TRESTLE GROUP

empowering innovator

Digital Banking Transformation

Digital transformation isn't just about tweaking the efficiency of financial services delivery. It's about redefining what it is to be a bank.

Disintermediation

Banks fundamentally exist to aggregate the wealth of clients – depositors and investors in financial products the banks create – and invest that wealth in growth assets to generate more wealth. A bank's role is that of an *innovator*, creating and marketing investment vehicles to harbor and increase their clients' wealth, and an *intermediary*. In its intermediary function, the bank advises clients on investment strategies and opportunities, manages and clears transactions, and brings borrowers (consumers and entrepreneurs) together with its clients who want to lend or invest their capital.

Digital transformation has, from its earliest beginnings, been about

disintermediation. The threat to banks whose strategies are strongly focused on their intermediary functions is that online and mobile banking and novel digital financial technologies (a.k.a. "*fintech*") are undermining all of the conventional intermediation opportunities.

Artificial intelligence already is outperforming human financial advisers in some markets. Fintech applications based on blockchain (best known as the technology underlying cryptocurrencies like Bitcoin) are still infants, but clearly threaten the future of the international transaction-clearing infrastructure. And crowdfunding and peer-to-peer lending platforms, which have served "underbanked" economies in the developing world for 30 years, now threaten to cut sharply into conventional capital markets as some of these economies grow in importance globally and as consumers in the industrialized world discover that they have less and less of a stake in the services of conventional banks.

Consumers, in fact, have consistently reported in surveys, and in their actions in the marketplace, that they are at best indifferent toward the conventional business models of companies they deal with. Banks are no exception. Surveys have never conclusively shown that consumers hate banks, but they do hate aspects of the traditional bank experience – especially service delays and fees. What astute non-bank competitors are demonstrating is that consumers no longer need to accept business practices that are common in banking but anathema in other consumer service industries.

Take *transaction processing*, for example. Consumers in 2018 are fully

The first in a series of Trestle Group White Papers on Digital Transformation in Global Business

accustomed to the idea that email can securely transfer written text of great length, with many different kinds of attachments, free of charge in a matter of seconds. Why, then, does a wire transfer take a bank three days and cost up to US\$100 per transaction? That may be typical performance among banks, but in the larger context in which technologysavvy consumers now operate, it no longer makes sense.

Telecommunications providers – another industry undergoing rapid and fundamental digital transformation – for many years antagonized customers by charging separate rates for text messaging. Now, they provide unlimited texting in response to competitive pressure from upstart telco peers and from new, non-telco entrants like WhatsApp. What if a bank offered unlimited payment services? What would its new revenue model be? Other industries have already come to grips with such changes, and telecommunications will likely be one of the largest challengers to traditional banking activities.

Lending, payments, investment banking / equity raising, debt funding / crowd funding – all of these services have been invaded

whose services will be mostly digital, and whose owners may or may not be banks at all.

Frequent upheavals in the ownership and control of financial institutions as technology innovators displace old-school capital managers appear inevitable for Europe, Asia and the developing world. The United States remains a wild card, as its investor and executive class has maintained a resilient hold on the country's political process and may be able to consolidate their hold on US financial markets through regulatory rules. But it is unclear how long even the US can resist disruption of its banking infrastructure and displacement of its traditional financial elite.

The future is brighter for firms whose strategy is focused on continuous innovation and who are willing to redefine

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by non-bank providers. Consumers have responded.

Some elite banks serving institutions, sovereign wealth funds and high-/ultrahigh net worth individuals may be shielded for a time from the trends affecting consumer banking. Most banks, however, will have to contend with increasingly potent competition from a plethora of fintech innovators and non-banking service providers. There will be considerable ferment among these companies as new generations of fintech supplant their predecessors. The market is likely to evolve toward mostly-digital, mostly-virtual savings and lending entities who provide consumer services through online and mobile applications and, at least for a time, through ATMs, along with investment banking and consumer lending entities

themselves periodically as creative destruction redefines the fundamental conception of banks and banking.

It's Not About Efficiency

Much of what is happening to industries across the business spectrum clearly is taking place in banking and financial services. Like everyone else, banks continuously search for ways to reduce costs, increase their top-line revenue and mitigate business risk. But these objectives call for incremental changes in business process. They are tactical issues. The threat of fintech competition is <u>strategic</u>. The barbarians are at the gates – complacent banks face the literal threat of obsolescence. And banks must accomplish these objectives against the same evolutionary changes other industries see, including:

- Changing customer expectations
 and behavior
- Channel proliferation
- Disruption
- Innovative use and adoption of new technologies
- Digitization of business and society in general

The focus on efficiency is misplaced. Banks should digitalize because if they don't, they will simply be left behind by customers who no longer maintain loyalty to their banks – or even care whether the companies that manage their financial affairs are actually banks at all.

Consumers clearly hate:

- Fees they view as arbitrary or hidden
- Waiting for decisions
- Being upsold

And bankers who downplay the impact of unfavorable press since the 2008 financial market meltdown are kidding themselves. An important reason banks perennially score low in customer loyalty and brand resonance surveys is customer cynicism after years of media coverage of banking malfeasance: The subprime mortgage scandal, mortgage foreclosure abuses, abusive credit card interest rate manipulation, and banks driving employees to aggressively upsell services customers don't need, to say nothing of multibillion-dollar bank settlements in cases of outright fraud or moneylaundering.

Fintechs may be relatively unproven business entities. But they simply don't have the ethical baggage that banks have taken on themselves.

Banks have become increasingly dependent on fees – especially overdraft fees – to boost their profits. This is particularly true among consumer-oriented banks serving middle- or lower-income communities, where people also use payday lenders and non-bank checkcashing services, which <u>they have come to</u>

regard as less expensive and more transparent than banks about their fees.

Millions of people in developing countries are "unbanked" – they have no bank accounts. But they are not necessarily beyond the reach of financial services. In East Africa, unbanked consumers have been able to save, transfer money and build credit through an entirely mobile service invented in Kenya – called M-Pesa – for three decades. As in telecommunications, African economies have bypassed the development of traditional banking infrastructure to offer entirely mobile phone based financial services – the M-Pesa system does not even require a smart phone.

Today, about 8% of US households are unbanked; another 20% are "underbanked" (i.e., they rely both on banks and non-bank lenders). As wealth and income inequality continues to grow – as corporate profits surge while wages stagnate – the less affluent strata of the US economy could look more and more like the populations of the starkly unequal societies of the developing world, creating a vacuum in low-end financial services for fintechs specifically targeting this segment to seize, at the expense of banks.

Banks and bank regulators agree fintech presents risks to the traditional banking sector and, potentially, risks to societies if their growth is not managed. Question: Will regulators decide that <u>the interests of</u> <u>traditional banks and the interests of the</u> <u>societies in which they operate are the</u> <u>same</u>? How far will finance ministers go to shield "incumbent banks" from fintech competition?

Technology Transformed Business Processes

In the 1950s and '60s, the major international banks commissioned the creation of the global financial IT infrastructure, defining its requirements the way bankers would: To automate the business processes of international banking as it was done in the 1950s and '60s. Since then, the various stakeholders in global capital markets have overseen the evolution of the IT framework for global finance to adapt to changes in the way those markets work. But those stakeholders were slow to realize that it was the technology itself that was bringing the most important changes about – not the culture, the regulatory framework, the business processes or the relationships that distinguished the most successful and influential bankers.

Network infrastructure made it possible to transfer funds, verify accounts and clear ledgers virtually instantaneously. Network infrastructure made credit cards and ATMs feasible – it made it easier for lenders to infrastructure that ingrained business processes began to erode.

By the 21st Century, the internet had taken on much of the data traffic that a decade earlier had been carried by legacy widearea networks built for the financial community. The internet was faster and more flexible than the older networks, and it evolved at a time when the cost of data storage was dropping rapidly, and the speed and capacity of servers was growing exponentially. Perhaps as importantly, the internet was everyone's;

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quickly assess the creditworthiness of individual and business borrowers, because data warehouses could capture more detailed credit histories and facilitate access among multiple competing lenders. Eventually, network infrastructure drove increasing expectations for service expediency.

The impact was to drive competition among banks based on their mastery of the financial network ecosystem, allowing them to offer faster turnaround on loan applications, for example. But banking still was done on the bankers' terms, because the banks owned the networks.

Consider "float," for example. Float is the time interval between the initiation of a transaction – e.g., the deposit of a check – and the updating of ledgers at which point the funds move from one account to another. During this interval, the bank may continue to invest the funds as if they are still in the original account. As networks became faster and more capable, one might have expected competition between banks to reduce their reliance on float as an opportunity for incremental investment revenue – but it was only when banks lost their unique dominance of the financial the banks were tenants in the global infrastructure, and were no more likely to be the innovative leaders online than was any other industry.

Information technology innovation had become a disruptive industry unto itself. Venture capital-backed technology startups were fundamentally changing the business processes of every other industry. The evolution of the fintech segment was inevitable. Banking is – to paraphrase one of the industry's most famous outsiders – where the money is.

As the internet pulled an increasing share of the market from conventional retail business in every sector, it brought about one more fundamentally important shift: Increasingly, the customer had the upper hand in the sale. With almost instantaneous access to competitors' offerings, customers with computers and smart phones came to every transaction armed with the information to push back on sellers' prices and terms. This not only increased the intensity of competition within industries, but opened the door to disruptive newcomers with wholly new offerings. Banking was as vulnerable as any other industry to this wave of disruption. Fintechs have challenged assumptions about customers' loyalty, not just to their own banks but to the entire banking sector. Traditional banking has had widelyrecognized flaws – slow transactions, opaque rules, seemingly arbitrary fees and indifferent service delivery. The fintechs invited depositors, borrowers and investors to challenge their assumptions that they had to tolerate these drawbacks.

Al Comes of Age

The pundits have stopped laughing at Artificial Intelligence. All has left them no choice.

Like the global financial infrastructure, AI had its roots in the 1950s. Over the succeeding decades, AI technologies have seen cycles of adoption and abandonment. But these tools undeniably have arrived. AI automates a cross-section of common business processes. It is behind a wide range of decision support and advisory services, including credit complexities of human behavior (and misbehavior) in a modern, interconnected, global economy.

By the early 2000s, however, most large organizations had access to network infrastructures capable of processing vast volumes of "Big Data" at speed, and to the profusion of data that needed to be processed to enable *machine learning* algorithms to assist in critical decisionmaking. Equally importantly, corporate decision-makers urgently needed the help.

According to the IT consulting firm IDC, the world has produced almost eight zettabytes of digital data, more than quadruple the volume as of 2011. <u>That</u> <u>volume is growing at 40% per year</u>. For most people, a zettabyte is literally unimaginable. It is equivalent to 1 trillion gigabytes, the data capacity of about 213 billion standard density DVDs. That's 783 square miles of plastic; the DVDs required to contain 8 Zb would more than cover the State of Connecticut.

The point is, the data available to support just about any economically important decision has grown beyond the analytic

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scoring, fraud detection, lending ratesetting and other businesses processes fundamental to corporate and individual finance. Some of these applications have been quietly gathering momentum since the early 1990s.

Al often has encountered skepticism because while the value propositions made intuitive sense, the applications were provocative at pilot scale, but much less convincing in production. That is, the algorithms behind Al were powerful, but the network infrastructures of the 1990s were not up to processing the enormous volumes of data needed to model all the

capacities of human experts, and will continue to grow indefinitely. That's a problem for human beings; but it's the realization of Al's ultimate raison d'etre machine learning can not only save labor, accelerate decision-making and reduce costs, but it can solve business problems that are literally beyond the capacity of human beings. Al algorithms actually have not changed fundamentally from the artificial neural networks of the 1990s. But in today's networks, accessing all the data resident in corporate data lakes and globally via the internet, AI systems have enabled developers to create predictive analytics that render the simplistic

business intelligence systems of the 1990s obsolete.

That kind of analytic power enables the most forward-looking banks and other financial institutions to process loan applications faster and make more reliable credit decisions. Al allows banks to predict how a loan applicant will react to alternative offers with different interest rates and other terms. Investment banks can make vastly more intelligent projections of market movements. In addition to spotting hitherto-unnoticed patterns in time-series data on markets, analytics can project the kinds of changes in investor sentiment that drive markets. As long ago as 2011, it has been recognized that market behavior can be predicted reliably from measurements of public "mood" detected in social media posts.

For banks, then, AI is a strategically important capability. The problem, however, is that AI also opens the door to competition from non-bank entities – companies that lack global banking pedigrees but have decades of cumulative experience in operationalizing AI. Most of the data can be obtained from public or non-exclusive sources. Generally, neither the scale nor the quality of the data represents an opportunity for any specific financial institution to differentiate itself. The technical infrastructure is the highvalue asset for AI, although no one company has a corner on it.

Banks count on their reputation for financial advisory services provided by human experts. But these institutions are likely to find this is no longer compelling if new, non-bank competitors can provide comparable advice faster, on demand, on any platform the customer wants to use (e.g., mobile), and at lower cost to the provider (bank or fintech). What already has begun to make this possible is AI.

In fact, customers may not even be hearing their advice from humans. Albased *chatbots* are very good at convincing users that they are human agents. The experience is virtually indistinguishable, and customers, who already have grown used to seemingly clairvoyant targeting of advertising and offers when they visit social media sites, are likely to wonder why advice from a human banker is any more valuable than advice from<u>a chatbot that more accurately</u> anticipates their financial needs.

Blockchain Decentralizes Transaction Processing and Contracting

Artificial intelligence has the potential to transform financial decision-making and advisory functions. The distributed ledger technology known as *blockchain* has the potential to transform not only the back office clearing functions of banks, but possibly the entire concept of money.

Blockchain takes aim at one of the most fundamental bank business processes: The trust function of centralized transaction clearing. Traditionally, the parties in any transaction have needed a trusted intermediary to handle the transfer of funds from one to the other. The bank authoritatively recorded the transaction and conveyed the funds from one account to the other, extracting a fee for this service. Blockchain is designed to eliminate this intermediary function – in financial transactions, and in many kinds of contract and other trust processes.

Blockchain is a peer-to-peer alternative transaction system that provides a common electronic ledger to record and clear transactions, allowing the transfer of value without using the clearing infrastructure of the banking system. As such, it is a clear threat to the intermediary function of the traditional banking system, which has enormous investment in a conventional clearing infrastructure that could be obsolete if blockchain is widely adopted.

Most business people who have heard of blockchain have encountered it in the context of so-called *cryptocurrencies* like Bitcoin and Ether, which we will consider separately below. But cryptocurrency is only one application for blockchain. The technology can be used to disintermediate the transfer of any store of value, including conventional fiat currency.

The basic idea is that all parties have simultaneous, distributed access to a

system that records the transaction and clears it, in a way that is transparent to all of the parties and tamper-proof, so that if one party attempted to change an existing transaction record, that change would be apparent to all parties. There is no need for centralized oversight, because the software on which the system is based establishes and maintains *consensus* among all users as to the state of the transaction.

As each transaction is recorded, it is added, as a record called a *block*, to the system's distributed ledger. Multiple transactions are stored in succession, which the owner of the blockchain can establish trust among the parties – by limiting access to authenticated users.

Alternatively, the blockchain can be open, public and permissionless – systems where anyone can participate. This is characteristic of markets where cryptocurrencies such as Bitcoin or its newer cousin, Ethereum, are used in trade. Public blockchains require an additional mechanism to provide incentives to validate and clear trades. Third parties called *miners* compete to perform the clearing task and claim a reward, paid in Bitcoin for doing so. (To



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forming a chain. Those transactions must then be settled and cleared, in a way that satisfies all parties that it is valid. The system must provide a consensus model. Each block in the chain represents a transaction that must be settled, and the rules of engagement must define incentives for the parties to settle the transactions in a timely way.

The design of blockchain is flexible enough to handle a wide range of transactions, including many types of contracting. Developers refer to the specific set of rules that define the business process managed by the blockchain as a *smart contract*.

The system and the transaction process it automates can be *permissioned* in various ways. That is, it may be a closed system in which only individuals with specific rights in the system can initiate a transaction, participate in validation and clearing, or see the data. Permissioning is one way in win the right to clear each transaction, write it to the ledger and claim the reward, the miner must solve a complex mathematical puzzle.)

It should be obvious that blockchain has the potential to replace back-office clearing processes that have been revenuegenerating staples of the banking business. Banks can invest in establishing blockchain infrastructure and services for customers who prefer this approach, or simply to fend off competition from nonbank fintechs. Banks have been slow to embrace the new infrastructure, in part because they are deeply invested in conventional clearing networks, which themselves have undergone several waves of evolution (SWIFT, ACH, etc.). But it is doubtful that they can withstand competitive incursions from new companies like Ripple, which have arisen to operationalize blockchain and are not burdened with the sunk costs of older clearing systems. Some of the largest

banks, such as JPMorganChase, have publicly criticized blockchain, downplaying its significance, while simultaneously investing in the technology.

Cryptocurrency Provides Start-Up Funding Options

To most casual readers, "cryptocurrency" is exemplified by Bitcoin, a blockchainbased currency that has gained notoriety for its obscure provenance and the wild swings in its market value among speculators. An important reason Bitcoin has fascinated analysts and investors is blockchain infrastructure that doesn't require the services of a bank.

Clearly, cryptocurrency investing is inherently risky – valuation models for companies funded through ICOs are just beginning to emerge. ICOs are not for faint-hearted investors; the sector reportedly is rife with "pump and dump" fraud. But the volume of capital raised in "Initial Coin Offerings" grew 30-fold from 2016 to 2017, to more than \$3 billion. That is still small compared to the volume of venture capital financing, but ICOs are growing much faster than venture capital funds. ICOs can be attractive to entrepreneurs who have limited experience in equity financing and lack

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Cryptocurrency exists outside the normal regulatory scheme that governs equity financing, and operates on a blockchain infrastructure that doesn't require the services of a bank.

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the potential for investors to capitalize on its rises and falls, and to trade in Bitcoin in an anonymous market, exchanging value beyond the reach of banks or financial regulators. Similar interest has arisen around Ethereum, the exchange for the cryptocurrency known as Ether.

While these are the two best-known public cryptocurrency exchanges, there are many other cryptocurrencies. The technology to establish a blockchain infrastructure to launch a new cryptocurrency is now widely available at very reasonable cost.

Why would one want to create a new cryptocurrency? The most practical reason is to raise capital for a new venture. Cryptocurrency represents an alternative start-up fundraising mechanism that can be much more cost-effective for the entrepreneur, because it exists outside the normal regulatory scheme that governs equity financing, and operates on a trust in the conventional investment banking community.

What do investors get for their money? Coin buyers generally are buying access to the company's future service (almost none are completed yet), which generally is the only thing the new cryptocurrency can buy. But some speculators are interested in the novel crypto itself, betting the value of the new coins will rise as the issuing start-up gets closer to completing its initial product or service offering. Many will lose their investments if the product is never completed, and thus far few issuers have launched the products that can be bought with the cryptocoins. (Novel coins generally are paid for in Bitcoin or Ether, although some cryptocurrencies are backed by fiat money.)

Crowdfunding and Peer-to-Peer Lending

Another increasingly important driver for non-traditional financing is the desire among small entrepreneurs to raise startup capital without giving away a painful percentage of the start-up's equity. Small entrepreneurs want to raise just enough capital to get the business on its feet, but this often amounts to a sum that is too small to get the attention of a commercial bank or angel investor.

Into this void have come dozens of cloudbased crowdfunding platforms - nontraditional financial service providers who role is to attract small investments from multitudes of individuals, instead of VCs or institutional investors, to meet the needs of small, early-stage start-ups. Many of the early entrants into the crowdfunding space were sites like Kickstarter, IndieGogo and GoFundMe, which often catered to individuals seeking to commercialize and license inventions, artists looking to fund their demo CDs, or not-for-profits raising funds for charitable projects. But their success drew in providers like RocketHub, Appbackr, Crowdfunder, Lending Circle and AngelList, sites where entrepreneurs can promote small investment opportunities in explicitly for-profit startups.

There are now enough crowdfunding entrants to require segmentation of this industry. Proponents of crowdfunding now distinguish between sites offering opportunities for equity investment and sites devoted to debt funding – <u>the latter</u> are more properly referred to as <u>peer-to-</u> <u>peer lending platforms</u>.

Crowdfunding and P2P lending sites reduce the cost and friction involved in low-end funding, as the entire application process can all be done online without engaging human middle-men or experts. These platforms could render low- to midrange lending services of banks redundant. On the other hand, banks could benefit if the P2P platforms undercut nonbank lenders like payday lenders or checkcashing services in low-income markets.

Crowdfunding/P2P platforms are well entrenched in small-scale fund-raising. The market may even be considered mature, and may be due for its own wave of technical disruption. Crowdfunding could be ripe for adoption of blockchain as a platform for transaction clearing.

There even may be a significant role for artificial intelligence in the crowdfunding space. Al has helped to bring microlending to the US and other Western economies. For example, in February 2017, a US fintech called Float secured \$3 million in angel funding to launch smalldollar lending to "thin-file" millennials (individuals who lack lengthy credit histories), allowing them to link credit lines their debit accounts. Float uses machine learning to rapidly assess the individual's spending, saving and bill-paying habits. While Float is available to anyone, it is tailored to young consumers, among whom Float claims that 63 percent do not have credit cards and 33 percent have never applied for one. By offering credit lines of \$50 to \$1,000, Float enables young borrowers to avoid overdraft fees from traditional banks that often plaque this generation, and helps them to build credit histories through "non-FICO underwriting" - i.e., outside the conventional creditworthiness system dependent on prime FICO scores. If machine learning can enable a fintech start-up like Float to rapidly assess the creditworthiness of thin-file millennials. then the technology may be able to assist angel investors in sizing up the reliability of small entrepreneurs applying for loans or equity investments.

How Should Banks Respond to Fintech Disruption?

There are banks that are prepared to embrace the industry's technological transformation. Others will not, and their future viability is at risk.

Virtually every significant bank has an online presence now, enabling its customers to bank online. Many have made the leap to mobile banking systems. But these institutions are only fulfilling the minimum requirements for survival in the digital economy. They are transforming, but only incrementally. This is a risky strategy, given the pace of nontraditional competitive entry into financial services.

Banks are being advised to improve the customer experience. But the

improvements that get customers' attention are exactly those that come from digitalizing, and they go far deeper than enhancements to the speed and simplicity of online bill-paying.

The banks at greatest risk are those that rely most heavily on fees for intermediation services – disintermediation is the role at which fintechs most excel. Those functions that formerly were the unique, differentiating competencies of the banking communication is instantaneous; if an established player needs capital, investors swarm to meet the need – a new venture can go from \$0 to \$20 billion in capital, in weeks.

As hard as the major banks work toward being nimble enough to keep up, they are hemmed in by their own investments in obsolescent infrastructure – including their brick and mortar branches. Online and mobile banking services have made these

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industry have proven vulnerable to competitive inroads from technology innovators with better ideas about how to manage financial networks.

Large, complacent banks are missing the ominous signals. They fail to recognize that their most potent competitors may not be foreign banks, but telecommunications companies who have the infrastructure and the technical depth to channel global capital around and away from the traditional financial networks. Many of these transformative competitors may indeed be from outside the traditional global money centers. In countries like Kenya, millions of people manage their funds electronically without relying on banks at all. Asian and Pacific economies are following the same pattern, and technologies from those regions are leapfrogging those of the US and Europe.

Bankers traditionally have touted the longevity of their institutions and their relationships with major investors and fund managers to establish their unique positions in the financial markets. But in the 21st Century, personal relationships are being replaced by social networks and network relationships. Person to person physical branches increasingly irrelevant to retail bank customers. But even ultrahigh net worth individuals (\$10 million or more) may only continue to rely on the banks because they have the infrastructure to give these customers liquidity on short notice – to get them in and out of investments quickly and globally. But this infrastructure already has seen several rounds of technological enhancement. As the current systems are replaced by new vendors embracing technologies like blockchain, those competitive advantages go away.

How, then, should the banks stay ahead of the technological curve? The industry currently is experiencing a wave of acquisitions - traditional banks like JPMorganChase have begun buying their way into the market for technologies like blockchain. There is ample precedent for this trend - many non-technology companies have taken equity stakes in technology vendors or bought them outright. It can be logical for banks to do this selectively, but in general banks lack the entrepreneurial skills to make fintech start-ups successful, and sustain success over multiple cycles of creative destruction.

Business Strategy

What markets we serve, how we set up to serve them.

 Changing to, or augmenting with, a different market need or way to win

Business Model

How our business works at a high level, including products/ services, customers, value flows.

• Changing how our business works at a high level -- e.g., from products to services

Operating Model

The underlying assets, capabilities and processes that deliver the business model.

 Reconfiguring the organization and its processes to better support the business model

Technical Capabilities

The IT/digital assets and capabilities that underpin the business model and operating model.

• Transforming the technology support for the business -e.g., a move to the public cloud

It is virtually impossible to buy control of a business process – almost nothing can only be automated one way. It makes little sense for banks to buy fintech companies in an effort to become more like them. Fintech companies are small for a reason – they need to be nimble and innovative. As soon as a JPMorganChase buys and integrates it, it is likely to lose most of its value as an innovator.

A more effective strategy is to develop a dynamic sourcing strategy, in which the bank engages with the offerings of technology vendors over a finite period, in a partnership to design and deploy an infrastructure or AI solution made up of discrete components, integrated and tailored to the bank's specific needs. This is analogous to a company like Boeing – Boeing doesn't manufacture its own parts, but it sources the best parts from around the world to create the best airplane.

Such a strategy has two obvious benefits:

• It obviates the need for a large bank to commit itself for a

prolonged period of time to a specific technology that may be the most effective alternative today, but be leapfrogged by a new fintech competitor in five years; and

 It allows the bank to leverage its own core competencies – e.g., developing and marketing financial products, and navigating the enormous complexity of the financial regulatory system (which is daunting to the entrepreneurs who launch fintech companies) – without calling on bankers to acquire the skills and competencies of an innovative tech start-up.

Conclusion

Digital transformation is difficult and complex, but it is inevitable for banks and financial service providers who hope to

prosper in the next decade. Transformation will take place on four distinct levels, as shown in the above graphic.

It is inadvisable to start on the path to digital transformation without a commitment to change on all four of these levels. Nor is it practical to proceed without expert guidance.

For regional and global financial service providers, **Trestle Group** can be the trusted partner to provide that guidance. Trestle Group offers:

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- Global presence, strong foundation

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