STATE OF GEORGIA'S FINTECH ECOSYSTEM 2016

DRIVEN BY INNOVATION, PROVEN BY PERFORMANCE

TAG | FinTech

Georgia Tech | Scheller College of Business

Executive Overview

In 2012 the Technology Association of Georgia's FinTech Society issued a white paper documenting the impact of Georgia's FinTech ecosystem on the state's economy and its leading role in global financial operations. The report's findings have been widely quoted, and succeeded in raising Georgia FinTech's stature on the national stage. For example, our research found that nearly two-thirds of payment card transactions pass through the global networks of Georgia FinTech organizations.

Our new report updates these popular industry metrics, but further endeavors to document the scope of Georgia's FinTech industry, its culture of innovation, its key strengths, and opportunities to extend its leadership position. We explore the imperatives of talent development, the availability of venture capital, and the role state and local governments can play in fostering a healthy ecosystem.

To achieve this ambitious goal we collaborated with Georgia Tech's Scheller College of Business, whose perspectives and resources were invaluable. In an opening article, Professor Sudheer Chava shares his thoughts on how technology is disrupting the traditional financial services industry, some of the angles being pursued by Georgia's innovative young FinTech firms and the future of FinTech in Georgia. Our methodology includes one-on-one executive interviews with two dozen industry leaders, quantitative analysis of publicly available data, and a detailed online survey of over 100 area FinTech professionals. Our findings confirm several existing beliefs about Georgia's strengths while identifying less recognized ways in which our sector distinguishes itself. Please note that our research is not intended as equity analysis- we appreciate the assistance of Wayne Johnson, Managing Director of Raymond James & Associates, whose extensive research of the payments industry already addresses this angle quite well.

Throughout these pages you will find quotes from our executive interviews, results from our primary research, and profiles of a sampling of key contributors to Georgia's thriving FinTech ecosystem. We hope you'll find it as thought provoking and enjoyable to read as it was for us to create.

Glen Sarvady is Founding Principal of payments strategy firm 154 Advisors and a TAG FinTech Society board member. Glen is a 20-year veteran of Atlanta FinTech, including leadership roles at CheckFree and McKinsey & Company.

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The View from Georgia Tech: Finance *Is* Technology

SUDHEER CHAVA
Professor of Finance

Director, Quantitative and Computational Finance (QCF) Program

Scheller College of Business Georgia Tech

Finance is the lifeblood that greases the economy. Financial intermediaries such as banks accept small deposits that can be withdrawn at any time and transform them into long-term, illiquid and risky assets such as mortgages, loans to consumers and firms. Financial intermediaries provide liquidity and efficient payment services to consumers and firms. They make use of credit scoring and underwriting technologies to differentiate between good credit and bad credit and to monitor the borrower's performance after a loan is made. Financial intermediation is always about developing efficient technology to reduce friction in order to help the economy grow. In fact, Finance is technology.

It is no wonder that cataclysmic changes occurring in the world of finance now are driven by digital innovation and regulation in the aftermath of the great recession. Digital innovation is disrupting traditional financial intermediation and is changing every function and service that financial intermediaries provide right from lending to payment services to wealth management. Technological changes driven by big data, better analytics and algorithms, and cheaper cloud processing are reducing the cost of offering these intermediation services and lowering the entry barriers. New competitors are trying to deconstruct and synthesize the expertise, knowledge and intuition of traditional financial intermediaries in order to recreate them as algorithmic competency driven by big data and smarter analytics. Another significant factor driving the change is the demographic trends that are shaped by Millennials and their willingness to adopt new technologies. This secular shift of the bargaining power to the consumers is leading to the socialization of finance and has given rise to network effects that are further accelerating financial disintermediation.

As documented later in the report, Georgia is at the forefront of these new innovations that are driving the transformation of the financial intermediation as we know it. Innovation in Georgia driven by FinTech disruptors is not just limited to the payment space that Georgia has known for a long time. Innovation and disruption led by firms in Georgia spans every part of the financial intermediation sector. For example, Groundfloor is driving innovation in crowdfunding real estate and opening real estate investing to even small non-accredited investors. Kabbage is a leader in emerging small business finance where borrowers can apply and receive a credit decision in as little as seven minutes. Prime Revenue is a leader in supplier finance optimizing the financial supply chain for thousands of companies across the world. Local company BitPay is an innovator in payment processing and facilitates bitcoin payments for over 60,000 businesses worldwide. It is not only startups and small companies that are driving innovation in Georgia; large, established companies headquartered in Georgia are innovating just as quickly. For example, Equifax recently put in place a new Hadoop based data analytics environment called Cambrian to source and integrate structured and unstructured data, and to proactively deliver actionable insights in minutes whereas the previous process took weeks to deliver.

One challenge that all companies face is making better use of data. Data often sits in silos, and data scientists capable of analyzing the data may not have the domain knowledge or communicate in the same language as the business leaders making the decisions. Data, whether structured or unstructured, small or big, inside or outside the company, can be very valuable both for competitive reasons and decision making. Often one company's unloved data may be a goldmine when combined with other data. Most FinTech startups, and even large mature companies, have not yet scratched the surface in monetizing data and are a long way from realizing its full potential and value.

In spite of the many successful Georgia FinTech companies, one big challenge and shortcoming in Georgia as compared to Silicon Valley or New York is the limited venture ecosystem. The venture ecosystem includes not only angel funding for startups but also sufficient venture capital and extensive mentoring that can help scale up the startups. Similarly, private equity that can help scale up or exit the business needs to be deepened and improved. Smart regulation and civic partnership between industry and government has benefited the business environment in Georgia and can be a bigger catalyst going forward. Also, regulation in the aftermath of the great recession has helped FinTech disruptors so far. More regulation and scrutiny is coming to FinTech, and companies that proactively embrace these heightened expectations from regulators will be the success stories of the future.

Overall, the future looks bright for Georgia's FinTech ecosystem. Talent is key to any business and Georgia is blessed with many experienced people across the finance value chain. In addition, Georgia is home to many top notch educational institutions providing a constant supply of bright and motivated workers. As part of Georgia Tech, a world-renowned technical research university, Scheller College of Business is at the intersection of business and technology. Tech is a driving force for business and Scheller aims to educate the next generation of business leaders with a strong foundation of quantitative and technical skills and a solid, practical understanding of finance theory to lead innovation in FinTech. Close industry-academia partnerships through experiential learning and other collaborations further help in educating tomorrow's leaders. The low cost of living, a convenient airport, southern hospitality and overall great quality of life, continue to attract smart people. Georgia is perfectly positioned to define and benefit from FinTech's bright future.

FinTech: The View From The Investment Community

WAYNE JOHNSON
Raymond James

The Transaction Processing industry is thriving in Georgia. This state is host to approximately 100 highly specialized, mission critical firms, collectively known as FinTech providers, which sell service and software to financial institutions worldwide. These Georgia based FinTech companies enable or touch 70% of all payment card transactions in the continental United States. The FinTech subsector of The Transaction Processing industry is the cornerstone of the modern economy; moving and tracking trillions of dollars electronically, on demand, around the world, billions of time a year.

Investors have noticed these outsourced service companies operate leverageable business models that expand profitability from processing incremental transaction volume over a fixed-cost infrastructure. The financial metrics of The FinTech vertical are attractive, with companies often generating 80% or higher recurring revenue, strong free cash flow, low capital expenditures, top-line growth of 6-8%, and EPS growth of 10-15% on 20% operating margins. Many transaction processing companies manage a cash heavy and debt-light balance sheet.

For example: One of the biggest developments within the transaction processing industry occurred after the third quarter ended, with Atlanta based Global Payments' announcement of its intended acquisition of Heartland Payments. While consolidation within the transaction processing industry is not uncommon, Global's December 15 announcement of its intention to acquire Heartland for $100 per share in a cash and stock deal worth approximately $4.3 billion (enterprise value) would combine two top-10 domestic merchant acquirers. The transaction significantly expands Global Payments' U.S. direct small and medium-sized enterprise (SME) distribution and merchant base, given the very limited overlap in vertical coverage between the two companies and Heartland's expertise in the direct sales model. We note that the $100 per share deal price represents 30x current consensus 2016 EPS for Heartland, which is at the upper end of the transaction processing M&A envelope of 25-30x, and since only 65% of Heartland's business is merchant acquiring, we strongly suspect that other bidders were involved. The deal is currently anticipated to close in GPN's F4Q15 (quarter ending May 31, 2016) and, like many M&A transactions, two to three years may be required for the economic benefits to truly start to flow through the financial statements.

One of the longer-term tailwinds of the transaction processing sector, and the merchant acquiring business in particular, is the conversion of cash/check based payment forms to electronic form factors at the point-of-sale (POS). Market share gains by electronic form factors at the expense of traditional mediums still represent a meaningful growth opportunity for payment card service providers in the U.S. and overseas. If the remaining cash and check transaction volume at the retail point of sale in the U.S. is converted to a credit card payment, we project a 50% increase, or $6-7 billion incremental greenfield service revenue opportunity. In the U.S. last year, we estimate there were approximately 50 billion cash and 13 billion check

transactions representing $1.50 trillion and $1.16 trillion of consumer payments value, respectively. We size the worldwide payment card processing service revenue market opportunity at $39 billion, growing at a 12% CAGR to $69 billion by 2018. Domestically, we believe the payment card processing service revenue market opportunity is $11 billion, which could expand at a 7% CAGR to $15 billion by the same year. Traditional merchant acquirers, payment card networks, and the expanding list of new alternative service providers such as Apple, Amazon, PayPal, and bitcoin could be important sources for influencing the global transition to electronic payments, in our opinion.

Furthermore, payment card processors enjoy a large and growing worldwide e-commerce market opportunity. Industry sources indicate global e-commerce sales were over $1.3 trillion in 2014 (of which the U.S. accounted for approximately one-quarter), with the potential to grow at a 19% CAGR to $2.2 trillion by 2017. Assuming payment card processors generate a ~2% service fee for every $100 of e-commerce sales, the worldwide e-commerce payment service revenue opportunity could exceed $44 billion by 2016. We believe one of the biggest future drivers of e-commerce growth will be the global adoption of Internet enabled smartphones, particularly in large populous regions that lack modern payments infrastructure. Visa estimates approximately $11 trillion of global (ex-Western Europe) personal consumption expenditure (PCE) remains paper-based, with more than half generated in developing markets (~$6 trillion, or 62% of those regions' PCE). Gartner estimates that worldwide mobile payment transaction volume will reach $721 billion by 2017, compared to $163.1 billion in 2012, representing an average annual growth rate of 35%. In addition, Gartner projects total mobile payment users to more than double during this same period, rising from 200.8 million in 2012 to over 450 million users in 2017.

Note: Gartner's definition of mobile payments includes in-store near field communication (NFC) transactions, P2P money transfers, as well as merchandise purchases and bill payments made on mobile devices.

State of Georgia's FinTech Ecosystem 2016

Driven by Innovation, Proven by Performance

Georgia's financial technology industry is ready for its close-up. For years, the sector's leading companies were content to play a behind the scenes role creating and running the critical infrastructure that enables much of the world's financial services, particularly payments. Since the financial crisis, however, several of these companies have recognized the value of taking more visible positions in advocacy on topics such as legislation and data security, engaging in public/private partnerships, etc.

The Georgia FinTech sector encompasses about 100 companies ranging from Fortune 500 bellwethers to early stage start ups. There are firms whose time in the state dates to the 1800s (Equifax), several that moved to Georgia at varying stages of their evolution (NCR, CheckFree, Groundfloor), one that left Georgia only to return (First Data), and one that recently undertook a national search for a headquarters location before determining it already had the ideal locale (Worldpay).

It's worth noting that FinTech is a malleable term that lends itself to an array of definitions. Broadly stated, the sector reflects the intersection of financial services and enabling technologies. Banks are among the primary customers of FinTech firms, and most employ their own FinTech staffs. For the purposes of this analysis we have generally excluded financial institutions from our figures (e.g. headcount, real estate occupancy); however we have incorporated the essential insights of executives from SunTrust and Georgia Credit Union Affiliates.

GEORGIA FINTECH BY THE NUMBERS

Card processing firms- in what is increasingly known as Atlanta's "Transaction Alley"- remain the most visible hub of Georgia's FinTech activity. Well over half of the $5.3 trillion in annual US card spending runs across the rails of Georgia-based firms, with three of the top five and six of the top ten of these processors headquartered in Metro Atlanta. These are firms like First Data, Global Payments, TSYS,

Georgia-based FinTech Statistics	
Georgia FinTech companies	90+[2]
Worldwide payment transaction that pass through the computer systems of Georgia based FinTech companies (estimated)	118 Bil.[1]
Payment transactions by Georgia-based companies	36 Bil.[2]
Value of U.S. purchase volume by Georgia FinTech companies	$2 Tril.[1]
Merchants serviced by Georgia FinTech companies	3.9 Mil.[2]
Number of Georgia-based employees working in the FinTech sector (2014) (estimated)	30,000+[2]
Revenue of top 50 Georgia-based FinTech companies (2014) Includes revenues of public companies and estimates on some private companies. Also includes revenues of some out-of-state organizations that have a large presence in Georgia (estimated)	$72 Bil.[2]

1. Nilson Report (2014) 2. TAG FinTech Society in coordination with Georgia Tech and Raymond James;

Worldpay and Elavon that issue debit/credit cards on behalf of banks, service the merchants that accept card payments, and route the transactions to and from payment networks like Visa and MasterCard. Two large and fast-growing Georgia companies compete in the closely related payment card space. InComm focuses on branded gift and prepaid cards marketed directly to consumers at outlets such as convenience stores; FleetCor specializes in customized card solutions for the fleet truck market.

The card processing business is characterized by small unit prices spread across a very large number of transactions. This adds up to big money- merchants paid $71.4 billion in card processing fees in 2014, according to the Nilson Report.

Our analysis of the top 50 Georgia-based FinTech companies shows average annual growth between 2012 and 2014 in revenue, EBITDA and headcount of 14%, 21% and 19%, respectively. Clearly this growth is fueled in part by acquisition; nonetheless, it is indicative of a thriving market.

More than 30,000 Georgians are employed in the FinTech sector. Real estate firm Savills Studley calculates that FinTech firms occupy nearly 8 million square feet of office space in the state, representing roughly 8 percent of the total market. And according to a lengthy NPR feature aired in September, over $500 million was invested in Atlanta tech companies in 2014.

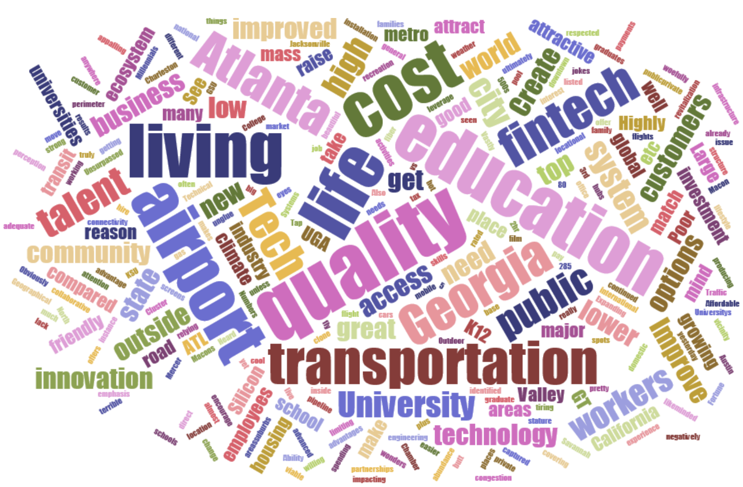
For a less conventional measure of Georgia's outsized role in the FinTech space consider conference attendance. In the four years since its launch Money 20/20 has quickly established itself as the preeminent payments industry event, drawing over 10,000 professionals to Las Vegas this past fall. Georgia trails only California and New York in attendees- and given those states' far larger populations to draw from, Georgia's presence is clearly disproportionate.

MARKET ATTRIBUTES OF A SUCCESSFUL ECOSYSTEM

The roots of Georgia's critical mass in payments can be traced to 1987 state legislation that lifted caps on credit card interest rates and annual fees of 18% and $12, respectively. Georgia bankers argued that allowing market forces to prevail would spur job creation- and the results in this case certainly bear them out. Although other states eventually followed suit and market forces have since rendered annual fee limits largely irrelevant, our state's head start generated momentum from which Georgia benefits to this day.

Sure enough, our comprehensive online survey of over 100 area professionals conducted by TAG FinTech and the Scheller College of Business revealed proximity to a critical mass of FinTech companies and talent to be a key Georgia differentiator. The only factor that rated higher is another benefit from civic infrastructure decisions- Hartsfield Jackson International Airport. Convenient access to customers and

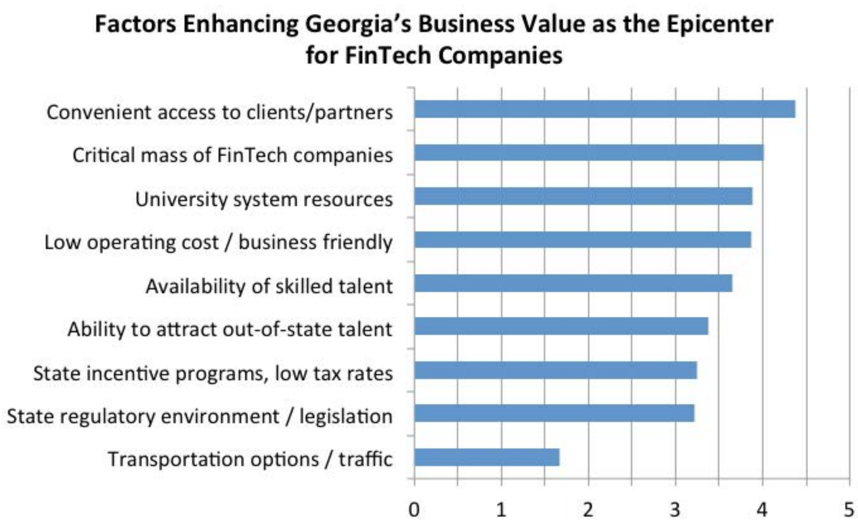
WHAT DO FINTECH PROFESSIONALS VALUE ABOUT GEORGIA'S ECOSYSTEM?



Source: TAG FinTech/Scheller College of Business, 2015, survey of industry professionals business partners is the #1 attribute of a successful business environment, according to our survey. Atlanta punches this ticket, on both a local and global level.

Another of Georgia's greatest strengths is its diverse business base- a feature that paradoxically can at times cause the state to be overlooked. As a serial entrepreneur we interviewed observed, "Think about other cities around the country and how their economies tend to be dominated by a single industry. Our situation is not as common as you'd think- the big benefit is that it sets up a diverse risk profile." A CEO who relocated his early-stage company here commented, "Atlanta is the epicenter of what we do, at the intersection of real estate, financial services and financial technology." Such cross-pollination can best be achieved in a diverse business climate. Another executive observed that "Atlanta offers a more real world climate, where the rubber meets the road," reinforcing that notion. Yet another added, "no one company is going to solve every use case," so collaboration is key. Given such dynamics, Georgia is perfectly positioned.

"Atlanta is the epicenter of what we do, at the intersection of real estate, financial services and financial technology."



Note: Respondents were asked to rank each factor from 1 (least) to 5 (most important)
Source: TAG FinTech/Scheller College of Business, 2015, survey of industry professionals

EMERGING TRENDS IN PRODUCT INVESTMENT

Georgia FinTech professionals see the balance of power shifting across the ecosystem. "Disruption" and "disintermediation" are buzzwords often heard in the space, and our survey results bear the marks of their impact. Financial institutions and card processors are viewed as wielding diminishing power, with consumers and disruptive startups gaining influence. Shifts in customer loyalty are considered the driving factor behind FinTech's evolution over the near and medium term. This can have confounding effects, as most consumers spend little if any time thinking about enabling technologies- they simply expect their transactions to work seamlessly and invisibly, regardless of channel. It's a bit like the old "dial tone" reliability paradigm- although interestingly consumers eventually proved willing to trade some of that reliability for the convenience of mobility. For this reason one senior bank executive posed an interesting corollary: "It's whoever holds the customer's ear that holds the power."

Not surprisingly then, delivering an enhanced service experience- whether as an offensive or defensive maneuver- is the focal point of most planned product initiatives. Data security and data analytics projects also top the list- these can be seen as targeting the same goal, as analytics should enable better consumer experience, while a security breach is the fastest path to losing customer loyalty.

GEORGIA FINTECH INNOVATION: KABBAGE

Kabbage has funded over 50,000 SMBs around the world to the tune of $1 billion since 2011. Kabbage offers a fully automated, online lending platform designed to support continuous customer data monitoring. The average time to complete application and get access to funds is 7 minutes. 95% of customers have had a 100% automated lending experience. Some of Kabbage's tools include:

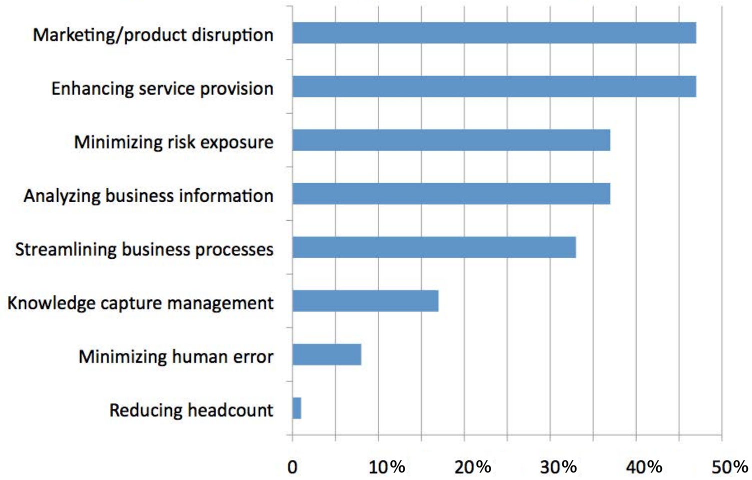
Social Klimbing – technology generates a Kabbage score for customers, used like a social media credit score.

Predictive Payments reduces delinquency risk while promoting a better collections experience for customers.

Karrot™ – data and technology platform that provides personal, consumer loans up to $35,000 through real time income verification.

Kabbage Card – SMBs can access their funds at the point of sale using a purchasing card tied to their Kabbage account, giving Kabbage customers unmatched accessibility.

Key Drivers of Technology Investment through 2018



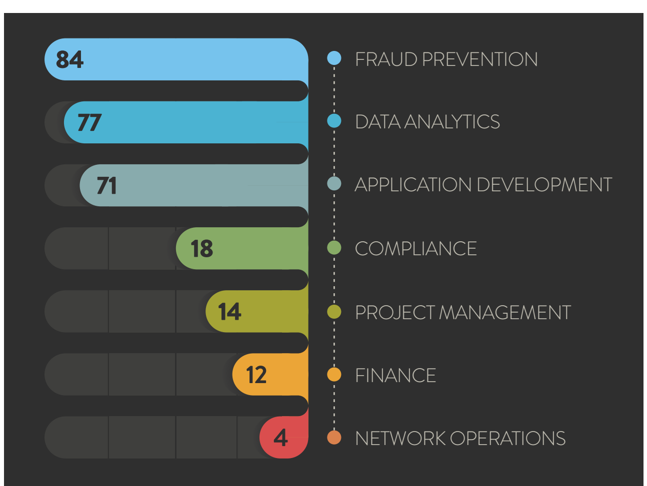
Note: Respondents were asked to identify their top three motivators
Source: TAG FinTech/Scheller College of Business 2015 survey of industry professionals

Equally interesting is what doesn't make the list- virtually no one prioritized workforce reduction initiatives. The FinTech industry is clearly in growth mode.Our executive interviews yielded some interesting verbatims that shed further light on product direction. "Speed is everything in the financial chain right now. Those people who deliver speed with trust will win." Separately, however, came the caution, "Just because you're a disruptor doesn't mean you're going to make money or be sustainable."

DEVELOPING TALENT- AND THE ABILITY TO ATTRACT AND RETAIN IT

As noted above, the existing talent pool is viewed as a key strength of Georgia's existing FinTech ecosystem. Nonetheless opportunities exist to better educate the next generation as well as to address shifting demands for expertise in the marketplace. Several of our executive interviewees lauded Georgia's strong secondary education backbone- not just at Georgia Tech, but many noted impressive strides made at Kennesaw State, Georgia State, and even the complementary design skills of SCAD graduates.

FinTech job functions on which Georgia universities should place greatest emphasis



Source: TAG FinTech / Georgia Tech Scheller College of Business Research Study, 2015

> "Speed is everything in the financial chain right now. Those people who deliver speed with trust will win."

Executives identified talent gaps in data analytics and data security- perhaps not coincidentally overlapping with areas of emphasis for new initiatives. However, the consensus holds that these are national shortages and are not unique to Georgia. In fact, they offer an opportunity for Georgia's university system to further separate itself from the pack- not necessarily through full majors/degrees, but certificate programs and the introduction of new courses. "College curriculums need to be able to shift quickly enough to meet changing market demands, not 2-3 year lead times."

On a related note, a 2014 TAG FinTech report on Big Data found that FinTech business models will evolvee as organizations improve their ability to monetize data. If Georgia universities can establish themselves as the go-to source for data analytics talent (Georgia Tech's Quantitative and Computational Finance program is an excellent start in this direction), the meshing with the state's data-rich transaction processing companies makes for a powerful combination.

One entrepreneur suggested that universities set up a mechanism for start-ups to share interns. "Small businesses often don't have enough work to keep one busy for the required time. This approach could relieve the administrative burden on a single company, and fuel the next generation of entrepreneurs." In a similar vein, an Innovation Leader at a large company said, "All companies should be using coop students because they have such a fresh way of thinking…. Hiring people right out of college with no clue is good because they don't see the typical constraints."

We also heard a recurring theme that innate skills should take precedence over domain expertise in most recruiting scenarios. "Most people we hire don't know trading- we can teach them the business," said an executive who had no prior experience in his firm's core business when he joined. One pointed to a software company taking the interesting approach of hiring plumbers for their problem-solving skills- "they can teach them to code."

Executives see a critical role for the university system in tailoring degree programs to meet talent needs as well as in providing startup support. An opportunity exists to create greater awareness of the resources already made available by these institutions. Smaller companies in the greatest need of assistance are also looking for a more rapid-response model. However, one entrepreneur highlighted a need to "make it easier to work with professors, reducing the administrative burden of finding the right people, arranging the engagement, compressing cycle times, etc."

Although some mentioned the need to keep our homegrown talent local, at least one executive isn't overly concerned about training graduates who head elsewhere. "It's not necessarily a bad thing to go out and experience New York, San Francisco or London- we still build our reputation (as a source of talent), and these same folks may come back later" for factors such as a favorable cost of living.

VENTURE CAPITAL- A HEALTHY DEBATE

One topic that continues to generate a healthy divergence of opinion is access to startup capital. While some entrepreneurs lament the shortage of Atlanta-based, FinTech-focused venture capital firms (TTV Capital being a notable exception), others point out that "money will always find good projects" and "it's not like the out-of-town VCs don't know Atlanta exists- they're in my office all the time to talk about ideas."

> "It's not like the out-of-town VCs don't know Atlanta exists- they're in my office all the time to talk about ideas."

GEORGIA FINTECH INNOVATION: SUNTRUST LIGHTSTREAM

LightStream, a division of SunTrust Bank acquired in 2012, offers a unique lending solution allowing customers with strong credit to borrow funds for purchases that had previously required collateral, or that fell into categories where few loan options existed. With fixed competitive rates and flexible terms, a LightStream loan for $5,000 to $100,000 can be delivered directly to a borrower's bank account, often as soon as the same day- supported by a fully online application and approval process. A LightStream loan can be used for a wide range of uses including car loans, refinance loans, home improvement, timeshare financing, boat loans, jewelry financing, adoption financing, horse loans, and more.

GEORGIA FINTECH INNOVATION: FIRST DATA SOURCE CONNECT

First Data SourceConnect℠: enables an NFC-enabled mobile device into a secure wallet. Tech savvy consumers are looking to maximize the capabilities of their advanced mobile device to make everyday tasks, including payments, more convenient. Smart phones can handle everything from credit and debi t card-based mobile payments to loyalty programs and coupons. Features include:

- "Wave and go" mobile credit card processing
- Solutions that seamlessly integrate mobile wallet applications with an extensive suite of marketing and loyalty solutions
- First Data PayEdge® Solution that offers merchants a cloud-based mobile payment solution which is ACH-based and facilitates secure, low-cost payments for merchants
- Loyalty card information stored on customers' phones that helps you build new, targeted, and effective loyalty initiatives
- Direct promotions sent to consumers on the same mobile device they use to activate accounts and make payment method decisions

Another key consideration is the need for startups to collaborate with the state's FinTech infrastructure providers to commercialize new ideas. Given payment complexity, "if you don't engage with Georgia you're going to hit a wall on the last mile of execution," said one industry veteran. "There's a 'threshold of reality'; you need to deal with the infrastructure, so disruptors must break through in collaboration with established players."

In addition to venture capital, one veteran of multiple startups noted, "Georgia doesn't have any banks that are technology industry oriented. They're all real estate oriented- that's a huge disadvantage. Atlanta needs decision makers

> "If you don't engage with Georgia you're going to hit a wall on the last mile of execution."

Incubators: A Valuable Tool for Early Stage Success

Nationally, 90% of technology startups fail. Access to mentors and key infrastructure resources at critical junctures can greatly improve the probability of success. Georgia is home to one of the earliest public/private responses to this challenge, with newer entrants now adding to the community.

The Advanced Technology Development Center (ATDC) is a startup incubator at Georgia Tech that helps Georgia-based technology entrepreneurs launch and build successful companies. The ATDC opened its doors in 1981 and works with more than 325 companies per year. ATDC increases an entrepreneur's likelihood of success by orchestrating connections to coaching, capital, customers, and campus resources and talent. More than 90% of the ATDC's Signature graduates are successful five years after completing the program. ATDC now credits more than 170 new ventures.

ATDC companies have:

- Attracted $2.5 billion in investment.
- Generated over $1.3 billion in revenue.
- Created more than 5,500 jobs.

In 2015 Worldpay U.S., a leader in global payments processing technology, provided a $1 million gift to Georgia Tech to fund a FinTech accelerator program at ATDC. As part of its Premier Sponsor role, Worldpay further committed to contribute the time and expertise of its senior management. This combined with recent office moves by Worldpay and NCR to Atlant'a's Midtown corridor near Georgia Tech will reinforce the power of proximity among FinTech's leading thinkers.

Recent success stories among ATDC Companies include:

- First Performance Global: mobile application aimed at the prevention and reduction of card-related fraud. Its mission is "to empower a financial institution's customers with a simple self-service tool providing," the ability to control how and where credit and debit cards are used, regardless of payment channel.

- Verifacto: a technology company focused on improving the ways auto lenders and borrowers connect to information. Verifacto organizes and delivers information obtained from lenders, borrowers and insurers, making it accessible and useful to our clients and their customers.

In 2013, Atlanta Tech Village opened a 103,000 square foot facility as a "community of innovation" for technology and technology-related companies "that have a unique set of needs in their quest to change the world." While designed as a private sector enterprise, Tech Village espouses the same vision as the ATDC that good things happen when innovators operate in close quarters and share ideas and inspiration. They are joined by area catalysts such as Flashpoint, Switchyards, Strongbox West, Opportunity Hub and the newly opened Alpharetta Technology Commission's Innovation Center- each offering co-located space and varying degrees of networking, programming and partner events.

inside local banks who understand technology well enough to be confident in the new business models proposed by local entrepreneurs."

Another interesting perspective, which does not reflect a consensus: "It's never been easier to start a business in Atlanta, but it's as hard as ever to scale one. Scaling requires a totally different infrastructure. Atlanta's weakness is not at the start-up level or at the top- it's in the middle."

A more representative line of reasoning is that "Venture capital is easier to get in Silicon Valley, but raising venture capital isn't a business – it's just an enabler. Studies have proven that raising VC doesn't make a better business." Or put even more succinctly, "Maybe we don't need to be the Disneyland of funding."

Government's Role

In addition to maintaining a solid educational system, state and local government play a key role in advancing FinTech through its legislative agenda. After all, as noted earlier the foundation for Georgia's early momentum in FinTech can be traced to a 1987 law that lifted caps on credit card interest rates. Georgia Secretary of State Brian Kemp received kudos from several interviewees for his forward thinking approach. Groundfloor relocated from North Carolina early in its corporate life because Georgia was among the few states where it could pursue its envisioned business model. As CEO Brian Dally explains, "He (Kemp) is a real visionary in this area. He put together a set of regulations promulgating an exemption from state Blue Sky securities laws...this was about liberalizing capital markets to drive economic growth. Now, a small business can sell shares to friends, family, customers," without as much "lawyering" involved. When implemented with appropriate investor protections, these are the types of initiatives that could spur the same kind of growth as Georgia's 1987 card innovation.

The increasing regulatory burden facing the financial services industry since the Great Recession is a well-documented and continued source of frustration for firms at all stages of the ecosystem. "Regulations used to restrict what banks could do, but they could still choose how to do it. The new era of regulations do just the opposite," laments an industry veteran. The need to build awareness for the impact of such laws served as one of the catalysts for Georgia's largest FinTech companies choosing to adopt a more visible profile. The American Transaction Processing Coalition, based in Atlanta, was created to promote FinTech companies' interests in the legislative arena.

During our executive interviews we heard a couple of "outside the box" ideas that deserve further exploration:

- Design a state tax incentive program based on the percentage of local procurement conducted by companies- if designed correctly, this could deliver a significant cascading benefit to state economic activity on a "pay for performance" basis that is arguably more equitable than lump-sum grants.

- Treat programming as a foreign language- If we are serious about coding being an essential skill for the next generation of Georgians, why not place it on a par with Spanish, Chinese, and other building blocks of communication essential to compete on a global stage?

TSYS 2015 U.S. CONSUMER PAYMENT CHOICE STUDY

TSYS' fifth annual online survey of more than 1,000 U.S. consumers added findings on mobile app usage to its research. The study found that mobile applications provided by financial institutions are highly adopted and frequently used. Fifty percent of survey respondents said that they have installed a mobile app from their bank. Of those respondents, with 70% reporting that they use the app a few times a month or more.

The study also uncovered drivers of consumer behavior and information preferences for payment and communication methods. Other key findings included:

- Although debit continues to be the most preferred payment type among U.S. consumers, it has declined during the last two years. Forty-one percent of consumers prefer debit cards, down from 43% in 2014 and 49% in 2013. Credit card preference held steady at 35%.

- Loyalty and rewards are important in driving consumer behavior and affecting payment preference. 55% of respondents chose rewards as the most attractive feature of their preferred credit card.

- When interacting with their financial services provider, email is the most preferred channel of communication among consumers. 46% reported preferring email communication from their bank regarding purchase transactions.

- When asked about the frequency of getting marketing and special offers, 43% of respondents reported that they would prefer to receive these communications once a month.

Georgia's Transaction Alley is Prospering, But Challenges Loom:

Public/Private Collaboration Key to Success

Georgia's Financial Technology ("FinTech") industry, headquartered in Atlanta's "Transaction Alley" is experiencing an explosion in popularity and economic growth. The industry is poised for continued expansion as payment processing is increasingly global and digitized. Several factors loom that threaten FinTech's future and Transaction Alley's dominance of the industry, requiring vigilance, collaboration and support from numerous quarters. Yet steps are being taken to ensure that our dominance continues.

By H. West Richards
Executive Director of the American Transaction Processors Coalition

Recent Transaction Alley company investments and expansion efforts have caught the eye of investors, media and elected officials. Companies like InComm and Worldpay demonstrated their commitment to the state with recent announcements as part of the #ReUpGA campaign (an ATPC-led economic development initiative). InComm announced 270 new jobs and a $20 million infrastructure investment in December 2015. And Worldpay committed to hire more than 600 employees and invest $10 million in facilities and equipment during summer 2015, as part of their headquarter relocation to Atlantic Station, and the City of Atlanta. They also donated $1 million, and senior leadership time to launch (and fund for three years) the Advanced Technology Development Center's FinTech Accelerator. This new program will grow companies leveraging FinTech technology; bringing increased innovation, visibility and outside investment.

These are but a few of Transaction Alley company actions taken to grow the FinTech industry that employs more than 40,000 Georgians in order to process 70-plus percent of every American credit, debit and gift card swipe. These companies might be invisible to most people, but we all rely on their technology to buy groceries, gas, and pay for necessities like health care, electricity and company payrolls. Yet FinTech companies are grappling with three primary threats that could stifle the industry – and negatively impact consumers' daily lives. First, more than 19 federal agencies regulate the FinTech industry, creating a complex, often-contradictory and onerous regulatory environment. For instance, the Consumer Financial Protection Bureau recently drafted a proposed rule on the use of prepaid cards, and provided the industry less than 90 days to review its nearly 1,000 pages, and provide meaningful feedback.

Second, Transaction Alley faces competition from other smaller but significant FinTech clusters across the U.S. And other countries are investing to grow their own FinTech and payments industries to get a share of the global processing market which is growing by seven to nine percent annually, with an estimated value of $70-plus billion. Finally, numerous other factors have the potential to negatively impact the FinTech industry, with many falling into a "resources" category. FinTech relies upon innovation and talent to create the coding embedded in hardware and apps that meet the demands of consumers who are increasingly the point of sale due to smart phones, tablets and all manner of digital payments. Georgia technology companies currently face a talent gap, with financial technology job postings increasing by 49 percent from 2007 to 2013, according to the Atlanta Regional Commission. The Technology Association of Georgia (TAG) reports that venture capitalists invested $495.9 million in Georgia last year, "which was the most venture investment in the state in more than a decade." Yet this growth did not match national rates, with our state's total haul to one percent.

These challenges have no silver bullet solution. But collaboration, investment and planning give us a great chance at continued success. The Metro Atlanta Chamber, ATPC and TAG recently joined forces to launch the FinTech Task Force, which is a critical step in aligning around needs, and coordinating promotional and lobbying efforts. In general, we also need the state to continue recent workforce and infrastructure tax credits and incentives. We applaud the state for their new focus on examining and exploring such incentives on the Fintech front. But we must also look to fresh ideas and partnerships to attract entrepreneurs and investment capitol to the state.

The industry has done a lot recently to elevate its relevance, and elected officials and other regional influencers are noticing. But failure to build upon and solidify their support could lead to a catastrophic shrinking of the industry as we fail to keep pace with other regions and countries around the world, or are regulated out of business.

The American Transaction Processors Coalition represents the more than 90 Georgia-based companies that develop the products and provide resources supporting the financial service industry's technology needs through proactive public relations and government affairs activities.

What barriers to innovation do Georgia FinTech professionals encounter?

Source: TAG FinTech/Scheller College of Business, 2015, survey of industry professionals

THE NATURE OF INNOVATION

The subject of innovation is multi-faceted and critical enough to warrant its own paper. Although space constraints permit only a high-level overview here, it is clearly a top-of-mind topic for Georgia FinTech executives. We're seeing this play out in the formation of "innovation clusters" as evidenced by the moves of Worldpay and NCR to Midtown Atlanta. As one executive opined, "When there's distance you tend to treat others as competitors. When you are close, it forces you to understand them and find opportunities."

Georgia's culture of innovation is at times overlooked because the FinTech ecosystem was largely founded on a base of established firms. While Georgia may not (yet) be home to household apps like Uber, several of the platforms powering next generation apps are very much present here. "It's the innovations consumers can see that get the press, but making things run faster behind the scenes is an essential innovation too," an executive pointed out- this an area where Georgia excels given its Transaction Alley role. By definition, a successful payment experience is seamless and virtually invisible- which doesn't generate the same whiz-bang effect. Still, this shortchanges the market-redefining innovations of Georgia startups like Cardlytics, Kabbage, Groundfloor, GreenSky, BitPay and Acculynk.

Several executives noted that Georgia needs to do a better job celebrating its spinoffs- as Dell and Hewlett Packard have done over time- since such ongoing regeneration is the lifeblood of a thriving ecosystem. According to Kabbage founder and CEO Rob Frohwein, one of his goals is to spin off at least five employees who go on to form their own VC firms or successful startups- a spirit he likens to Internet Security Systems, a late 90s Georgia FinTech success story.

GEORGIA FINTECH INNOVATION: CAN CAPITAL

Since 1998, CAN Capital has helped small and medium-sized businesses improve cash flow by providing business loans, TrakLoan and Merchant Cash Advance. The company's cutting-edge technology, quick application and approval processes, and customer-focused delivery have kept the company at the forefront of the small business funding industry.

TrakLoan is a "cash-flow friendly" way to access working capital and works particularly well for businesses whose owners value having the amount they remit fluctuate with their daily payment card receivables. Instead of sending a large amount once a month, a flat percentage of the business's credit and debit card sales are automatically remitted daily. A larger amount is sent on busy sales days than on slow days. The process stops automatically when the loan is repaid.

Merchant Cash Advance is a type of funding that is not a loan. It is a purchase of a fixed dollar amount of a business's future credit and debit card receivables. The Merchant Cash Advance provider purchases a specified dollar amount of the business' future debit and credit card sales at a discount. The business, instead of paying one large fixed monthly payment until a set maturity date like a loan, remits a fixed percentage of its daily debit and credit card revenue automatically until the specified amount of purchased receivables is remitted in full to the MCA provider.

CAN Capital's Daily Remittance Platform™ and proprietary risk models offer insight into the strength and day-to-day operations of small businesses. The company forecasts based on the strength of small businesses, with a unique approach proven to be highly predictive of actual risk. This means higher approval rates and a broader range of small business financial options for customers.

"When there's distance you tend to treat others as competitors. When you are close, it forces you to understand them and find opportunities."

Here are a few more notable quotes about the nature of innovation from our executive discussions:

- "Going to Silicon Valley is much more about getting closer to the VC than tapping the innovation culture. You can innovate anywhere."
- "I used to seek 3 – 5 years' experience (for most tech recruiting), but I am changing on that. Of course, it depends on the position... to help disruptors disrupt, you need to hire from the disruptor generation."
- "At UGA, they have a neat innovation course comprised of students from a number of different majors who come together to ≠≠≠solve a specific problem presented by a company."
- Regarding the lessons to be learned from Bitcoin: "They didn't come from a FinTech mindset. They came from a political mindset; from a geographic mindset... If we teach about Bitcoin, we've failed. If we teach about the mindset that led them to that, we've succeeded."
- "There are two mindsets that are so different (about innovation). Somebody in technology can code something very quickly.... But they don't realize that if you change something in payments, you have to change the whole network which might affect a network of six million merchant POS terminals. People in FinTech understand this."

CONCLUSION

Thanks to its favorable economic profile and impressive growth prospects, FinTech has established itself as one of the country's leading industry sectors and is poised to remain so for some time. Georgia's long history in the space- its critical mass of nearly 100 companies, its extensive talent pool, low-cost business environment, forward-thinking public/private engagement- ideally position our state to extend its leading role at the forefront of this mission critical and lucrative industry. The more than 30,000 high-paying FinTech jobs already in Georgia provide ample evidence of the benefits of the FinTech community's efforts to date. It's important to note, however, that much of Georgia's "secret sauce" could conceivably be replicated in other regions- particularly if leading FinTech companies or promising startups were lured outside the state.

The building blocks of Georgia's FinTech ecosystem are firmly in place- for both established multi-national firms and early stage start-ups, with both showing compelling examples of innovation. "If you don't engage with Georgia (FinTech companies) you're going to hit a wall on the last mile of execution."

"It's the innovations consumers can see that get the press, but making things run faster behind the scenes is an essential innovation too."

GEORGIA FINTECH INNOVATION: GROUNDFLOOR

Founded in 2013, Groundfloor is a peer-to-peer micro-lending platform for funding U.S. real estate deals, open to non-accredited investors, opening the door to short-term secured loans backed by real estate and starting with as little as $10. Typical recent loans have returned 12 percent annually on a six- to 12-month term.

The young company had a busy autumn- in December 2015 it completed $5 million in Series A funding. And in September Groundfloor became the nation's first business to gain federal approval for multi-state crowdfunding, building on an innovative Georgia state law.

Groundfloor also recently introduced the following features:

Automated Investing: Allows investors to select the amount they want to invest each month, the recurring date to initiate the funds transfer and the percentage allocated to each loan grade on Groundfloor. Investors are able to view a dashboard of their automatic investments and simply add, modify or delete to tailor their portfolio.

Quick Loan Comparison and In-Depth Analysis: With new loans being added regularly, investors can take advantage of a loan comparison tool that stacks loans side by side for quick review. Investors can use the tool to shortcut the manual process of reviewing and selecting loans one by one. Paired with a new in-depth analysis view, investors can assess and diversify their investments with more control. Every loan detail page displays a standardized dashboard of loan grading factors, including underlying data sources for enthusiasts wishing to dig into the details.

Georgia FinTech Companies- Thinking Globally, Acting Globally

Elizabeth McQuerry
Partner, Glenbrook Partners

With so much of the nation's card processing sector located here and nine of ten Georgia FinTech companies being headquartered in the United States, it's no surprise the typical firm is heavily focused on U.S. market dynamics- with clear exceptions in multi-nationals like First Data and Global Payments.

Nonetheless, the global market is keenly present in the thinking of companies in Georgia. A quick look at some of the ways the global market factors into Georgia business provides more context.

- Acculynk, a payments authentication company, developed a method to authenticate debit cards online that was adopted by RuPay, the national debit card network in India

- BitPay, the largest Bitcoin payments processor, has two-thirds of its merchant clients located outside the U.S., helping them to accept payments in just over 90 countries

- FIS, a conglomerate focused on banking and payments technology, has clients in over 130 countries and is one of the leading companies enabling banks around the world to move their retail payments processing to real time

- Kabbage, the online lending provider, launched its innovative platform in the United Kingdom only four years after its founding here. Merchant-funded rewards provider Cardlytics followed a similar trajectory into the UK.

- Worldpay, a global leader in payments processing with US headquarters in Atlanta, has a core focus of enabling merchants to sell to customers around the world by accepting a broad range of payments, including local payment methods sometimes called alternative payments.

Looking forward, several Georgia companies are focused on emerging niches – the markets for which will certainly grow much larger once electronic payment products become more commonplace globally. Examples here include big data analytics, development of alternative credit scoring techniques, loyalty and affinity programs, as well as SME payments enablement.

Several FinTech companies operating in Georgia are already looking into developing markets outside the U.S. One-fifth of companies responding to TAG FinTech's survey plan expansions into global markets, with India and Mexico specifically called out. This is a prudent strategy, particularly for established players- while the US market for payment services is strong as mature card-based products continue to deliver mid single digit topline growth, according to numerous sources, growth rates in emerging markets (notably India and Latin America) exceed those of the US, Canada and Western Europe.

Respondents ranked diverse regions highly when asked where they intend to pursue growth. The most frequent responses- in descending order- were Southeast Asia, Western Europe, Eastern Europe, South America and Central America.

When asked which global region would represent the highest growth for their companies, survey respondents ranked diverse regions highly – that is, different companies are looking to different global regions for growth. Where are FinTech companies operating in Georgia looking to? In descending order – Southeast Asia, Western Europe, Eastern Europe, South America and Central America – received the most responses.

A Constantly Changing and Necessarily Incomplete View of Georgia's FinTech Players

Thanks to our sponsors

Roughly 100 FinTech companies are headquartered or have significant presence in Georgia

Six of the 10 largest US payment processing firms are Georgia-based

Georgia FinTech organizations employ more than 30,000 professionals in the state and over 130,000 globally

Georgia FinTech companies process over 118 billion transactions per year representing over $2 trillion of purchase volume each year, supporting nearly 4 million merchants

Georgia Financial Technology

Card Processing/POS
B2 Payments USA Inc
Calpian Commerce
Capital Payments, LLC
Elavon
EVO Payments International
First Data
First Performance Global
FIS
Fiserv
FleetCor
Global Payments
Ingenico
NCR
Patientco
Payscape Advisors
PilotHSA
Pipeline Data
Priority Payment Systems
SwiftPayMD
TSYS
Vanco Payment Solutions
Veracity Payment Solutions
VeriFone
Vesta Corporation
Worldpay

Retail Banking Solutions
ACI Worldwide
Benchmark Technology Group
Chexar
Deluxe Corporation
Distra
Gro Solutions
Harland Clarke
ProfitStars (Jack Henry)
Q2ebanking
TaxSlayer
Vsoft

Trade/Payment
ACI Worldwide
Advance Me
CAN Capital
DoubleNet Pay
E*TRADE
FINSYNC
FTRANS
GreenSky Credit
Harland Clarke
Kabbage
LBA Ware
NOWaccount
OnPay
Paymetric
PrimeRevenue
Provider Web Capital
Split
TransCentra
Zurly

Prepaid/Loyalty & Points
Brightwell Payments
Cardlytics
Cartera Commerce
Coindata
Corecard
CorFire (from SK C&C)
Directo
FirstView
InComm
Sionic Mobile
Thanks Again
TSYS

Capital Markets
Cash Flow Analytics
Delta Data
FiPath
FxBridge
GROUNDFLOOR
IAS
Intercontinental Exchange
Lucena Research
Wela

Electronic Billing & Presentment
Digital Insight
FirstView
Fiserv
Official Payments

Identity/Analytics/Risk
Compliance 360
ControlScan
Cyspan
eCredable
Equifax
FactorTrust
FICO
IDology
iLumen
L2C
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For an updated online version of this map, visit www.tagonline.org/wheregeorgialeads/fintech/

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About TAG FinTech

TAG FinTech is the TAG society focused on building an interactive and healthy business environment for Georgia-based payment processing and related financial technology organizations. Launched in 2010, TAG FinTech today represents about 100 organizations comprising eight sub-market sectors that include both very large and established organizations and smaller start-up organizations.

About Georgia Tech's Scheller College of Business

Georgia Tech's Scheller College of Business is located in a state-of-the-art building in Technology Square, the core of the Atlanta's high-tech business community. The College offers an internationally recognized business education, including full-time, evening and Executive MBA options as well as undergraduate and PhD programs, to approximately 2,000 degree-seeking students each year. Scheller College collaborates across Georgia Tech to offer joint MS degrees in Quantitative and Computational Finance and Business Analytics. Custom and open enrollment programs for executives and professionals are offered through the Huang Executive Education Center, located within the College. Scheller College of Business is leading business for the 21st century.

About the Technology Association of Georgia (TAG)

TAG is the leading technology industry association in the state, serving more than 26,000 members through regional chapters in Metro Atlanta, Athens, Augusta, Columbus, Macon/ Middle Georgia and Savannah. TAG's mission is to educate, promote, and unite Georgia's technology community to foster an innovative and connected marketplace that stimulates and enhances a tech-based economy. The association provides networking and educational programs; celebrates Georgia's technology leaders and about 100 companies; and advocates for legislative action that enhances the state's economic climate for technology.

TAG hosts over 200 events each year and serves as an umbrella organization for 34 professional societies. Additionally, the TAG Education Collaborative (TAG's charitable arm) focuses on helping science, technology, engineering and math (STEM) education initiatives thrive.

For more information visit the TAG website at www.tagonline.org
or TAG's community website at www.hubga.com.

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TAG-Ed Collaborative: www.tagedonline.org

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AMERICAN TRANSACTION PROCESSORS COALITION (ATPC) was created to protect, promote and preserve the interests of this critical Georgia industry through proactive public relations and government affairs activities.