to be left to the discretion of users, but there were so few KM success stories that we believe KM must have been stymied by a more fundamental impediment. Our favored hypothesis is that the digital environment of the late 1990s was not mature enough to support KM.

To explain how the digital environment was inadequate for KM, we first have to clarify what knowledge is. Earlier, we tentatively defined knowledge as information provided to answer customers’ questions or solve their problems. This definition pertains specifically to knowledge as a source of added value in retail financial businesses. Hence its emphasis on providing information to customers. In general terms, however, problem-solving ability is more at the heart of what knowledge is.

For example, when an FA provides financial advice to a client, the client typically asks various questions. From the FA’s perspective, each question is a problem to be solved. In response to such questions, FAs gather information from a variety of sources – their own memory, intranet sites, reference books, colleagues and/or other sources – and synthesize the information into an answer (solution) for the client. The ability to gather the requisite information and ultimately distill it into a solution is knowledge. We refer to reference sources not usable in the solution (e.g., book content) as mere information (Figure 6).



Whereas information is static, knowledge is dynamic in nature. Table 2 compares knowledge and information. If the context of learning a foreign language, memorized vocabulary is merely information while the ability to use that vocabulary to converse in a wide range of situations is knowledge. The concept of knowledge as a dynamic process dates back to at least the mid-1990s writings of Ikujiro Nonaka<sup>7)</sup>, whose work was instrumental in igniting the KM boom of the late 1990s. However, knowledge's dynamic nature tends to be overlooked in the business world, where knowledge and information are often conflated.

7) For example, see Nonaka's *The Knowledge-Creating Company* (1995, Oxford University Press), co-authored with Hirotaka Takeuchi.

Based on our revised definition of knowledge, the digital environment of two

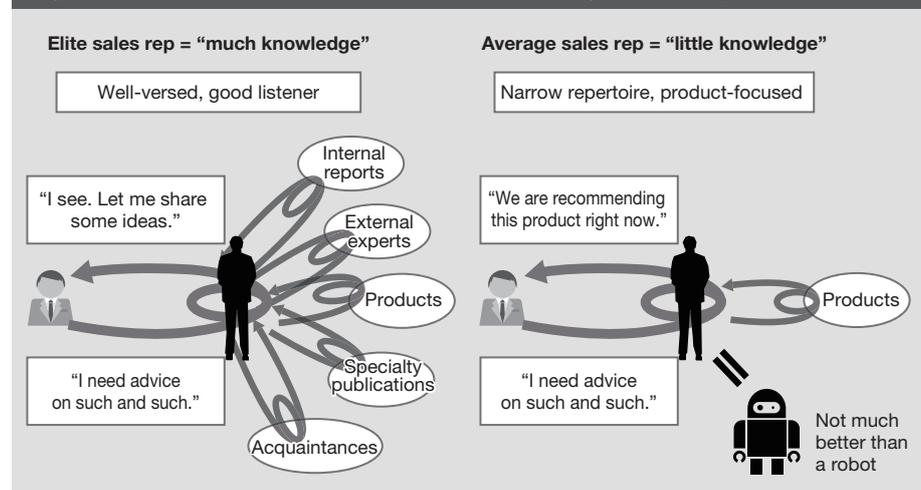
	Knowledge	Information
Nature	Dynamic	Static
Measured by	Effect	Quantity
Value determined by	Timeliness/context	Accuracy/quantity
Analogies	Foreign language conversational ability Physician's diagnosis	Memorized vocabulary Medical textbook

decades ago was inadequate for KM because it was not sufficiently conducive to utilizing information as knowledge. With smartphones not yet widely owned back then, FAs generally did not have instantaneous access to information required to answer clients' questions. Nor did they have push notification systems capable of delivering timely, impactful information. FAs consequently did not have much analytically valuable information available at their fingertips. They did not have high-powered analytics capabilities at their disposal either. It was not until after the KM boom had ended that the effectiveness of machine learning and other such technologies became widely known.

Given such technological constraints, the task of deriving knowledge from data (information) stored in the systems developed through KM projects fell entirely upon the shoulders of the system users. We surmise that their inability to meet this challenge led to the KM boom's demise.

If the late-1990s KM boom's unsustainability was rooted in the digital environment back then, recent advancements in digital technology suggest that an up-to-date reappraisal of KM's potential is warranted. Such a reappraisal might result in, say, companies integrating different organizational units' analytics projects, placing more priority on user interfaces in their digital initiatives or promoting greater communication among employees to build up organizational knowledge. Additionally, Nonaka's dynamic knowledge concept has been corroborated by a diverse body of cognitive science findings amassed over the past two decades. In sum, the potential for a new KM has increased dramatically in recent years.

**Figure 7: Difference between elite and average sales reps**

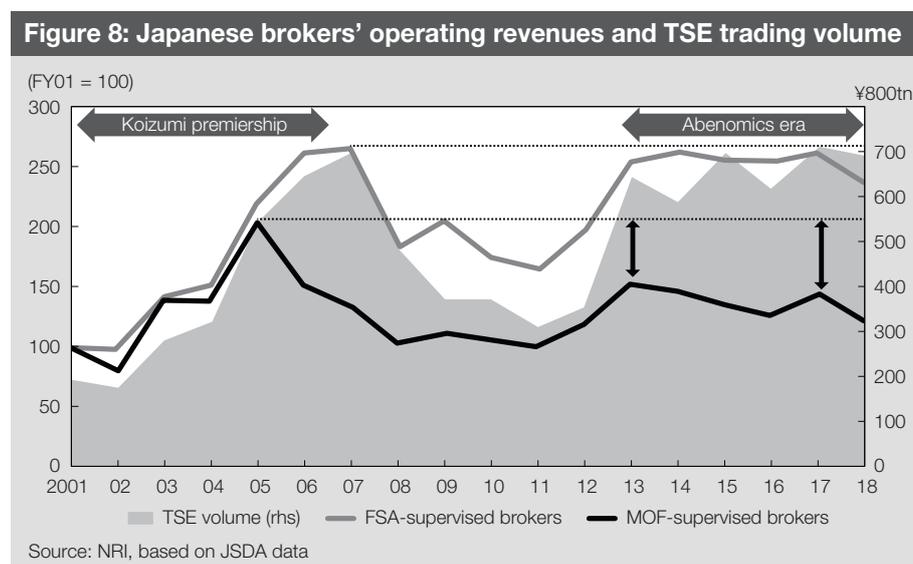


When senior financial institution executives are asked what distinguishes the best sales reps from average ones, a common response is that the top performers tend to be well-versed and good listeners whereas average performers tend to have a narrow repertoire and strong product-centric orientation. Put differently, top performers possess a lot of knowledge; average performers, not so much (Figure 7). A new KM should therefore be able to help average sales reps close the performance gap between themselves and their top-performing colleagues.

## VI. Suggestions for Japanese high-touch financial businesses

The above discussion of added-value's composition and relationship with digitalization in financial businesses based largely on US examples makes two key points. First, financial businesses, especially high-touch ones, need to shift to sourcing added value from knowledge. Second, digitalization can help expand knowledge. Turning our attention now to the Japanese market, we draw from the above discussion to offer suggestions for Japanese high-touch financial businesses, particularly full-service brokers, which have suffered severe erosion of added value in recent years.

First, Figure 8 plots the Japanese securities industry's revenues disaggregated between broker-dealers supervised by the FSA and broker-dealers supervised by the MOF's regional Finance Bureaus. The former comprise major and junior-major broker-dealers, online brokers and foreign broker-dealers' Japanese operations; the latter, mid-tier and smaller broker-dealers. The FSA-supervised group's

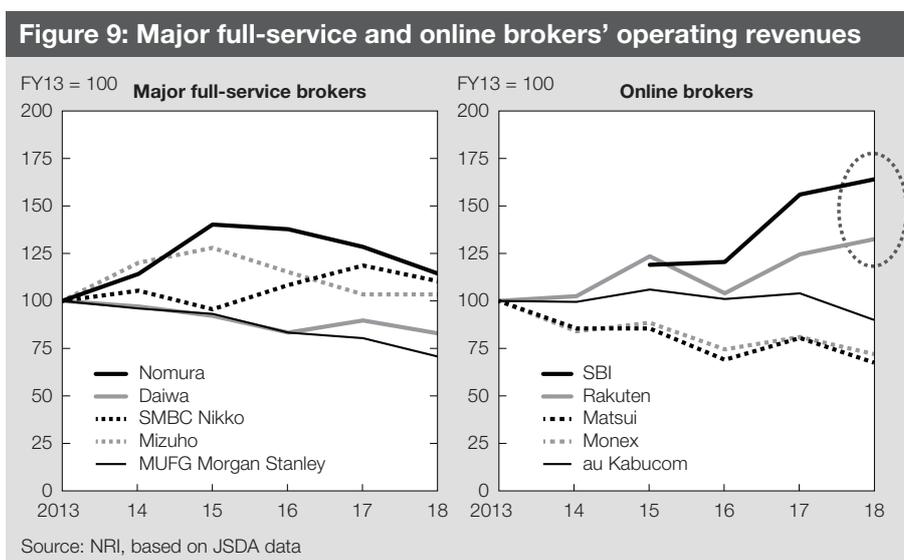


revenues declined amid the global financial crisis (GFC) but have since returned to their pre-GFC level in tandem with recovery in TSE trading volume. The MOF-supervised group's revenues, by contrast, have yet to recover to their pre-GFC level. Additionally, within the FSA-supervised group, all five major full-service brokers and three of the top five online brokers' revenues are in downtrends (Figure 9).

Japanese online brokers appear to be faring well at the expense of full-service brokers, but they have followed in their US counterparts' footsteps by dropping stock and/or investment trust trading commissions to zero in rapid succession. Some observers are worried that zero-commission competition will spread to the full-service market segment while others believe it will remain confined to online brokers. In the US, zero-commission competition has reduced online brokers' commission revenue and prompted the brokers to pursue replacement of the lost commission revenue with revenue earned by providing added value other than the convenience of trade execution services.

The Japanese market, however, offers less potential to earn revenue by providing financial liquidity than the US does. Japanese brokers, unlike their US counterparts, have no prospect of earning a 300bp NIM by sweeping customers' cash balances into bank deposits.

As such, they only have two options for replacing lost commission revenues. One is to increase opportunities to earn revenue in exchange for other forms of



convenience, such as margin account interest and fees from IFA (independent financial advisor) platforms. The other is to convert market liquidity into added value in the form of trading revenue (e.g. through proprietary trading systems.) Given the large share of US online brokers' revenues derived from sweep deposits and the relative dearth of substitute revenue sources in low-interest-rate Japan, Japanese online brokers do not seem able to afford to rush headlong into such fierce zero-commission competition.

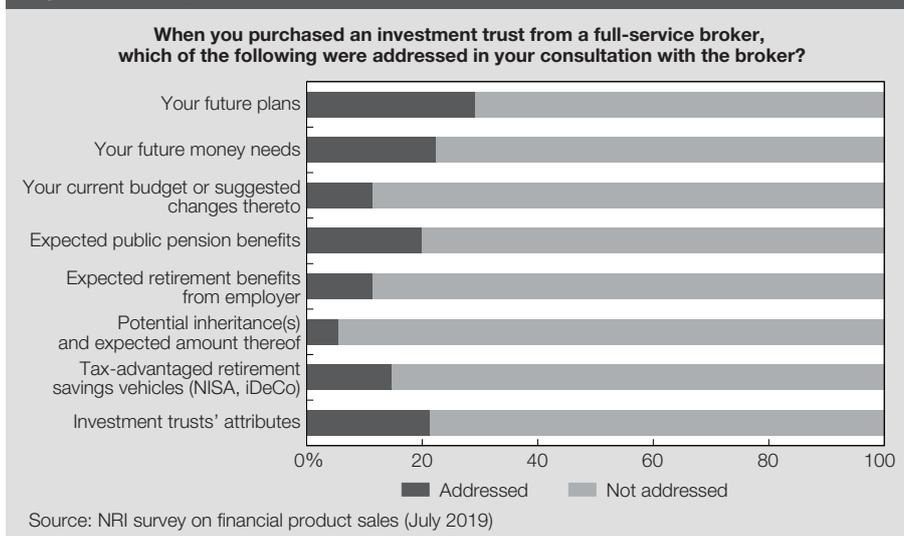
From full-service brokers' perspective, zero-commission competition among online brokers is basically competition for revenue within the liquidity and convenience slices of the added-value pie, analogous to the platform business-model approach to competition. Platform businesses do not directly derive added value from knowledge. To the extent full-service brokers are providing knowledge, they need not be concerned about zero-commission competition.

However, such freedom from concern is contingent on the ability to provide knowledge on an ongoing basis. Competing against online brokers in the convenience sphere alone appears to be a losing proposition for full-service brokers. A full-service broker that does not know what knowledge its services provide or how to upgrade its services' knowledge content is in dire straits. A senior executive of a US mid-tier brokerage, when asked about the zero-commission competition' impact on his firm's business, responded with utter nonchalance, likely as an expression of confidence in the firm's ability to derive added value from knowledge in its US-based wealth management business. Are any Japanese full-service brokers similarly confident?

A mid-2019 NRI survey asked retail investors who had purchased an investment trust from a broker what types of topics had been addressed in their pre-purchase consultations at the broker's office. The available responses to the question are listed in Figure 10 (respondents were instructed to select as many as applicable). The affirmative response rate was generally low across all of the available responses. The low percentages of respondents who were asked about their future life plans and expected public pension benefits may be understandable, but the ~20% affirmative response rate for "investment trusts' attributes" at the bottom of the graph in Figure 10 seems inordinately low given that the respondents were purchasing investment trusts.

Additionally, the respondents who gave negative responses to the question were

**Figure 10: Topics addressed in consultations with full-service brokers**



asked to identify which of the overlooked topics they wish had been addressed (Figure 11). This follow-up question's respondents were divided into two groups: those with and those without a good idea of their future income and spending (respectively referred to below as the "informed group" and "uninformed group")<sup>8)</sup>.

8) Survey respondents were sorted into the informed and uninformed groups based on their response to a question on whether they knew how much assets they would have to accumulate through their own efforts to fund their retirement.

Respondents in the informed group were two to three times more likely than their uninformed counterparts to have wanted the listed topics to be addressed during the consultation. The two groups thus differed fairly substantially in terms of their reported need for information. Many full-service brokerage executives to whom we spoke pushed back against our suggestion that full-service brokers should provide more information to customers. Their attitude was that brokers need not provide information unless the customer asks for it.

Customers in the uninformed group do in fact have little need for information per our survey results. Informed customers, however, offer full-service brokers an opportunity to add more value by providing them with sufficient information, if brokers can identify them through screening.

9) JASD's 2012, 2015 and 2018 nationwide surveys on securities investment.

According to Japan Securities Dealers Association (JSDA) survey data<sup>9)</sup>, perceptions of investing are changing among Japanese retail investors. Once widely perceived as a hard-to-understand activity akin to gambling, investing is now increasingly considered essential to building a nest egg for the future.

Taken together with the NRI survey findings discussed earlier, investing's changing

Figure 11: Difference in information needs between informed and uninformed customers

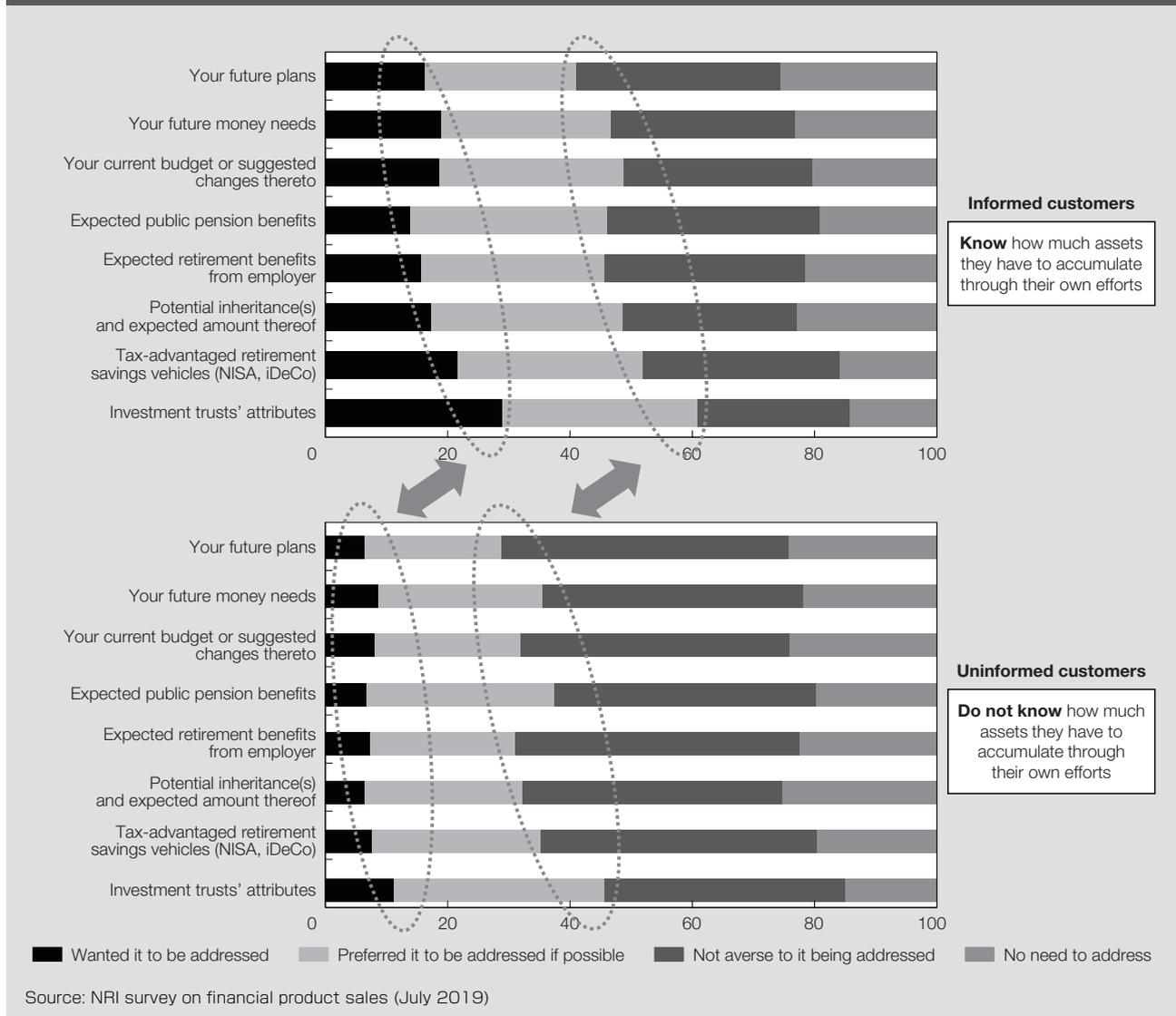


image has two implications for full-service brokers. First, deriving added value from knowledge crucially entails ascertaining customers' individual needs instead of operating under the blanket assumption that customers are not seeking information unless they expressly ask for it. Second, such an approach has plenty of commercial potential in light of the investing public's changing mindset.

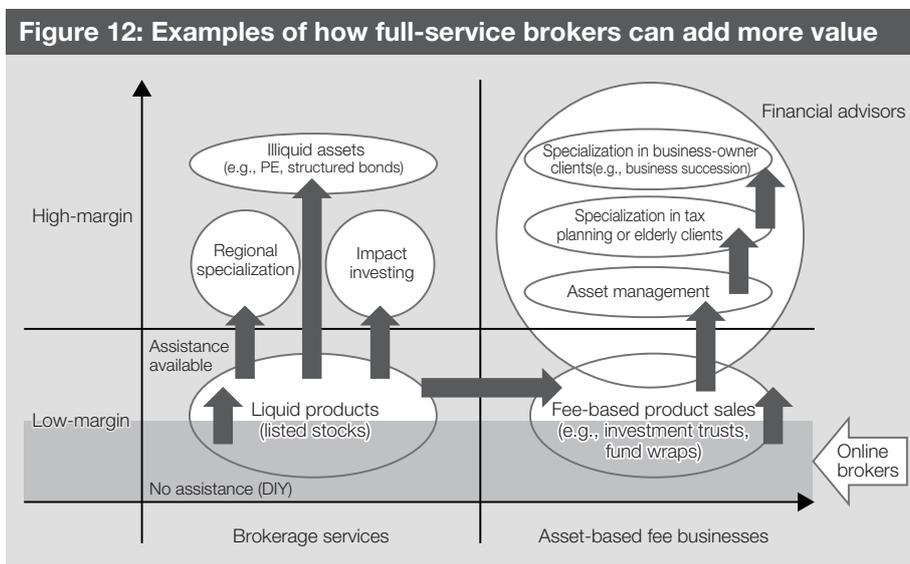
Deriving added value from knowledge may mean migrating to a business model that charges asset-based fees, but such fee-based models are beyond the scope of this paper. Full-service brokers have room for improvement in terms of providing even the most basic information as revealed by our survey findings.

Accordingly, it is important for full-service brokers to first determine what type of

knowledge to provide. One broker may have expertise in local stocks. Another may excel at providing information on impact investing. Even trade execution services can be variously bundled with information (Figure 12).

In choosing a knowledge domain in which to specialize, brokers should place utmost priority on getting to know their customers. By doing so, they will be better able to add value that is not digitally replicable. Once a broker decides on an area in which to add more value, it can more easily decide how to use digital technology to augment the added value or, in other words, implement a new KM.

The more digitalization advances, the more valuable human knowledge becomes. Japanese online brokers seem to be aware of this point and adjusting their strategies accordingly. They have recently been proactively branching into areas where they can derive revenue from knowledge. Their specific strategies include acquiring regional banks and offering education to independent financial advisors. Full-service brokers have to change their mindset by looking at how to turn knowledge into a competitive edge instead of naïvely believing in the inherent value of services provided by humans.



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Inquiries to : Financial Market & Innovation Research Department  
Nomura Research Institute, Ltd.  
Otemachi Financial City Grand Cube,  
1-9-2 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan  
E-mail : kyara@nri.co.jp

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