

REVIEW OF EMERGING TECH'S IMPACT ON RETAIL OPERATIONS AND LOGISTICS

HEARING BEFORE THE SUBCOMMITTEE ON DIGITAL COMMERCE AND CONSUMER PROTECTION OF THE COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES ONE HUNDRED FIFTEENTH CONGRESS

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WEDNESDAY, MARCH 7, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DIGITAL COMMERCE AND CONSUMER
PROTECTION,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:03 a.m., in room 2123, Rayburn House Office Building, Hon. Robert E. Latta (chairman of the subcommittee) presiding.

Members present: Representatives Latta, Kinzinger, Lance, Guthrie, McKinley, Bilirakis, Bucshon, Mullin, Walters, Costello, Duncan, Walden (ex officio), Schakowsky, Welch, Kennedy, and Pallone (ex officio).

Staff present: Mike Bloomquist, Staff Director; Melissa Froelich, Chief Counsel, Digital Commerce and Consumer Protection; Adam Fromm, Director of Outreach and Coalitions; Ali Fulling, Legislative Clerk, Oversight and Investigations, Digital Commerce and Consumer Protection; Elena Hernandez, Press Secretary; Paul Jackson, Professional Staff Member, Digital Commerce and Consumer Protection; Bijan Koohmaraie, Counsel, Digital Commerce and Consumer Protection; Ryan Long, Deputy Staff Director; Annelise Rickert, Counsel, Energy; Austin Stonebraker, Press Assistant; Madeline Vey, Policy Coordinator, Digital Commerce and Consumer Protection; Hamlin Wade, Special Advisor for External Affairs; Greg Zerzan, Counsel, Digital Commerce and Consumer Protection; Michelle Ash, Minority Chief Counsel, Digital Commerce and Consumer Protection; Jeff Carroll, Minority Staff Director; Caroline Paris-Behr, Minority Policy Analyst; Michelle Rusk, Minority FTC Detailee; and C.J. Young, Minority Press Secretary.

Mr. LATTA. Well, good morning. I would like to call the Subcommittee on Digital Commerce and Consumer Protection to order. And I will now recognize myself for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. ROBERT E. LATTA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Good morning. I would like to welcome our witnesses this morning for today's hearing on Emerging Tech's Impact on Retail Operations and Logistics.

Thank you for being here to help us examine how e-commerce has changed the face of retail, and how both e-commerce and retail

operations are responding in a world where technology, innovation, and consumer expectations are constantly evolving.

Today, U.S. consumers demand the speed and convenience of getting what they want, when and where they want it, including:

- Ordering from their phones and picking up in-store;
- Varied payment options; and
- Different delivery choices, including free shipping.

This was evident during the 2017 holiday season, as 51 percent of last-minute shoppers said they had planned to purchase their gifts online.

E-commerce and catalog sales increased 12.3 percent during the holiday, accounting for 16 percent of all goods sold.

In 2017, 80 percent of shoppers made more than four to seven online purchases in the typical three-month timeframe.

As online shopping continues to gain in popularity and acceptance as in-store shopping, we want to understand how a consumer's decisions impact not only the e-commerce and retail companies, but also supply chain and delivery channels, particularly residential last-mile.

This past holiday season, it struck me how massive the challenge of getting millions of packages processed and shipped to shoppers once they clicked "buy now."

How are purchases able to be delivered to my home in Ohio, or to family members or friends across the country in two days' time or less, often without adding additional changes? If I was in a hurry, I might be able to take advantage of same-day delivery with the help of the new last-mile and independent contractor options, like Instacart or Cargomatic.

When parcel deliveries encounter bad weather and delays, or are misrouted or misplaced, how does that impact—what impact does that have on e-commerce shippers and ordinary shoppers like me? Have the current tracking tools helped give consumers more information about their orders?

Then there is the whole question of returns. What happens to a purchased item when it is returned? When it enters the reverse supply chain for restocking, is it sold on a secondary market, donated to charity, or discarded? I am sure this varies among companies, but I am interested in hearing from our witnesses about their return processes.

This hearing is part of this subcommittee's ongoing effort to explore how the internet and advanced technology impacts our lives, jobs, and economy. Ohio is already home to some of the most highly regarded e-commerce fulfillment and shipping facilities in the country. Many retailers and e-commerce companies have made the investment in fulfillment and shipping operations in my home State because of our outstanding workforce, Ohio's transportation network, and the proximity to major population centers.

For instance, where I live, just about 12 miles north of me where I-75 and the Ohio Turnpike come together, it is within one day's drive of 60 percent of the United States population.

Emerging innovations, such as premium delivery, parcel locker boxes, and drones, will surely challenge the future of the supply chain to provide higher performance to satisfy customers.

The internet and data have had a transformative effect on every industry in this committee's jurisdiction for the better, and also in

presenting new challenges. One of those challenges is consumer data security in the e-commerce landscape. As this subcommittee has learned through numerous hearings on the subject, in exchange for efficiency and convenience, consumers provide companies with personal details, like their addresses, payment card information to complete that order.

The reality is, that process is not going to change. I still need to tell the retailer where to deliver my new book after I pay for it. But continuing to improve security at all points of the supply chain is a critical goal that companies large and small need to be focused on.

There are many interesting elements to this conversation about how new technology is changing how consumers shop and the package delivery system. I look forward to hearing from our witnesses today about their experience with this transformation.

[The prepared statement of Mr. Latta follows:]

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Good morning. I would like to welcome to our witnesses for today's hearing on "Emerging Tech's Impact on Retail Operations and Logistics."

Thank you for being here to help us examine how e-commerce has changed the face of retail, and how both e-commerce and retail operations are responding in a world where technology, innovation and consumer expectations are constantly evolving.

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Mr. LATTA. And with that, I will yield back the balance of my time. And at this time, we will formally pass on the ranking member of the subcommittee and go to the ranking member of the full committee, the gentleman from New Jersey, for 5 minutes.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman. There's no question that the internet has changed the way we live nearly every aspect of our lives. It certainly has changed the way we shop. At any hour of the day, by phone, tablet, or a smart speaker on our kitchen counter, we have access to a dizzying array of products that appear almost magically at our doorstep overnight.

The evolution of e-commerce presents exciting opportunities for business. And I look forward to learning more about the new technologies that are making it possible.

The consumer benefits of e-commerce are obvious: ease of shopping, unlimited selection, and the convenience of fast home delivery or easy in-store pickup. Consumers of every demographic appreciate the advances of online shopping. Yet, as in all online activities, the constant amassing of personal information that makes benefits of online shopping possible presents privacy and data security concerns.

We also know that the sophisticated algorithms analyzing all that data can have structural flaws that create racial and other biases and in how products are marketed, priced, and delivered. Additionally, the growth of e-commerce has increased freight traffic in our residential neighborhoods, and led to more packaging waste than necessary.

Now, I am particularly concerned that the trend toward e-commerce is increasingly resulting in consumers purchasing counterfeit goods. Just last month, the Government Accountability Office released a report finding that of 47 products it purchased from third-party sellers hosted by major e-commerce website, 20 of those 47 were counterfeit. While we all want more choice, consumers do not want fake products, especially counterfeits that are dangerous, such as cosmetics laced with lead or mercury.

And today I wrote to five e-commerce websites GAO investigated asking them to explain how they are addressing the problem of sales of counterfeit products through their platforms. And I hope

our discussions at this hearing will include a review of the consumer protection challenges that I have mentioned.

The commerce landscape is changing for sellers, as well. Online sellers are reaching a larger, more diverse customer base around the world. Low start-up costs allow even more people to benefit from online selling. Moreover, sellers are able to reach customers at all hours and employ workers who need a flexible work arrangement.

At the same time, I am troubled by two big hurdles small businesses face in the growing world of e-commerce. The first is an outdated and decaying infrastructure. Our energy grid is precarious and inefficient, something as basic as clean water supply is not a given, and many areas of our country still lack reliable broadband access.

And the second is the FCC's dismantling of free and fair access to the internet, or net neutrality. And this action by the Trump FCC will significantly handicap any business without major economic clout.

Committee Democrats in May took on the infrastructure crisis by proposing \$40 billion for secure and resilient broadband. This is part of our LIFT America Act. And we must stay focused on making reliable broadband access a reality everywhere. It's essential to small retailers in both rural and urban communities. And, of course, net neutrality is essential for small retailers. Without free and open access to the internet, the entrepreneurs that drive our economy will struggle to survive, let alone thrive.

And last year I toured four businesses in Asbury Park, which is a city in my congressional district, and I witnessed firsthand just how integral the internet is to engaging new customers and generating sales.

So, we should also be mindful of how the decline of physical stores, the rise of large fulfillment warehouses, and the incorporation of robotics and automation into the supply chain will affect the job market. And I am not suggesting we resist innovation, but that we continue to assess how to ensure our workforce is able to adjust to the shifting marketplace.

Again, I thank all of you. It is going to be interesting to see what you have to say. And I yield back.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

There is no question that the internet has changed the way we live nearly every aspect of our lives. It certainly has changed the way we shop. At any hour of the day, by phone, tablet, or a smart speaker on our kitchen counter, we have access to a dizzying array of products that appear almost magically at our doorstep overnight. The evolution of e-commerce presents exciting opportunities for business, and I look forward to learning more about the new technologies that are making them possible.

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Committee Democrats, in May, took on the infrastructure crisis by proposing \$40 billion for secure and resilient broadband. We must stay focused on making reliable broadband access a reality everywhere. It is essential to small retailers, in both rural and urban communities.

Net neutrality is also essential for small retailers. Without free and open access to the internet, the entrepreneurs that drive our economy will struggle to survive, let alone thrive. Last year, I toured four businesses in Asbury Park and witnessed firsthand just how integral the internet is to engaging new customers and generating sales.

We should also be mindful of how the decline of physical stores, the rise of large fulfillment warehouses, and the incorporation of robotics and automation into the supply chain will affect the job market. I am not suggesting we resist innovation, but that we continue to assess how to ensure our workforce is able to adjust to this shifting marketplace.

Thank you, I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back. And the Chair now recognizes the gentleman from Oregon, the chairman of the full committee, for 5 minutes.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Well, thank you, Mr. Chairman. Thanks for doing this very important hearing on the future, again, of emerging tech impact on retail operations and logistics.

My district is home to a number of data centers: Google, Facebook, Apple, Amazon. Pretty impressive, the build-out that is going on there, the jobs that come with it, and how our economy is changing dramatically and rapidly. So this is really another part of our hearing sequence of looking at the future in innovation and legacy rules and regulations that actually can constrain and hold back innovation.

The internet's incredible ability to transform old ways of doing business is by now widely known. And in the retail space, e-commerce has closed this gap between buyer and seller to the point where, you know, I can use this phone sitting right here and order whatever I need, and have it delivered by tomorrow, or perhaps sooner than that, I don't know. Well, I guess Uber Eats or some-

thing I can get—hey, what am I getting for lunch? I should figure this out.

The long and the short of it is, the customer is in charge. And that's the way markets really work. And, you know, we want to make sure this marketplace continues to grow and that we don't stand in the way with Federal policy in things that inhibit.

I would just say on the issue of net neutrality, it was really hard for these little start-up companies to ever get off the ground prior to Tom Wheeler's decision on net neutrality. That's why these little start-ups we know today like Amazon, Google, Facebook, et cetera, et cetera, by the way all blossomed prior to these rules. And I think you are seeing a complete overplay on the opposition to net neutrality. I don't think it is well understood.

But anyway, going forward we see this enormous change going on in shipping. We see the change in the workforce needs. And we want to make sure that the market works, that there is space for innovation and competition. And we are more than happy to legislate in this space to prevent bad behavior on the internet, such as throttling and blocking and some of those things that I think we can find common ground on, we can enshrine in statute, and give certainty to the market as opposed to ping-ponging back and forth between courts and FCCs. And we would welcome a bipartisan effort to do that.

At the same time, the shoppers are benefitting from lower costs and greater choices. This revolution in logistics allow Americans to find a product online, purchase it, have it delivered to their homes in a few days or hours. Companies are experimenting with drones. I was down at Google X with Sergey Brin as he was running one of their drones on the rooftop, showing how he could do package delivery and the speed with which they can bring you whatever you need. And so we need to look at what Federal issues are in the way of allowing that to move forward.

And then you have changes in manufacturing, with the 3D printing holding potential to allow on-demand creation of products from "local" manufacturers. And so the internet revolution, continues. And public policy has to evolve with it. And our goal here is to put the customer first.

And so, Mr. Chairman, thanks for your good work and bipartisan way as we move forward in this endeavor. And with that, I yield back the balance of my time.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Good morning. Today we are examining the impact of technology on the retail industry and the delivery of goods and services to consumers. This hearing is part of this subcommittee's ongoing effort to explore the ways in which the digital revolution has impacted our economy and our country.

The internet's incredible ability to transform old ways of doing business is by now widely known. In the retail space, e-commerce has closed the gap between buyer and seller to the point where I can order anything, from anywhere, right on my phone. Customer demand has always driven changes in the retail industry. As we all know, "the customer is king (or queen)."

From the days of the earliest marketplaces, people would gather in person to barter or exchange money for goods. This model continued for thousands of years; in the U.S. "main street" became a metaphoric and literal place for shopkeepers to advertise and sell their wares.

This persisted until another innovation seriously pressured the old way of doing business—in 1956 the world's first completely indoor Mall opened in Minnesota, a concept that soon spread through the U.S. and eventually across the globe.

Starting in the 1990s the internet sparked yet another revolution in shopping, the impacts of which continue to unfold. The ability of the internet to remove barriers is as easy to understand as it is to pull out your phone and order pretty much anything you want—a sandwich for lunch, a pair of jeans, or a mattress. And you'll probably be able to find free 2-day shipping.

The internet allows buyers and sellers to communicate directly, compare products and prices, without ever leaving home.

The changes this has wrought continue to be felt across industries. Many of America's twelve hundred malls are now feeling the same pressures that the Main Street general stores felt in the latter part of the 20th century.

At the same time, shoppers benefit from lower costs and greater choices. Revolutions in logistics allow Americans to find a product online, purchase it, and have it delivered to their homes in a few days, or even hours. Companies are experimenting with drones and other delivery options to narrow that timeframe still further. Meanwhile, changes in manufacturing such as 3D printing hold the potential to allow on-demand creation of products from local "manufactories" that could revolutionize supply chains still further.

The internet revolution also creates new challenges. The Energy and Commerce committee has been looking at ways to ensure Americans' privacy, and protect consumers' personal information from hackers and those that would seek to do harm. We have also been examining how algorithms can be used to try to persuade or even manipulate people.

At today's hearing I hope our witnesses can help further our understanding of this revolution: how are your companies responding to it, what challenges and opportunities it presents, and most of all, how it can help consumers. I hope you will share with us any ways in which policymakers can remove barriers or promote policies that will further competition and protect consumers.

The internet revolution is radically changing our world. As we continue to examine these issues we will seek to ensure that Americans continue to benefit from the blessings of technology, while keeping a watchful eye out on how we might protect them from harm.

Thank you to all the witnesses for appearing before us today.

Mr. Chairman, I yield back the balance of my time.

Mr. LATTA. Thank you very much. The gentleman yields back. And the Chair now recognizes the gentlelady of Illinois, the ranking member of the subcommittee, for 5 minutes.

OPENING STATEMENT OF HON. JANICE D. SCHAKOWSKY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Ms. SCHAKOWSKY. Thank you very much, Mr. Chairman. And thank you to all our witnesses today.

The internet has literally revolutionized how Americans shop. Consumers and businesses are less bound by geography. E-commerce opens up the door to new opportunities and greater competition. E-commerce doubled from 2011 to 2016. In fact, it's growing 5 times faster than traditional retail. These numbers come as no surprise, given the number of delivery trucks we see on our streets and the packages piled up on the doorsteps and mailrooms across the country.

As with other technological changes this subcommittee examines, e-commerce comes with other new challenges. Businesses must attract consumers to their websites, provide a convenient and secure shopping experience, and then literally deliver the goods. The U.S. Postal Service and private delivery service must transport a growing number of packages. Our infrastructure, physical and digital, must handle orders as they come in and ship out. States and cities

must deal with changes to their revenue, not to mention collection of trash and recycling. And workers must adapt as jobs move from retail stores to customer service, tech support, and supply chain.

The shift of consumers to the internet is especially difficult for small businesses. They have fewer resources to build a strong online presence. While a big player like Amazon can offer free shipping and get consumers to sign up for annual memberships, small businesses generally don't move enough product for that kind of business model.

Unique challenges of building a successful business online only add to longstanding struggles such as access to capital and attracting quality workers. As we improve the resources that the Federal Government makes available to small business owners, we must factor in the growth of online retail.

We also need to consider e-commerce as we advance infrastructure legislation. The internet can connect a business in rural Vermont, for instance, to a consumer in suburban Chicago, and both need access to reliable broadband. If we invest in broadband, we can expand business opportunities in both our large cities and smallest rural communities. But if broadband only reaches the area where it is most profitable, millions of entrepreneurs, workers, and consumers will be left behind.

In addition, expanding opportunity through e-commerce requires a fair playing field. Net neutrality is fundamental to the innovation we have seen on the internet. The FCC's vote in December to undo net neutrality protection puts that innovation at risk. Without net neutrality, a broadband provider can charge a business extra to make its website load faster. The big names in e-commerce can afford to pay off broadband providers, but for a small business trying to sell nationwide, paying new fees to every broadband provider to load its website as fast as big corporate competitors may be prohibitively expensive.

Consumers deserve better. That is why I have co-sponsored Congressman Mike Doyle's legislation to restore net neutrality and protect fair online marketplace.

Before I finish, I would like to take a moment to introduce David Borris. Mr. Borris founded Hel's Kitchen in Northbrook, Illinois. In addition to running a successful business, Mr. Borris serves on the executive committee of Main Street Alliance, a national network of small businesses committed to being inclusive, sustainable, and trusted members of our community.

I look forward to hearing from Mr. Borris and the rest of our witnesses as we explore the challenges and opportunities presented by e-commerce.

And I thank you, Mr. Chairman. I yield back.

[The prepared statement of Ms. Schakowsky follows:]

PREPARED STATEMENT OF HON. JANICE D. SCHAKOWSKY

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The shift of consumers to the internet is especially difficult for small businesses. They have fewer resources to build a strong online presence. While a big player like Amazon can offer free shipping and get consumers to sign up for annual memberships, small businesses generally don't move enough product for that kind of business model.

The unique challenges of building a successful business online only add to long-standing struggles such as access to capital and attracting quality workers. As we improve the resources that the Federal Government makes available to small business owners, we must factor in the growth of online retail.

We also need to consider e-commerce as we advance infrastructure legislation. The internet can connect a business in rural Vermont, for instance, to a consumer in suburban Chicago—but both need access to reliable broadband. If we invest in broadband, we can expand business opportunities in both our largest cities and smallest rural communities. But if broadband only reaches the areas where it is most profitable, millions of entrepreneurs, workers, and consumers will be left behind.

In addition, expanding opportunity through e-commerce requires a fair playing field. Net neutrality is fundamental to the innovation we have seen on the internet.

The FCC's vote in December to undo net neutrality protections puts that innovation at risk. Without net neutrality, a broadband provider can charge a business extra to make its website load faster. The big names in e-commerce can afford to pay off broadband providers. But for a small business trying to sell nationwide, paying new fees to every broadband provider to load its website as fast as a big corporate competitor's may be prohibitively expensive.

Consumers deserve better. That's why I have cosponsored Congressman Mike Doyle's legislation to restore net neutrality and protect a fair online marketplace.

Before I finish, I'd like to take a moment to introduce David Borris. Mr. Borris founded Hel's Kitchen, in Northbrook, Illinois. In addition to running a successful business, Mr. Borris serves on the executive committee of the Main Street Alliance—a national network of small businesses committed to being inclusive, sustainable, and trusted members of their communities.

I look forward to hearing from Mr. Borris and the rest of our witnesses as we explore the challenges and opportunities presented by e-commerce. Thank you, Mr. Chairman. I yield back.

Mr. LATTA. Thank you very much. The gentlelady yields back. This now concludes the Member opening statements.

The Chair reminds Members that, pursuant to the committee rules, all Members' opening statements will be made part of the record.

Again, we want to thank our witnesses for being with us today and offering testimony before the subcommittee. Today's witnesses will have the opportunity to give 5-minute opening statements, followed by a round of questions from our Members.

Our witness panel for today's hearing include Mr. Rob Taylor, CEO of Convey; Mr. Dan Sanker, founder, president, and CEO of CaseStack, Inc.; Mr. David Borris, founder of Hel's Kitchen and Executive Committee member of Main Street Alliance; and Mr. Jonathan Johnson, member of the board of directors at Overstock.com, and president of Medici Ventures.

And, again, we want to thank you all for being with us today. And we will start with Mr. Taylor. You are recognized for 5 minutes for your statement. Thank you very much.

STATEMENTS OF ROB TAYLOR, CHIEF EXECUTIVE OFFICER, CONVEY, INC.; DAN SANKER, FOUNDER, PRESIDENT, AND CHIEF EXECUTIVE OFFICER, CASESTACK, INC.; DAVID BORRIS, MEMBER, MAIN STREET ALLIANCE EXECUTIVE COMMITTEE AND OWNER, HEL'S KITCHEN; AND JONATHAN E. JOHNSON III, MEMBER, BOARD OF DIRECTORS, OVER-STOCK.COM, AND PRESIDENT, MEDICI VENTURES

STATEMENT OF ROB TAYLOR

Mr. TAYLOR. Chairman Latta, Ranking Member Schakowsky, and members of the subcommittee, it is a privilege and honor to provide testimony on this important subject. My name is Rob Taylor, and I am co-founder and CEO of Convey, a software company headquartered in Austin, Texas.

We partner with many of the Nation's largest retailers to help them gain supply chain visibility for customer deliveries, prevent those deliveries from failing, and ultimately provide improved customer experiences. We sit squarely at the intersection of technology, retail last-mile supply chain, and consumer experience.

Over the past 20 years, I have helped build several successful companies focused on providing enhanced, transparent retail consumer experiences. At Convey, we are helping our retail customers differentiate on the emerging competitive frontier—providing predictive, proactive e-commerce delivery experiences to consumers.

A confluence of factors is creating opportunities for innovation and differentiation in the last-mile retail supply chain.

E-commerce growth continues to explode, projected to represent 1 in every 8 retail dollars spent in 2020.

The Amazon effect continues to raise the bar in all aspects of consumer experience, including redefining consumer expectations for fast, free delivery.

The online sales growth of big and bulky items, such as furniture and appliances, require more complex last-mile carrier networks, and expansion into other delivery modes such as residential freight, where capacity and connectivity is limited, appointments must be set, and drivers need to enter consumers' homes.

Collectively, these trends create not only transport challenges, but also significant data and visibility challenges for retailers to effectively serve their customers.

Carrier networks for retailers are expanding. Several of our customers work with 100 or more carriers just for last-mile deliveries. Each of these carriers produce unique tracking data that requires integration with disparate retailer systems. There is no industry standard for the production and use of this information.

So why does enhanced visibility matter? We know 4 to 10 percent of all last-mile shipments are at risk of leading to a negative consumer experience. Yet, 70 percent of these exception cases have the potential to get back on track through proactive carrier collaboration or customer communication.

Delivery failures inevitably reflect poorly on the retailer, not the carrier, given the retailer's brand relationship with the consumer. Survey data confirms that retailers who are unable to uphold their delivery promise risk losing customers, with 70 percent of con-

sumers indicating they would abandon a retailer after one failed delivery.

Convey was conceived to help retailers solve these challenges. We believe the last mile represents the most important opportunity for retail innovation. Our application ingests millions of data streams from carrier and retail systems, and transforms this data using machine intelligence to highlight distressed shipments early enough for all parties to collaborate, remediate, and head off a potential negative consumer experience. From this, our retail customers see reductions in call center activity, faster delivery times, reduced transportation costs, and increased customer satisfaction.

Emerging technologies like ours that increase efficiency, speed, and transparency for shippers, consumers, and carriers ensure that the future of the retail experience looks bright. Intelligent, self-healing, and adaptive delivery networks are not far away. These transportation innovations will lead the way for other supply chains beyond retail, including healthcare, parts distribution, and more.

While the consumer clearly benefits from these innovations, care must be taken for consumer safety and privacy, particularly as more data is produced through the Internet of Things, and consumers require more in-home deliveries, whether or not they are present in the home. There is also more sharing of data across an increasing number of last-mile ecosystem participants, requiring diligent and shared accountability.

In summary, local carrier capacity and connectivity, data security, and consumer safety and privacy are all relevant issues the subcommittee may wish to consider related to the retail last-mile supply chain.

I want to thank the Members for the opportunity to share some perspective with you today.

[The prepared statement of Mr. Taylor follows:]

Testimony to the House Subcommittee on Digital Commerce and Consumer Protection

Hearing: Review of Emerging Tech's Impact on Retail Operations and Logistics

Wednesday, March 7, 2018

Rob Taylor

CEO, Convey, Inc.

Summary:

- This year, over 70% of Americans will make a purchase online, flooding carrier networks and overwhelming dated customer service systems. With the boom in e-commerce and the Amazon Effect training customers to expect a seamless customer experience, success is defined by the ability to meet delivery expectations.
- As retailers aim to meet consumer demands, they face a new influx of transportation challenges that include implications for operations, customer care teams, the customer experience, and the management of expanding carrier networks. Each carrier produces tracking and distressed shipment data differently, and retailer and carrier systems don't speak to each other effectively or efficiently. Emerging technologies such as Convey exist to connect retailers, carriers, and consumers to solve these challenges and provide better customer fulfillment experiences.
- While the consumer clearly benefits from these innovations, care must be taken for consumer safety and privacy, particularly as more data is produced through the "Internet of Things" (IoT) and consumers require more in-home deliveries, whether or not they are present in the home.

Written Statement:

Chairman Latta, Ranking Member Schakowsky and Members of the Subcommittee,

It is a privilege and honor to provide testimony on this important subject.

My name is Rob Taylor and I am co-founder and CEO of Convey, a software company headquartered in Austin, Texas. Over the past four years, we have partnered with many of the nation's largest retailers to help them gain supply chain visibility for customer deliveries, prevent deliveries from failing and ultimately provide improved customer experiences. We sit squarely at the intersection of technology, retail last-mile supply chain and consumer experience.

Over the last 20 years, I have helped build three successful companies focused on providing enhanced, transparent retail consumer experiences.

At TrueCar, now trading on the NASDAQ exchange, we reinvented the auto buying process through up front, transparent pricing that benefits both dealers and consumers.

At Blacklocus, we helped retailers compete on price and assortment in an increasingly Amazon-dominated retail environment. Blacklocus was acquired by The Home Depot in 2012 and continues to grow and provide technology jobs in Austin.

And now at Convey, we are helping our retail customers differentiate on the emerging competitive frontier - providing predictive, proactive eCommerce delivery experiences to consumers.

A confluence of factors is creating new opportunities for innovation and differentiation in the last-mile retail supply chain.

The Changing Commerce Landscape

eCommerce continues to grow exponentially, projected to represent 1 of every 8 retail dollars by 2020 according to eMarketer. The same forecast reports that ~70% of Americans (190.3 million) will make a purchase online this year.

As a result of this growth, more shipments than ever before are flooding carrier networks. Over the 2017 holiday season it was projected that the three major parcel carriers, USPS, UPS and Fedex, transported more than 1.9 billion shipments.

Additionally, online growth of big and bulky item sales, such as furniture and appliances, requires more complex last-mile carrier networks and expansion into new delivery modes such as residential freight. According to Forrester, e-commerce purchases of furniture are projected to grow at a compound annual rate of about 15% from 2014 to 2019.

Consequently, retailer transportation networks are expanding to include more regional, same-day parcel, less-than-truckload, and white glove carrier partners. Many of our customers work with ten, twenty, even one hundred or more carriers for last-mile consumer delivery.

Evolving Consumer Expectations Create Transportation Challenges

Digital technology is rapidly changing the world we live in, as well as the way we live in it, impacting how we shop. By demonstrating how technology can be leveraged to provide customers a more transparent and efficient delivery experience, Amazon and other e-commerce giants have transformed the retail ecosystem.

Most consumers now expect a shopping experience that is centered around their lifestyle -- visible, seamless, and prompt. Consumers opt for faster delivery options, and they expect to have their purchases delivered within days, if not hours. In fact, a survey by same-day delivery provider, Dropoff, found that more than half (61%) of consumers have abandoned a purchase due to slow delivery options.

For retailers not equipped to meet these demands, the stakes have never been higher. A Convey survey of 1,500 consumers found that 70% of shoppers would abandon a retailer after a single poor delivery experience, and 40% report delivery is now the single most decisive factor of the shopping experience.

Furthermore, consumer demands have moved beyond “free” and “fast” to include “commitment,” “communication,” “convenience,” and “control,” placing additional strain on transportation networks already struggling with ever-increasing volumes.

A 2017 Convey consumer survey highlighted some of these trends. Below are a few of the most interesting findings:

- When asked to choose the most important delivery factor during the holiday season, 52% cited delivery date related factors.
- Over 95% of shoppers reported that they expect retailers to proactively respond if the carrier’s estimated delivery date changes while a shipment is in transit.
- Over 90% expect some form of action or compensation for missed promise-by dates.
- 93% reported that they want proactive updates from retailers about their shipments. 41% of shoppers expect to be notified immediately in the event of an issue.
- 97% expect to either be able to self-serve or interact with the retailer directly to resolve delivery issues. Today, a huge disconnect exists here, as many retailers, including those acutely focused on customer service, do not have the tools or processes in place to meet this need—often responding reactively to inbound calls and in many cases sending shoppers to brave a carrier’s 1-800 number.

Data, Visibility, and Collaboration are Required to Succeed

Collectively, these trends create significant transport, data silo, and visibility challenges. Each carrier produces tracking and distressed shipment data differently, and retailer and carrier systems don’t speak to each other effectively or efficiently.

Why does enhanced visibility matter?

In a Convey and eye for transport survey of 200 retail supply chain leaders, 83% reported that the customer experience is now a company-wide goal that they are feeling pressure to improve. From the millions of shipments running through our platform, we know 4-10% of all last mile shipments are at risk of leading to a negative customer experience. Yet, 70% of these exception cases have the potential to get back on track through proactive carrier collaboration or customer communication.

Delivery failures inevitably reflect poorly on the retailer, not the carrier, because the retailer has the brand relationship with the consumer. According to same-day delivery provider, Dropoff, when delivery goes poorly, 94% blame the retailer, while as few as 42% blame the delivery provider. Businesses that are unable to uphold their delivery promise risk losing customers, and damaging their reputation. Because of this, 56% of the retailers surveyed report that customer experience metrics are now becoming key to making operational decisions. However, challenges remain -- only 3% of retailers reported that they have current systems that fully support their efforts to improve the customer delivery experience while 66% said their existing systems do nothing at all to improve the delivery experience.

Convey was conceived to help retailers solve these challenges and provide better customer fulfillment experiences. We believe the last mile provides the most urgent opportunity for competitive innovation in retail. Our control tower application ingests millions of data streams from carrier and retail systems on behalf of our customers and transforms this data using

machine intelligence to highlight distressed shipments early enough for all parties to collaborate, remediate and head off a potential negative consumer experience. From this, our customers see reductions in call center activity, faster delivery times, reduced transportation costs, and increased customer satisfaction.

Emerging technologies, like ours, that increase efficiency, speed, and transparency for shippers, consumers, and carriers, ensure that the future of the retail experience is bright. We continue to invest in machine learning technologies that will ultimately improve last mile predictability, make adjustments in real time, and communicate with consumers about their delivery. We believe a future with intelligent, self-healing, and adaptive delivery networks is not far away. We also believe these transportation innovations will lead the way for other supply chains beyond retail including healthcare, building materials, parts distribution, and more.

Changing Transportation Models Should be Monitored for Risks to Safety, Security and Privacy

While the consumer clearly benefits from these innovations, care must be taken for consumer safety and privacy, particularly as more data is produced through the “Internet of Things” (IoT) and consumers require more in-home deliveries, whether or not they are present in the home. There is also more sharing of data across an increasing number of last mile ecosystem participants, requiring diligent and shared accountability.

In summary, local carrier capacity and connectivity, data security, and consumer safety are all relevant issues the Subcommittee may wish to consider related to the retail last mile supply chain.

I want to thank the Members for the opportunity to share some perspective with you today.

Mr. LATTI. Well, thank you very much for your testimony this morning.

And, Mr. Sanker, you are recognized for 5 minutes.

STATEMENT OF DAN SANKER

Mr. SANKER. Thank you, Chairman Latta, Ranking Member Schakowsky, and members of the subcommittee for this opportunity to testify before you today.

My name is Dan Sanker. I am the founder, president and CEO of CaseStack. In simple terms, what we do is we bring clients' products into warehouses on the West Coast, in L.A. and Seattle; in the middle, in Dallas, Chicago, Toronto; and on the East Coast, in Atlanta and Scranton. And then what we do is we collaborate with retailers, like an Amazon, Walmart, Whole Foods, Kroger, Target, and a lot of others, and mostly what we do is create multi-supplier orders—so, they are destined for retailers and consumers—and what that does is it, on average, converts what would have been about 16 loads going someplace to one efficient truckload. The result for supply chains is less time in transit, less damages, less wasted miles and empty space on trucks, and less environmental impact, and ultimately lower prices for consumers.

We are currently developing a new division of CaseStack called SupplyPike. The expectation there is that we will spin that off, and it will be a leading cloud-based platform for supply chain management professionals in consumer packaged goods. The CaseStack cloud-based technology platform already enables consumer packaged goods companies to manage everything from merchant interaction, account management, improvements in sourcing and forecasting, item setups, sell-through optimization, logistics, and business analytics.

The SupplyPike technology platform is going to open that up to probably more than a half a million, we think, people that are in supply chain management in our industry.

One of the other things, our company considers blockchain to be important for supply chain. That is probably one of the areas it is most applicable to. We are incorporating that into the applications. We are already taking Bitcoin as a payment mechanism just recently.

Other big issues for me: sustainability. I moved out to Arkansas when Walmart was very focused on a groundbreaking sustainability initiative. I started a 501(c)(3) to try to help drive that.

Now what I see, though, is a very big reversal in some of the progress that we had made because of all the packaging kind of coming back. Packages started coming back with a vengeance to accommodate the needs for logistics of e-commerce and long-tail distribution. We have got boxes that are stuffed with paper and plastic dunnage that are driven to people's houses in thousands of trucks. Many of those are carrying items that might be as small as a box of pencils, but they are getting the gas mileage of something like an 18-wheeler. So it is obviously not the same.

Recently I posted an article on LinkedIn that was really well received. It got tens of thousands of people interested and a lot of comments about how I ordered a box of cereal online. I spent about \$3.00. It was \$3.64, free shipping—it is a pretty good deal for a box

of cereal. But there is really nothing free about it. There is nothing free about free shipping. There is not anything really normal or remotely sustainable about the fact that it's two pounds of cardboard and paper, 6 feet of tape, about a gallon of diesel fuel, and a lot of labor to get that box of Reese's Puffs to my house so that we could eat the cereal.

It feeds into the capacity issue. If you were to book a truckload from here to somewhere today, you would pay about 31 percent more than you would have a year ago. You would be out vying for that truckload with 5.5 other people looking for a truckload. About a year ago, you probably would have been vying for that same truckload with one or two other people. So, obviously, prices are going to continue to go up.

Warehousing is also extreme because e-commerce uses about 6 times as much warehousing as bricks-and-mortar retail. So those are some of the challenges.

Now, some of the opportunity there is this is going to create millions of jobs in supply chain. And as the demand goes up, salaries will probably go up.

Finally, I would be remiss if I didn't thank Congress for helping with entrepreneurial wherewithal and building entrepreneurial capacity. I am in a pretty rural part of the U.S. in Arkansas, and we have a really good, budding venture scene happening. And some of that is attributable to things like the SBA Regional Innovation Cluster funding, the Department of Commerce EDA i6 funding, and those are great for helping train future entrepreneurs and help the region plan.

So I am looking forward to answering any questions you may have and, again, humbly appreciate the opportunity and attention and consideration today. Thank you.

[The prepared statement of Mr. Sanker follows:]

Written Testimony of

Mr. Dan Sanker, Founder, President and Chief Executive Officer,
CaseStack, Inc.

Before the
Subcommittee on Digital Commerce and Consumer Protection
Committee on Energy & Commerce
U.S. House of Representatives

“Review of Emerging Tech’s Impact on Retail Operations and Logistics”

March 7, 2018

Thank you, Chairman Latta, Ranking Member Schakowsky, and members of the Subcommittee, for the opportunity to testify before you today.

I am Dan Sanker, Founder, President & CEO of CaseStack, Inc. We work closely with large retailers to create collaborative programs that help take waste out of supply chains for about 2,000 clients. In simple terms, we bring our clients’ products into warehouses in Los Angeles, Seattle, Dallas, Chicago, Toronto, Atlanta and Scranton. Then, we work with retailers like Walmart, Amazon, Whole Foods, Kroger, Target and others to create multi-supplier orders destined for those retailers - and ultimately consumers. On average, each of our trucks, like the 600 that will go out to Walmart Distribution Centers this week, will include an average of 16 less-than-truckload orders. By collaborating with the retailers as they create those orders, we transform those otherwise 16 truck deliveries into one very efficient combined, perfectly weighed-out, cubed-out truckload. We have other offices in the Bentonville area, Cincinnati, Minneapolis and Seattle where we actively work with large retailers like Walmart, Kroger, Target, Whole Foods and Amazon. The result for supply chains: Less time in transit, less damages, less wasted miles and empty space, less environmental impact, and ultimately lower prices for an American consumer. No mom, trying

to make ends meet should be paying for an inefficient supply chain, and our kids shouldn't be impacted by any more gas emissions than is necessary.

Our company has been fortunate to have been recognized as #1 in the Deloitte Technology Fast50, made the Inc 5000 list of fastest-growing companies in America nine times and has been recognized as one of the Best Places to Work in two states: California and Arkansas. CaseStack was recognized as Global Logistics & Supply Chain Strategies "100 Great Supply Chain Partners" and Food Logistics Top 100. The Company was also acknowledged for its technology innovation and service by PC Magazine.

Prior to starting CaseStack, I worked with some of the best industry mentors a person could ask for while at Procter & Gamble, Nabisco, Deloitte, and KPMG. Prior to all of that I studied in the US and abroad, and I keep pretty involved in the happenings domestically and internationally on supply chain, logistics, tech, retail and consumer packaged goods. I also have about 400,000 LinkedIn followers who help me stay connected and two Generation Z teenage boys who are unusually tech-centric and keep me current.

We are currently developing a new division of CaseStack called SupplyPike with the expectation that it will spin off to become the leading cloud-based platform for supply chain professionals in the consumer goods industry. The CaseStack cloud-based technology platform already enables consumer packaged goods companies to manage everything from merchant interaction, account management, improvements in sourcing & forecasting, item setups, sell-through optimization, logistics and business analytics. The SupplyPike technology platform will open that up to more of the half-million Americans who are somehow involved in the supply chain as supply chain professionals.

Hopefully that gives some background as to where my thoughts come from. It's all a great vantage point where I get to see the effects of supply chain innovation on consumers, retailers, trucking companies, warehouses, technology companies, and thousands of consumer packaged goods suppliers. Some are household names with products you probably used this week, and many are emerging companies; like a small family rice farm in Arkansas that is packaging products that will sell around the globe.

So, what is currently top-of-mind:

Education - As a company, we are investing a lot into training our next group of technology developers and job creators. When it comes to tech, there is somewhat of a divide in the US. The first-tier tech clusters (Silicon Valley being the most obvious) aren't the only places where there are talented tech developers. We are working with Universities, but more importantly we are working with high schools throughout Arkansas to engage students in technology; providing inspiration and a path for kids to transform themselves from technology users (i.e. game and app players), to technology makers. My two boys attend what has been rated as the best high school in Arkansas, but even there they have very limited access to some technology tools or training. I sometimes see kids taking computer classes without computers. Anyone here with kids knows that they grow up fast. As a business person, I also know that we'll be recruiting from this pool of candidates in just a few years. We'll need these kids to have experiences that they're just not getting. Our Company is doing what we can; literally with high school interns in our office every week, and we're hosting meetups and conferences. But, I would urge Congress to take every chance to allocate resources to schools that also support our meritocracy; get the talented kids access to training and tools.

Sustainability - I moved to Arkansas about 10 years ago; mainly because Walmart had embarked on a ground-breaking sustainability initiative. At the time, I started a 501c3 called Green Valley Network to help foster sustainability in supply chain, consumer packaged goods and retail. We all got a lot done; there were simple concepts like removing the excessive packaging on childrens' toys, adding fuel-efficiency equipment to trucks, using solar energy on our warehouse roofs, experimenting with alternative fuels in our trucks - and most importantly our core consolidation business; taking wasted truck miles and space off the roads. I'm sure you've seen the great statistics over time as traditional retail business pushed to remove waste - waste that hurt the environment and cost American consumers money. Now, consider what's happening in a post-traditional retail environment. The long tail of commerce is here and that alone means that all of us consumers have access to our favorite niche items. We all see the effects on our doorsteps, and in our garbage pails every week. As an industry that spent a decade removing wasteful packaging; we are now in a mad dash to add packaging, so that products as small as your favorite niche product can ship directly to your house. It was once one of the most efficient supply chains in the world - imagine full truckloads shipping from factories to retailers; then consumers self-serving by driving to the store and loading up their cars with groceries. It was a model that didn't need a lot of wasteful packaging, that consolidated products for optimal efficiency. That is being replaced by an entire supply chain that is built to handle small volume, long tail items. They move in frequent, smaller and less-efficient shipments in a supply chain that consumers never see, and they are delivered in boxes stuffed with paper and plastic dunnage destined for landfills and driven to your house on thousands of small trucks; many only carrying a small item, but burning almost as much fuel as an 18-wheeler. About 10 years ago, I learned from sustainability experts that sustainability is really a state of mind. There isn't usually a magic button; instead it requires that each of many decisions

consider sustainability all the time. So, I would urge Congress to include sustainability into decisions. For example, are there externalities that we'll all pay for later? Is the full cost of small package delivery actually being paid for - as it all uses public infrastructure from roads, the USPS, publicly-supported waste disposal, etc.

Capacity - Will eCommerce requirements somehow be constrained by capacity? In our industry, sometimes, I feel like there is an 'everything shortage.' There is a driver-shortage to drive the trucks that move the products around - during the holidays this past December we had a week where there were lanes where there was only one available truck and seven loads needing to use it. eCommerce is a heavy warehouse user - traditional retail relies on storefronts while eCommerce pushes most of that work to warehouses. Our warehouse partners estimate that an eCommerce dollar uses up to six times as much warehouse capacity as a traditional store bought dollar's worth of product. Take a recent example, Amazon Wardrobe - they will be picking and packing clothes for you to try at home with the intent that you'll try them, return what you don't want and only actually buy what you kept. All of this requires a lot of warehouse and transportation workers and capacity. I see this issue as more of an opportunity than a problem. Millions of entry-level jobs will be created in logistics. Salaries will increase as demand goes up. The free market will fix it, but you can expect it to come with higher costs and higher consumer prices. There's nothing free about free shipping. The market fixes everything, but sometimes it needs adequate time. I would recommend that Congress consider timing legislation in ways that reduce the impact on the market. For example, if new regulations will reduce driver-time or increase costs of trucks; continue trickling those into the market over several years.

Consolidation & New Methods - Our company is founded around collaborative consolidation between supply chain participants. According to McKinsey & Company: "Parcel delivery: The

future of last mile” (Sept 2016), over the next 10 years in the US, volume of parcel delivery (including domestic express segment) will reach 25 billion parcels per year. And, although there is a mad-dash to provide beyond-expectation customer service right now, many retailers are providing more immediate delivery services than consumers are even asking for. For example,

- 70% of consumers are content with the cheapest form of home delivery
- 23% of consumers are willing to pay extra for same-day delivery
- 5% would pay more for reliable, timed delivery
- 2% would pay more for instant delivery

As costs increase, and we return to a more rational market, we'll likely see increased pressures to find more efficient delivery methods. We are currently working on developing the critical mass, so we can mode-shift parcels into less-than-truckload. A lot of our previous successes in a bricks and mortar world revolve around moving from the less-than-truckload mode up to the direct truckload mode. We are preparing for the analogous need in eCommerce now. We'll be consolidating all of those parcels into mini-pallets that will show up at your doorstep or at a locker facility. Instead of the onesie-twosie packages that make their way to your door every day; imagine a lower cost, less-wasteful alternative to receive a mini-pallet at your door every few days. It can come with substantially less wrapping which makes it convenient to unload and less trash intensive in disposal. Return logistics can be aggregated similarly, so you can send back more than a single item as well. We are working with a few retailers on the concept. In addition, whether the last-mile is a parcel or a pallet, we can expect that there will be new forms of transportation. For example, in rural areas, we'd expect that flying drones will play a role. In more urban areas, expect autonomous vehicles and lockers. And, in dense urban areas, we'd also expect couriers and droids.

McKinsey defines seven main operational models for parcel delivery, based on 300 startup reviews and 2,000 patents filed:

1. Today's model: Dedicated delivery person employed by the parcel delivery service provider picks up the parcels at a consolidation point, e.g., delivery base, and delivers them directly to the recipients. Large vans are typically used as delivery vehicles.
2. Drones: Autonomous aircrafts, e.g., copters or vertically starting planes, carry parcels (up to 15 kg) to their destination along the most direct route and at relatively high average speed. Like droids, they too need to be supervised.
3. Crowdsourcing: Any member who has signed up as a driver to the crowdsourcing network can choose to complete a specific delivery order. The advantage of this model is its flexibility in supply, especially in covering peaks and troughs, the multipurpose use of certain assets such as cars, as well as the low investment requirements for parcel companies. Furthermore, some companies hope to create synergies beyond regular parcel delivery, e.g., with taxi services.
4. Autonomous ground vehicles (AGVs) with lockers: AGVs deliver parcels without any human intervention. Customers are notified of the exact arrival time. Upon arrival at their door, customers are asked to pick up the parcel from the specified locker mounted on the van or truck – picture a mobile parcel locker. Granted, such vehicles would need to be supervised. We assume that a central supervisor could manage roughly eight to ten AGVs.
5. Bike couriers: Couriers employed by the parcel service provider deliver a small number of parcels by bike. Today, this is often seen in point-to-point delivery, especially for B2B documents and prepared food.

6. Semi Autonomous ground vehicles: A delivery person is still required, but could theoretically use the driving time more efficiently to take care of sorting or smaller administrative tasks, e.g., scanning or announcing arrival while the vehicle does the driving. These advantages need to compensate for higher investment costs, as autonomous ground vehicles are likely to be more expensive than regular cars or vans, at least initially. However, the delivery person will likely not be allowed to move freely while the vehicle drives, limiting the tasks that can be performed in transit. We find it difficult to see how the savings in terms of streamlined administrative tasks can compensate for the higher investment cost.

7. Droids: Small autonomous vehicles, only slightly larger than a regular parcel, deliver parcels to the doorstep. These vehicles are relatively slow at 5 to 10 km/h and use the sidewalk rather than the street to reach their destination. Such droids also need to be supervised, but due to their size and low speed, developers currently believe that a single supervisor could manage 50 to 100 of them.

Public acceptance towards new operational models has already begun to shift:

- Over 40% of consumers claim that they would definitely or likely use AGVs with lockers.
Among 18 to 34-year olds, over 50% stated they would definitely or likely use AGVs.
- Nearly 50% of consumers indicated that they would or would likely use crowdsourcing.
- 60% of consumers indicate that they are either indifferent to (25%) or even prefer drones (35%).

I would urge Congress to allow free market experimentation with the new delivery methods.

Blockchain - Our company considers the blockchain revolution to be unusually-applicable to supply chain management. The current statistics are already interesting:

As currency: The cryptocurrency market is about \$600 billion (according to CoinMarketCap). More importantly, the growth: That \$600 billion market was about \$16 billion a year earlier. SupplyPike is already enabling bitcoin payment for logistics services.

As utility: We are partnered with a company called ShipChain to apply blockchain technology to Supply Chain Management. There is currently \$2.1 billion in investment in blockchain technology occurring (according to IDC).

As a job-creating industry: The number of blockchain-related LinkedIn job postings more than tripled over the last year. Organizations badly in need of blockchain developers are setting up training centers, outsourcing, or even nabbing talent before they've graduated college. 13 percent of Senior IT leaders say they have clear and current plans to implement blockchain, according to IDG Connect research.

There are already obvious advantages of blockchain on Supply Chain, including:

- **Enhanced Transparency.** Documenting a product's journey across the supply chain reveals its true origin and touchpoints, which increases trust and helps eliminate the bias found in opaque supply chains. Manufacturers can also reduce recalls by sharing logs with manufacturers and regulators (Talking Logistics).
- **Greater Scalability.** Virtually any number of participants, accessing from any number of touchpoints, is possible (Forbes). In my experience, greater collaboration lowers costs.
- **Better Security.** A shared, indelible ledger with codified rules could potentially eliminate the audits required by internal systems and processes (Spend Matters).

I have to imagine that it's tempting to legislate around blockchain, but I would humbly suggest that too much regulation might deter innovation. When I reflect back on the last 30 years, I'm

actually surprised that there was so little legislation to protect consumers and businesses from the Internet. Similarly, I would submit that blockchain might have the potential to bring a second wave of innovation, and it should be left somewhat unregulated. According to McKinsey, the Internet accounted for 21 percent of GDP growth over the last five years among the developed countries studied, a sharp acceleration from the 10 percent contribution over 15 years. Most of the economic value created by the Internet falls outside of the technology sector, with 75 percent of the benefits captured by companies in more traditional industries. The Internet is also a catalyst for job creation. Among 4,800 small and medium-size enterprises surveyed, the Internet created 2.6 jobs for each lost to technology-related efficiencies. The United States is the largest player in the global Internet supply ecosystem, capturing more than 30 percent of global Internet revenues and more than 40 percent of net income. Other countries did regulate; and they missed growth opportunities.

Nobody can confidently say where blockchain will lead. Unfortunately, many people will make unfounded amounts of money and many will lose more than they expect. That is the price we all pay for disruption, innovation and a future. The blockchain is so much more than cryptocurrencies, but those currencies are one of the biggest drivers of blockchain innovation. I encourage people who want to understand blockchain's potential upside and risks to actually use it before passing judgment. Buy a little bitcoin, and figure out how to buy lunch with it. Watching the process is a great way to understand blockchain.

Entrepreneurial Wherewithal - Finally, I'd be remiss if I didn't stress the importance of entrepreneurial capacity. It's probably one of the most truly American cultural legacies that creates economic opportunity. I see the great work that has been done in the local venture scene from the SBA Regional Innovation Cluster (RIC) funding and the Department of Commerce EDA i6 funding (e.g. Ozark Regional Innovation Cluster). Those programs have been catalytic in our

ability to foster innovation and entrepreneurship in a small rural Arkansas region, and I can only imagine that they're driving a lot of technology that will continue to keep us all stronger.

In summary, there are epic changes occurring in retail, in the supply chain behind retail, for employees, for companies, and for countries. I appreciate the fact that as an American company, we have so much latitude to experiment. That is what creates innovation and sustainable prosperity for all Americans. I am looking forward to answering any questions, and humbly appreciate your attention and consideration.

Mr. LATTA. Well, thank you very much for your testimony. And, Mr. Borris, you are recognized for 5 minutes.

STATEMENT OF DAVID BORRIS

Mr. BORRIS. Thank you, Chairman Latta, Ranking Member Schakowsky, and members of the committee. Thank you for the invitation to testify today on the impact of e-commerce and online retailers on Main Street small business.

My name is David Borris, and I serve on the Executive Committee of the Main Street Alliance, a national network that creates opportunities for small business owners to speak for ourselves on matters of public policy that impact our businesses, our employees, and the communities we serve.

The rapid emergence of technologies disrupting and remaking vast sectors of our economy unleashes incredible innovations but also pose dramatic challenges in the retail sector. Online retailers are ever more able to deliver goods and services to satisfy ever-increasing consumer demand. But, with the incredible growth of e-commerce companies like Amazon.com, there is an existential threat to the millions of small business owners who form the backbone of the American economy, creating jobs and ensuring that local wealth stays circulating in local economies. Ensuring that America's small businesses remain competitive in this brave new world of e-commerce should be a core concern of policymakers, and significant attention should be paid to the development of laws and regulations that ensure fairness and prevent unhealthy market concentration.

Today, I will discuss three key policy issues that we feel are essential in ensuring such a fair and competitive marketplace for small business: internet tax fairness, net neutrality, and affordable, high-quality broadband access.

Small business owners need policies that level the playing field and ensure necessary revenue for local and State investments. When e-commerce laws allow for big internet retailers to avoid their tax responsibility, small businesses suffer and our States miss out on revenue needed for adequate funding of education, infrastructure, and public safety.

Since the 1992 Supreme Court decision ruling in *Quill Corporation v. North Dakota*, Congress has been unable to create a proper legislative environment to enable States to protect bricks-and-mortar businesses that are the heart and soul of our local communities. By exempting online retailers from collecting sales tax, current public policy perversely incentivizes consumers to shop online, reducing local economic activity. Not only does this practice reduce Main Street's customer base, it also dramatically undermines State and local government budgets.

When looking across mail, online, and catalog retail, this unfair tax gap costs an estimated \$23.3 billion to State and local budgets annually. Main Street needs Congress to act to ensure this lost revenue can be collected.

Net neutrality. We are concerned that the FCC's regulatory changes to net neutrality will significantly and unfairly undermine market access and competition on the internet. While only a small handful of companies sell internet access, nearly every company in

the country buys it. Weakening or rolling back the 2015 protections would be disastrous for the country's small business community.

Internet providers would gain new power to steer businesses and customers in whatever direction they choose. Our customers' ISPs could charge us new fees for the right to reach our customers, or charge them for access to our sites and services. And they could favor our competitors by slowing down our traffic or exempting our competitors' traffic from users' data caps, or simply block websites and apps outright. Small business owners would simply be unable to compete with large corporations on a pay-to-play internet. This would create immense uncertainty for small businesses in every sector of the economy who rely on open, unencumbered connectivity for their businesses and productivity.

While countries around the world embrace strong, commonsense net neutrality protections, American small businesses would be left behind. Congress must maintain strong net neutrality to protect America's small business.

Finally, access to affordable, high-quality broadband is necessary to boost small business owners' and entrepreneurs' access to e-commerce marketplaces. This is particularly true in rural areas.

A recent report by the FCC found that nearly 40 percent of the rural population—that is over 23 million Americans—compared to only 4 percent of the urban population, lack access to basic broadband service. This report notes that this disparity “disproportionately impacts the ability of small businesses operating in rural areas to successfully compete.”

Without access to reliable broadband service, small businesses cannot develop quality online platforms and stand to lose out on both sales and relevancy as the number of online shoppers continues to grow.

Internet tax fairness, net neutrality, and access to affordable, quality broadband: all policies that create a level playing field for small businesses in the e-commerce marketplace. This is the recipe for small business success, a strong middle class, and vibrant local economies.

Thank you again for the opportunity to testify today. And I look forward to your questions.

[The prepared statement of Mr. Borris follows:]

Statement of David Borris, Main Street Alliance Executive Committee Member and Owner of Hel's Kitchen Catering in Northbrook, IL for the Subcommittee on Digital Commerce and Consumer Protection of the U.S. House of Representatives Energy and Commerce Committee hearing on "Review of Emerging Tech's Impact on Retail Operations and Logistics"

Wednesday, March 7, 2018

Chairman Latta, Ranking Member Schakowsky, and members of the committee:

Thank you for the invitation to testify today regarding the impact of e-commerce and online retailers on Main Street small businesses.

My name is David Borris and I serve on the Executive Committee of the Main Street Alliance, a national network of small business owners. Our network creates opportunities for small business owners to speak for ourselves on matters of public policy that impact our businesses, our employees, and the communities we serve.

I've been a small business owner for 32 years. My wife and I opened a homemade food store in 1985, and over the years have expanded into a full service catering company with 33 full-time employees and up to 80 or more part-time and seasonal workers. We take great pride in what we do.

The rapid emergence of technologies disrupting and remaking vast sectors of our economy unleashes incredible innovations but also pose dramatic challenges in the retail sector. Online retailers are ever more able to deliver goods and services to consumers satisfying ever increasing consumer demand. Over half (51 percent) of American consumers prefer to shop online.¹

But with the incredible growth of big e-commerce companies like Amazon.com, there is an existential threat to the millions of small business owners who form the backbone of the American economy, creating jobs and ensuring that local wealth stays circulating in local economies. Seventy-four percent of small business websites have no e-commerce option.²

Ensuring that America's small businesses are able to remain competitive in this brave new world of e-commerce should be a core concern for our policymakers and significant attention should be paid to the development of laws and regulations that ensure fairness and prevent unhealthy market concentration.

Today, I will discuss **three key policy issues** that we feel are essential in ensuring a fair and competitive e-commerce marketplace for small businesses that help promote and safeguard the vibrancy of our local economies.

¹ <https://smallbiztrends.com/2017/01/ecommerce-statistics-small-businesses.html>

² <https://smallbiztrends.com/2016/06/small-business-ecommerce-trends.html>

- Internet Tax Fairness
- Net Neutrality
- Affordable, high quality broadband access

Internet Tax Fairness

Small business owners need policies that level the playing field and ensure necessary revenue for local and state investments. When e-commerce laws allow for big internet retailers to avoid their tax responsibility, small businesses suffer and our states miss out on revenue needed for adequate funding of our education system, infrastructure maintenance and improvements, public safety, healthcare and other key programs.

Since the 1992 U.S. Supreme Court ruling in *Quill Corporation v. North Dakota* -- finding nothing unconstitutional about requiring out-of-state retailers, to collect state and local sales taxes on orders shipped to in-state residents -- our dysfunctional Congress has abdicated their responsibility to create a proper legislative framework enabling states to protect bricks and mortar businesses that have historically been the heart and soul of the local economy.³ The result is a regressive public policy that disadvantages local businesses and undermines local and state governments. By exempting online retailers from collecting sales tax, current public policy places anywhere from a 4 to 11 percent disadvantage on small, local businesses. This perversely incentivizes consumers to shop online, reducing local economic activity -- activity that Main Street businesses and their local communities rely upon.

Not only does this practice reduce Main Street's customer base, it also drastically undermines state and local government budgets by reducing tax revenue for schools, police, and other critical local services. As e-commerce retailers grow, and the market continues to move towards online shopping, this revenue loss will only increase. Currently, 45 states assess sales taxes, from which they receive about 25 percent of their total revenue each year. When looking across mail, online and catalog retail, this unfair tax gap costs an estimated \$23.3 billion to state and local budgets annually.⁴ Main Street needs Congress to act to ensure this lost revenue can be collected and our state and local governments receive the necessary resources to adequately invest in our communities.

To do this, Congress should look at proposals like the Marketplace Fairness Act, which, in the past, has successfully moved through the Senate, but stalled in the House⁵. This bipartisan legislation authorizes states with simplified and aligned sales tax rules to require large online and catalog retailers to collect sales taxes. Small online and mail order retailers with less than \$1,000,000 in out-of-state sales would still be exempt. Legislation like this would level the playing field, providing necessary protections for small businesses, while ensuring big online retailers pay their fair share of taxes to support our local communities.

Net Neutrality

³ <https://www.law.cornell.edu/supct/html/91-0194.ZO.html>

⁴ <https://ilsr.org/rule/internet-sales-tax-fairness/>

⁵ <https://ilsr.org/rule/3049-2/>

We are concerned that the FCC's regulatory changes to net neutrality will significantly and unfairly undermine market access and competition on the Internet. While only a small handful of companies sell Internet access, nearly every company in the country buys it – including many Main Street small businesses. Weakening or rolling back the 2015 protections would be disastrous for the country's small business community.

Internet providers would gain new powers to steer businesses and customers in whatever direction *they* choose. For example, our customers' ISPs could charge us new fees for the right to reach our customers, or for prioritized access to those customers. Small business owners would simply be unable to compete with large corporations on a "pay-to-play" internet.

ISPs could also charge our customers new fees for access to our websites and services. And they could favor our competitors by slowing down our traffic or exempting our competitors' traffic from users' data caps, or they could block websites and apps outright. This would create immense uncertainty for small businesses in every sector of the economy who rely on open, unencumbered connectivity as a key enabler for their business and productivity.

While countries around the world embrace strong, common sense net neutrality protections, American small businesses would be left behind. Congress must maintain strong net neutrality rules that fosters innovation and enables small businesses to equalize our goods and services big e-commerce businesses.

Access to Affordable, High-Quality Broadband

Access to affordable, high-quality broadband is necessary to boost small business owners and entrepreneurs access to e-commerce marketplaces. This is particularly true in rural areas.

A recent report by the Federal Communications Commission found that nearly 40 percent of the rural population (over 23 million Americans), compared to four percent of the urban population, lack access to basic broadband service. The report notes that the rural-urban broadband disparity, "disproportionately impacts the ability of small businesses operating in rural areas to successfully compete."⁶

As retailers increasing rely on the internet for access to markets, customers, and logistical support, investment in universal broadband access is critical to support the growth of a vibrant entrepreneurial economy in both urban and rural areas. Without access to reliable broadband service, small businesses cannot develop quality online platforms, and stand to lose out on both sales and relevancy as the number of online shoppers continues to grow.

Internet tax fairness, net neutrality, and access to affordable, quality broadband-- all policies that create a level playing field for small businesses in the e-commerce marketplace-- this is the recipe for small business success, a strong middle class and vibrant local economies.

Thank you again for the opportunity to testify today. I look forward to your questions.

⁶ <https://www.fcc.gov/document/fcc-releases-2016-broadband-progress-report>

Mr. LATTA. And thank you very much for your testimony.

And, Mr. Johnson, you are recognized for 5 minutes for your opening statement.

STATEMENT OF JONATHAN E. JOHNSON III

Mr. JOHNSON. Thank you, Chairman Latta and Ranking Member Schakowsky, and members of the committee. I appreciate the committee taking the time to learn about new technologies and what laws and regulations stand in the way of their deployment and adoption.

Overstock is a technology leader in the e-commerce industry. And to this end, we incorporate two principles as business tenets: first, it is all about customer experience; and second, our customers' experience improves when decisions are made at the knowledge frontier.

Because knowledge is costly to centralize, we prefer self-organizing systems and free market solutions. These can often be low-tech, old-school ways. For example, Overstock became a consistent, award-winning customer service organization when we adopted the credit "the customer deserves justice" and then empowered our customer service representatives to make decisions on their own to determine what justice was for each customer.

However, in an ever-expanding and advancing world where technology, innovation, and customer expectations quickly evolve, we are constantly incorporating new technology into our business model to improve our customers' experience. Much of this technology empowers the customer herself, or those working directly with the customer, to make decisions in a more informed way.

Let me give four current examples.

First, our mobile application. Overstock's current award-winning mobile application incorporates the latest technology to increase its speed. We have learned that every 100 milliseconds of average page-load time decreases the conversion rate by 1 percent. In other words, customers are less likely to buy something on our site when it takes longer to load a page.

We have also launched an augmented reality tool on our IOS mobile app. This tool lets customers use their phones to accurately visualize our products, like a sofa, in the room where they are going to use it, like their living room. They can see the size, the dimensions, and the colors, and how they fit in their room. This allows our customers to make more informed decisions.

Importantly, this AR tool was an idea of one of our IT developers borne out of his own desire to improve his shopping experience on our site. It was not conceived or directed by senior management at the company.

Second, personalization technology. Both our website and our digital ads are highly personalized for each customer based on their past searching, browsing, and shopping experience. For example, if two customers come to our site and search for a red couch, they will receive different content based on their past experience on the site. This technology understands customers' style preferences and incorporates these preferences into search results and served pages. It uses customer feedback loops to increase personalization and, in turn, has increased our shopping conversion rate.

Importantly, this technology was developed during a developer “hackathon” where we allow our developers to work on whatever projects they think will be best for the company. Again, it was not conceived or directed by senior management.

Overstock is an e-commerce industry leader in shipping large furniture items without damage. That is a difficult thing to do. We do this by using state-of-the-art technology in manufacturing, packaging, and shipping. These technologies include designing products that are less prone to be damaged in shipping, using packing optimization such as tailored boxes, and breaking less-than-load large items into multiple packages which can be shipped more easily. And then, of course, we use geographical warehousing to keep the product as close to the customer as possible.

Again, many of these improvements were suggested by sourcing and warehousing employees most familiar with the problems of shipping.

In January of 2014, Overstock became the first major retailer to accept Bitcoin as a payment mechanism. We now accept nearly 50 different cryptocurrencies. This calendar year, our weekly volume of cryptocurrency revenue is ranging between about \$100,000 and \$250,000 a week. While this is a minuscule percentage of our weekly revenue, it is a growing percentage. And so, Overstock has created a wholly owned subsidiary called Medici Ventures with the aim of advancing blockchain technology.

We think blockchain technology will be used for three significant things: first, democratizing capital to allow everyone, including the poorest members of our society, to participate in the local, national, and global markets; second, blockchain technology can eliminate middlemen, which add unnecessary time, difficulty, and cost to transactions; and third, we think blockchain technology will re-humanize commerce so that you and I can conduct business together without middlemen in between. Our digital handshake becomes the physical handshake of years past.

Again, thank you for this opportunity to testify in front of the subcommittee. I look forward to answering your questions.

[The prepared statement of Mr. Johnson follows:]

Testimony Submitted to the
Subcommittee on Digital Commerce and Consumer Protection
of the U.S. House of Representatives Energy and Commerce Committee

“Review of Emerging Tech’s Impact on Retail Operations and Logistics.”
10 a.m. Rayburn House Office Building, Room 2123
March 7, 2018

Jonathan E. Johnson III
Board of Directors, Overstock.com, Inc.

I appreciate the Subcommittee taking time to learn about new technologies and what laws and regulations stand in the way of their deployment and adoption.

Overstock.com is a technology leader in the ecommerce industry. To this end, we incorporate two principal business tenants: (1) it’s all about customer experience, and (2) customer experience improves when decisions are made at the knowledge frontier.

Because knowledge is costly to centralize, we prefer self-organizing systems and free market solutions. This can often be done in low-tech, old-school ways. For example, Overstock became a consistent award winning customer service organization when we adopted the credo “the customer deserves justice” and allowed our customer service representatives the latitude determine what justice was for each customer.

However, in an ever-advancing world where technology, innovation and consumer expectations quickly evolve, we are also constantly incorporating new technology into our business model to improve customer experience. Much of this technology empowers our customers or those working directly with them to make informed decisions.

Let me provide four current examples:

Mobile app. Overstock’s current award-winning mobile app incorporates the latest technology to increase its speed. We have learned that every 100 milliseconds of average page load time decreases the conversion rate by 1%. Faster page rendering allows customers to browse the site with ease. We have also launched an augmented reality (AR) tool on our IOS mobile app. This tool lets our customers use their phones to visualize accurately our products (e.g., a sofa) in a true-to-life 3D model in the location they would use it (e.g., their living room) with the exact dimensions, colors and other product attributes. This allows our customers to make more informed decisions. Importantly, the AR tool was the idea of one of our IT developers borne out of his personal desire to improve the mobile shopping experience; it was not conceived and directed by senior management.

Personalization technology. Both our website and our digital ads are highly personalized for each customer based on their past search, browsing and shopping experiences. For example, if two customers search for a red couch on our website, each receive different content based on past browsing. This technology understands each customer’s style preferences and incorporates

these preferences into search results and served pages. It uses customer feedback loops to increase personalization, which in turn has increased our shopping conversion rate. Importantly, this technology was developed during a developer hack-a-thon in which our developers could work on projects they thought most important to the business; again, it was not conceived and directed by senior management.

Large Item Shipping. Overstock is an ecommerce industry leader in shipping large furniture items without damage. We do this by using state-of-the-art technology in manufacturing, packaging, and shipping. These technologies include designing products that are less prone to in-transit damage, package optimization such as use of tailored boxes and breaking less-than-load-only products into UPS-shippable products, and geographical warehouse sorting. Again, many of these innovations were suggested by sourcing and warehouse employees most familiar with the problems of shipping large items.

Cryptocurrencies and blockchain technology. In January 2014, Overstock became the first major retailer to accept bitcoin. We now accept nearly fifty different cryptocurrencies. This calendar year, our weekly volume of cryptocurrency revenue has ranged between \$98k and \$256k. While this is a miniscule percentage of our revenue, it is a growing percentage. Overstock has also created a wholly-owned subsidiary Medici Ventures with the aim of advancing blockchain technology to (1) democratize capital to allow everyone, including the poorest members of society, to participate in local, national, and global markets, (2) eliminate middlemen which add unnecessary time, difficulty, and cost to transactions, and (3) re-humanize commerce as people connect directly with each other.

Again, thank you for this opportunity to testify before the Subcommittee. I look forward to answering your questions.

Mr. LATTA. Well, thank you very much for your testimony, and to all our witnesses for your testimony. And we will now move in to the question-and-answer portion of the hearing. And I will begin by recognizing myself for 5 minutes.

Mr. Sanker, if I could ask, start with you. How important will improving the supply chain be to e-commerce and retail growth? And what kinds of supply chain strategies does CaseStack provide to its clients?

Mr. SANKER. Thank you. Yes, I mean, there are a lot of changes that are required. Really, I think the most significant thing is, as we move to long-tail distribution, if you take a look sort of historically at retail, there was a group of people at a retailer who would sort of protect the shelf, and they would protect the whole supply chain behind the shelf. So you have got a bricks-and-mortar store layout with limited shelf space. Then, if you were a buyer at a big retailer, you would buy the best-selling items. You would sort of curate what was in the box.

That would then protect what was behind it, which was usually a distribution center network. There was a lot of technology that was built around best-selling items, as opposed to lots of items, which is what we have now.

So, everything up the whole supply chain is sort of changing, and we are trying to work with that to make that economical and feasible. So that one of the major things I mentioned that we do is consolidation. So it takes a lot of collaboration and a lot of technology to figure out how could we consolidate the stuff that is going out to a retailer, and eventually all those packages that are sitting at all of our front doors.

When you think about—I oftentimes come home to my house, and I will be gone for a couple of days, and I have what is really about a quarter of a pallet of products. But they didn't come in on a pallet. What they did is they came in onesies-twosies a box, a box, a box at a time. It is really expensive. It is not an environmentally sustainable thing to do. And a lot of people really aren't making any money on that.

So, what we see as a change, and one of the things that we are working on that is in that area, is take the consolidation that we have done for retail and do the same thing for consumers. So, instead of that coming in as a box and in lots of little boxes, bring in something that would be a larger delivery, something like a pallet or a quarter of a pallet—it might not look exactly the same as it does now—and then you wouldn't need as much of the plastic and paper dunnage and all the packaging. And you get one delivery—maybe one delivery every couple of days or once a week, as opposed to one at a time.

And that will make—you know, e-commerce companies will actually be able to make money on that. And then it is just better for the consumer, doesn't have a pile of boxes to deal with. I am sure people are familiar with the trash that they have to take out, which is really—it is not convenient at all to have to open up all the boxes, dig through it all, and then figure out what to do with, you know, these piles of trash.

So we're trying to—our biggest objective, really, is ways to collaborate with retailers, with e-commerce retailers, anybody, to consolidate.

Mr. LATTA. Thank you very much.

Mr. Taylor, how do you leverage data to help clients improve their cost structure and improve efficiency?

Mr. TAYLOR. Well, at our core we are a data-ingestion, transformation company. And so, one of the challenges that our retail customers face today is a lack of visibility into those in-transit, out-for-delivery shipments to customers. And the reason they don't have visibility is because they don't have the data.

Their carrier networks are more complex. Each of those carriers produces data differently. And so, through our technology, we ingest all of the data from their carriers, we transform it, we put a predictive layer in it. And that enables us to identify exception cases or distressed shipments very early in the process, which then allows our customer, the retailer, to be proactive instead of in today's world being reactive to customer complaints.

Mr. LATTA. Now, do you use algorithms to help in that?

Mr. TAYLOR. We do, yes. We absolutely do.

A very good example of this would be—and we get data from various places, so carriers provide us data on behalf of our customers, we take feedback from consumers, and then we, as a company, through these algorithms create our own exception or distressed states on shipments.

Just an easy example would be, given all the data that is flowing through our platform, we know that a terminal, a carrier terminal in North Dakota, products should be moving through that facility in 6 hours, and we notice a shipment, through the machine intelligence, that has not moved in 18 hours. And so we will actually create an exception case out of that shipment, even if the carrier hasn't told us there is an issue. And that enables then our retail customer operations team to work with the carrier to understand what is happening with that shipment.

Mr. LATTA. Thank you very much. And my time is just about to expire, so I yield back the balance. And I recognize the gentlelady from Illinois, the ranking member of the subcommittee, for 5 minutes.

Ms. SCHAKOWSKY. Thank you. And while I have most of my questions for Mr. Borris, Mr. Sanker, I wanted to just, I was just fascinated. Yes, I have the boxes all over, but we have big, big recycle bins. But it does seem to me that the environmental concerns are really big. And I would love after this hearing, maybe my office could be in touch with you about that. I think it is a really important question, including the gas that is used. So, thank you.

Mr. Borris, I really appreciate your being here. We have worked together a lot on issues that deal with small businesses. And that voice is so important at this table right now, I think. And I want to—you noted how the inequities in the State sales tax laws favor internet retailers with no in-State presence at all. And Congress has looked at legislation to create a level playing field for tax collection but, unfortunately, those efforts have stalled.

If all retailers, Main Street and online, had to collect sales taxes in the State where the consumer buys the product, that would gen-

erate revenue for, as you pointed out, for State and local government, as well. It is not just a problem for the retailers. How would that revenue in a fair playing field help Main Street businesses?

Mr. BORRIS. Well, sure, so in Northbrook, where I conduct my business, you know, we have 9.75 percent sales tax that we have to collect. So right from the beginning, you know, you have got to discount your product by almost 10 percent.

The business that I happen to be in—and I don't really compete necessarily in that space because we tend to produce more full-service events, which is a more difficult thing for a online business to try to recreate what we do in my business—but if I am in a different business and if members of my network are in those businesses, many small businesses are operating on trying to drop 8 percent, 9 percent, 11 percent of the bottom line. When you strip away that amount of money, they are suddenly not in business any longer. So it is—

Ms. SCHAKOWSKY. Opponents of marketplace fairness have argued that small businesses would struggle to collect the correct sales tax for each State. Do you share that concern?

Mr. BORRIS. So, even in my small business—we operate our core business in Northbrook, Illinois, but we operated a satellite business in Rosemont, Illinois, and a satellite business in Glencoe, Illinois, and a satellite business in Lake Bluff, and a satellite little business—these were all seasonal type businesses or small cafes. So, you know, when we fill out, you know, five sales tax return sheets as part of our Illinois sales tax return, yes, that is a little bit of a pain in the ass, right?

But what we are talking about is, on a monthly basis, for me to do that, it took maybe 45 minutes instead of 15 minutes to do 5 instead of 1. I think that is just the cost of doing business. And when we look at that and say, well, if I am going to go into an online retail business, I need to understand that that is what is going to happen.

The other thing I would say is that the software solutions—the day that every online retailer has to pay sales tax in every municipality that they do business in, the day after that there will be a boatload of solutions available by good software developers that say, whoa, there is a market here. So, we will pay a little bit to obtain those software solutions. We will turn them over to our administrative staff, and they will incorporate them in the same way as we incorporate all new technologies into our businesses.

Ms. SCHAKOWSKY. I wonder if you—you also talked about net neutrality. And I have never received more communications from constituents on any issue as net neutrality. It is incredible. Probably every millennial particularly in my district, including my grandson who called to lobby me, has definitely been involved.

So if you could elaborate on the extent to which day-to-day operations depend on fast, affordable internet service, and what it would mean to small businesses not to have net neutrality.

Mr. BORRIS. So, I think the conversation on net neutrality—and when we say, well, you know, certain businesses flourished 10 years ago when they were born, or 13 or 14 years ago when they were born, and we didn't have, you know, the net neutrality regula-

tions in place—but the internet was not the presence in our lives 10 years ago, 15 years ago as it is today.

You can't function any longer, right, you can't—you can barely function as an individual, you certainly can't function as a business in anywhere approaching an urban environment—without working with the internet on a daily basis, both to look for vendors and where you are going to source your supplies, as well as finding new clientele and interfacing with your clientele.

I think that the reason you see surveys that say that somewhere near 70 or 73 percent of Americans are in favor of net neutrality rules is because we intuitively understand—and I think small businesses do, as well—we intuitively are concerned about concentrations of power in the marketplace. And to believe that something as fundamental to my business and to our network of small businesses, and everybody's business, something as fundamental as access to the same speeds, and the same data, and the same ability to utilize the internet, to believe that a concentration in market power could subvert and change that ability is a frightening prospect.

And once we get there, it is going to be way, way harder to go, "Oh, we made a mistake, now we have to undo it," because the market will have already spoken. It is a frightening prospect.

Ms. SCHAKOWSKY. I wanted to say, as Mr. Johnson testified, slowing the load time for a web page by just 100 milliseconds can cut into sales. So it is significant.

Thank you, I appreciate it. Mr. Chairman, yield back.

Mr. LATTA. The Chair now recognizes the gentleman from Illinois, the vice chairman of the subcommittee, for 5 minutes.

Mr. KINZINGER. Thank you, Mr. Chairman, for yielding.

Mr. BORRIS, I appreciate your passion. I agree with you: Concentrations of power are exactly what folks my age and younger are concerned about, which is why we are getting this out of the Federal Government's control and changing the rules from what the last administration did.

I also would welcome you—I notice you have a lot of, you know, restaurants and places around Illinois—come out to real Illinois sometime in the flat part, the not suburbs. We will welcome you at any time. So we would love that, even. Thanks for being here.

Mr. JOHNSON, you note in your testimony that Overstock was the first major retailer to accept Bitcoin and now accepts over 50 different cryptocurrencies. I know there are a lot of people that try to kind of be, you know, new day and say, "Hey, the cryptocurrency thing is cool" and everything. I have a lot of concerns about it. I have actually kind of evolved my thinking on this in the last even year.

Let me ask you a question. What are some of the benefits that cryptocurrencies can provide, and what are some of the risks and challenges? I am more concerned about the risks and challenges. But if you could give me both, that would be great.

Mr. JOHNSON. Sure. So, Overstock decided to start accepting cryptocurrency because we are in the business of making it easier for our customers to transact with us. Whether that means accepting credit card, or PayPal and Apple Pay, or cryptocurrencies, we would like our customers to be able to purchase with us.

One of the benefits to us is it has significantly cut our fraud prevention department down. People often say that cryptocurrencies are a tool of fraud and used by criminals worldwide. I will tell you this: So are credit cards, and Overstock employees somewhere between, depending on the time of year, 30 and 40 people in our fraud prevention department to fight credit card fraud.

With cryptocurrencies, it is like a cash transaction. It is a final sale for us. And we have a low—we have almost no interchange fee and no risk of fraud. So part of the benefits are we are reducing internal costs we can then pass on to our customers.

Mr. KINZINGER. Well, let me ask you then if you with, for instance, Bitcoin with the massive fluctuation in value, how does that affect your bottom line?

Mr. JOHNSON. So, when we first started accepting Bitcoin, we converted all of it into U.S. dollars immediately. Over time we have begun to—

Mr. KINZINGER. And what do you do that through?

Mr. JOHNSON. Through our integration with Coinbase. So, if you came and purchased a sheet set on our site with Bitcoin, it would immediately be converted into dollars, because we are paying our bills in dollars.

Today we have vendors, and others, who take payment in cryptocurrencies, so we keep up to half of our cryptocurrency revenue in Bitcoin. Most of it still goes to dollars, we keep the other half, up to half, in Bitcoin and we let our treasury department manage that, selling or not. So we don't hold much risk in that sense.

Mr. KINZINGER. So, obviously, you are exposed to fluctuations but maybe not. I mean, you are also exposed to fluctuations in the value of a dollar or whatever.

Mr. JOHNSON. Sure. And we are exposed to fluctuation in gas prices and the cost of shipping, all kinds of things.

Mr. KINZINGER. Yes. And also, in your testimony you emphasize that care must be taken for consumer safety and privacy, especially as retailers continue to deploy internet-connected applications to enhance customer experiences.

We know that with an increasing number of IoT devices, cybersecurity is of the utmost importance. What do you think retailers must do to protect consumer information? And what approaches to cybersecurity are you seeing?

Actually, this is for Mr. Taylor. I am sorry. And what approaches to cybersecurity are you seeing retailers apply?

If you need me to repeat, I will, because you probably were zoned out when I was asking Mr. Johnson.

Mr. TAYLOR. I got the gist of it.

Mr. KINZINGER. OK.

Mr. TAYLOR. Yes, so there are a number of issues around, you know, data security, consumer privacy. and safety. I mean, I will touch on a few of these.

So, you know, with the consumer's desire for more, ever more convenience, ever more control in their deliveries, you know, this is resulting in innovations like Amazon Key and Ring, where now delivery drivers are going to be able to enter consumer homes, even

potentially without them being present. So clearly there are considerations for consumer privacy and safety in a world like that.

On the data side, some of the, you know, one of the things we see, at least in our business—again, our business is last-mile, you know, visibility, and distressed shipment management. But one of the things we see, you know, we are a good example of this. We are a technology company. We now sit in between the retailer and the consumer and the carrier in terms of the data that is being produced. So there are more companies like us, there are more carriers that retailers are working with that produce more data.

So, with more nodes of data production and data use, that just inherently creates some risk, as well. So how we manage this, you know, we don't require personally identifiable information from consumers to provide our products and services, but our products are certainly enhanced if we can have basic PII, such as a delivery address, email, and phone number.

Mr. KINZINGER. OK.

Mr. TAYLOR. And we hold ourselves to high standards around that.

Mr. KINZINGER. Thank you, I yield back. Appreciate it, Mr. Chairman.

Mr. LATTA. Thank you very much. The gentleman yields back. The Chair now recognizes the gentleman from Kentucky for 5 minutes.

Mr. GUTHRIE. Thank you very much. Thank you for being here. It is an interesting hearing.

I founded the Congressional eCommerce Caucus. And Louisville, Kentucky, a few years ago, probably a generation ago now, was the winner of the Worldport location for UPS. So most UPS flights, planes that fly in and out, fly out of Louisville. It is a great place to locate. Not much snow, center of the country, of this part of the country, so other people are looking for it.

But what I guess we didn't see happening with the internet moving forward and when that happened, is what's happened—I don't have Louisville, but my district just south of there, Shepherdsville, Brooks, Hillview, if you drive through there you will see Zappos, Best Buy, bestbuy.com, amazon.com, Geek Squad. I mean, all those are there because of the access to Worldport. And so it is something I have been very interested in, because it is a big driver of economics in my district and a big driver for trade, quite honestly, because they ship stuff all over the world from there.

And so we're looking at these centers like are in my district. The centers, there are warehouses, sorting hubs. How do they contribute to the last mile of delivery? This is for Mr. Sanker and Mr. Taylor. With the drive for 2-day, next-day, and even same-day delivery, have you seen an increase in the need for more fulfillment centers? And you two can take it.

Mr. TAYLOR. One of the things we certainly observe with our retail customers, again driven by consumer demand for convenience and immediacy, is certainly more assortment in inventories moving closer to where demand is. And so this is really, really being done in two ways.

One is additional capacity. Fulfillment centers are being built.

And the other is, for our omnichannel retailers that have physical presence with stores, many of these stores, in a world where retail is constricting, many of these stores are at least being partially used for warehousing. And so they are sort of parcel store operations and then e-commerce fulfillment center all in one facility.

Mr. SANKER. Yes, and similarly I think we see a little bit of everything, which I think is the market at work, really. We see, you know, fulfillment from stores, fulfillment from new distribution centers. There is no doubt there will be a lot more new distribution centers. And I think there is no doubt that the current retail square footage that is out there is going to have to shrink and the current square footage of warehousing and distribution center capacity is going to increase.

And then you do have some of what you mentioned, which is this clustering effect, which is great for the areas that can do it. I know one of the key issues that we are going to have is a workforce that is capable and trained and can handle all this growth.

Mr. GUTHRIE. That leads into my next question I was going to ask you. As you are going down that path, the biggest concern you have when you go through these is they are incredibly high tech, I mean unbelievably high tech. Of course, you need sorters, just people that are there helping with the boxes moving forward. But they really need people who have industrial maintenance, computer skills. And what are you trying to do to retain talent?

We just lack that talent, at least in our area. But I think in the whole country, you hear that from everywhere you go in the country?

Mr. SANKER. Yes. I mean, we have this issue where next week I go back and we are having what we are calling the Nowhere Developer Conference, because we are sort of in the middle of nowhere out in Arkansas. And we are attracting technology, hardcore sort of technology developers to the area.

We are also working with high school students. We have got interns, high school interns come into the office every week. We have got meetups and conferences. So, everything from high school students—and I think that is probably the—it is a challenge. I mean, you can't just invent more people.

So the two areas that we see that are great opportunities is, start younger. So anything that anybody could do to support getting high school students some real-life experiences. These kids that are 13 and 14 have unbelievable talent—I think you probably all see it in other areas—that I don't think I, my generation, ever had.

And then we have had H-1B people that were rejected who, you know, are master's degrees in computer science. They come to schools in the United States. And we pay to train them. And then, you know, we have got two—one is in China now, one is in Canada—helping to create jobs for Chinese people and Canadians, and helping build venture capital there and new companies. Things like that, I think, are huge.

But, mostly, it is start with high school students, train them, give them real experiences. They are eager. That has been great.

Mr. GUTHRIE. Thanks. And I did have a couple more questions. I am about out of time. But I was going to talk to Mr. Johnson,

so I will just—you won't have time to answer, but, you know, and so we are trying to figure out, I know what Mr. Borris always talks about, those teams. We need to be hearing those businesses in our communities, that's names on the backs of Little League jerseys. That is what we like to talk about, the local folks. We have to be cognizant of that.

And maybe there is a way as the last stage of same-day delivery, some of these retail operations also become almost warehousing opportunities, where you buy online and ship, goes to a local store, and comes to your business. Or you go to the—I like to buy books online, but I go to the local store because I want the local store to still be there. So I go there to make the purchase because I don't want it all to become online and the local bookstore with the coffee shop and everything goes away. And so that is something we need to be cognizant of.

But I am out of time. So I appreciate the opportunity to be hearing you guys here today.

Mr. LATTA. Thank you very much. The gentleman yields back. The Chair now recognizes the gentleman from West Virginia for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman. I am sorry I missed some of the earlier comments. We were, we have got a hearing going on upstairs, and so it has been back and forth on this.

But if I could, just to kind of focus in on perhaps on the postal delivery, with the U.S. Postal Service. We have had enough testimony in other meetings, other hearings, about some of the deficiencies in our Post Office, and handling the products, and security and the like. Are there some suggestions that you would make, and how we might be able to improve our Postal Service to handle what potentially could be, as this e-commerce continues to pick up, what we should be proactively moving on? Any of you, any of the four of you.

So, everyone is satisfied the Post Office is running fine? Thank you.

You look like you want to jump in.

Mr. JOHNSON. I will say something. I think the Post Office served a wonderful purpose before we had private companies like UPS and FedEx delivering to any small and rural town. We use the Postal Service for about 2 percent of our deliveries, mostly small items, very small items.

The UPS and everyone else gets anywhere and everywhere for less, and so I think trying to run it more like a private business than a Government bureaucracy would make sense.

Mr. MCKINLEY. I was just curious because of that last-mile delivery. Often they will hire the Post Office to make that delivery. So I'm aware of that.

But let me go to another—because I am fascinated with this, how it changed. I can remember back when I was in college back in the '60s when the first computers came out. To think how we have evolved in the last 50-plus years with this. But I am curious with deliveries going to homes. When we have—we go to an airport, they always ask, one of the first things, your chain of custody. "Did you have possession of your items the entire time?" Yet now we are

leaving products, could be one day or two days, sitting on a porch that are, they have custody.

How do you deal with that? And what are some of the issues that perhaps get into it, in terms of people having access or you are telegraphing to the bad actors there is no one home? What is the process, and what is your liability as the shipper, or someone that is shipping products, how does that, how do you come into that? Anyone?

Mr. SANKER. Yes, I guess I can address some of that.

Yes, you definitely have packages that are just left on doorsteps now. And there is a growing bad-actor group that has sort of figured that out and is stealing those packages, I think.

But I think that the market is also addressing that. The lockers that you see popping up—there is, you know, Amazon has got lockers in Whole Foods, there are whole locker companies that just make, sell lockers to apartment complexes and things like that. I think that does, goes a long way to addressing it. So, you will use your phone to unlock your package. And that is pretty convenient.

Mr. MCKINLEY. I don't know of too many lockers in rural West Virginia.

Mr. SANKER. I mean, I think this is a pretty new concept, really, I think. I live in Fayetteville, Arkansas. We have got lockers in the apartment building across the street from my office.

Mr. MCKINLEY. OK.

Mr. SANKER. We have got them in the Whole Foods.

Mr. MCKINLEY. The last question I want to get towards is, I have had the experience in a highly secure area to classified, which they hear about the dark web and all the e-commerce that is occurring over that. What suggestions would you make on e-commerce on the dark web?

Mr. JOHNSON. First, I would just comment. One of the things we do on that package delivery issue is, we sell a lot of larger goods, couches, and pieces of furniture. We allow our customers to arrange for a delivery time. And I think that helps stop that.

The thing I would say, the dark web is a problem. And I think a lot of cryptocurrency purchases on the dark web are often said to be a problem. But, as I have talked to law enforcement officials, they have said one of the things they like about cryptocurrency on the dark web is it leaves an electronic footprint. It is not an anonymous transaction, it is a pseudonymous transaction, and they are able to track those purchases and, if they are illegal purchases, see who ultimately did that.

And I noticed the other day that the U.S. Marshal was selling a lot of Bitcoin. Not because they had bought Bitcoin or had been mining Bitcoin, but it is because they had seized it through illegal transactions, most likely on the dark web.

So I think that something that leaves that electronic footprint is actually helpful in solving problems that may arise out of it.

Mr. MCKINLEY. Well, in conclusion, I just hope we can keep up with the speed of the transformational economy right now and be able to keep the control. So I hope you are right on that and we can, because it is very concerning when we think 90 percent of the web, the internet, is not what we use, and it is not easy access, it is the dark web. So, I am hoping we can be careful with that.

Thank you. I appreciate it. I yield back my time.

Mr. LATTA. Thank you very much. The gentleman yields back. And the Chair now recognizes the gentleman from Indiana for 5 minutes.

Mr. BUCSHON. Thank you, Mr. Chairman.

Mr. Johnson, how do you see the impact of e-commerce affecting rural parts of the country? I represent a broadly rural district and, I mean, no one wants to be left out of the consumer revolution. So that, and what kind of technology and innovation is changing the way industry is thinking about servicing rural areas of our country?

Mr. JOHNSON. Great question. As I have traveled around, rural Utah, in particular, quite a bit, I have been asked that same question. I think one of the things that e-commerce does that can help rural America is it gives them access to a customer base outside of their city or county lines.

We have lots of suppliers that drop ship from their homes and warehouses in rural parts of America that list product on Overstock, are able to access all of our marketing, our backbone of processing their credit card, et cetera. So I actually think that e-commerce helps rural America because it allows people that are manufacturing or have a good idea, good product, greater access to all 300-plus million people in the United States.

Mr. BUCSHON. Yes. And I agree with that. And I think that brings up—someone mentioned broadband access. And so I just want to point out again that some areas in my congressional district don't, can't get—you know, they have dial up almost still, you know, for their internet access. They do. And so it does bring up the importance of where they are going to have access at getting rural broadband.

I want to just ask a question about the healthcare space. I was a surgeon before. And I guess I will start at that end. I mean, where do you see this type of industry going as it relates to the healthcare space? Because we have a cost problem in the healthcare space. It costs too much. And are there innovations out there that can help us overall bring down the cost of what it is costing us to provide healthcare services to our citizens?

Mr. Taylor?

Mr. BORRIS. Well, I would weigh in on that and just say that, when we look at the cost of healthcare and when we look at where those costs are—certainly in end-of-life care, right, which is a whole different conversation culturally, I think—but there is also the single most preventable, a driver in healthcare, and that is adult onset diabetes and obesity. And when we look at that, I think that—and this might be anathema to some of you guys—but I think this Government has a role to play in understanding what our food chain looks like and how we use tax policy to incentivize that.

Mr. BUCSHON. OK.

Mr. BORRIS. And I think there is a spot there.

Mr. BUCSHON. Mr. Taylor?

Mr. TAYLOR. Yes. So, again, our world at Convey really is around trying to find efficiencies in last-mile transportation. And while our core market is retail, we are beginning to do some exploration in

last-mile, you know, business-to-business deliveries for healthcare. So this is, you know, distribution to pharmacies, distribution to hospitals.

In some sense there are some similarities to retail where this last-mile transportation involves different modes of transportation. It is not just small-package delivery, but there are large-item deliveries to hospitals, there are medical devices to hospitals, where predictability of those deliveries is very, very important.

So I think, you know, if we can get better visibility into those deliveries and make them more predictable, that will result in efficiencies and cost savings.

Mr. BUCSHON. Yes, because historically, I will just give an example, like a hip prosthesis or something, you know, used to be hospitals would have inventories of those, right? Now it has kind of gravitated to where the device company itself will come that day when you have a procedure and bring their inventory, and you use the one that you want. That is the way it is done.

It seems kind of cumbersome to me, but there may be opportunities there to further decrease cost by, you know, if you can get things delivered accurately and efficiently in the healthcare space.

Anybody else, do you have anything?

Mr. JOHNSON. I think you can cut all kinds of costs out of it by having things centrally warehoused and shipped. I am friends with a fellow who runs a company called PillPack, which sends out prescriptions to people every month in daily packages, so they are going to be more likely to take their medication and stay healthy than if they have to go to the pharmacy when the bottle runs out.

Mr. BUCSHON. Yes?

Mr. SANKER. Similar to that, we have a company in town that is working on more home diagnostic kits so that people can sort of figure out their own issues without having to actually go to the doctor, which I think also stems from some of this.

Just I think, if anything, it is going to help access, give people access that wouldn't have otherwise had access and make it easier to take, you know, your meds and manage that, and also diagnostics.

Mr. BUCSHON. Yes, I mean, I am not an IT person, but I think there is a lot of opportunity in the healthcare space for the use of technology to improve efficiencies and get our costs down.

Thank you, Mr. Chairman. I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back. The Chair will now recognize the gentleman from Florida for 5 minutes.

Mr. BILIRAKIS. Thank you. Thank you, Mr. Chairman, I appreciate it. Thank you for your testimony today, as well.

Mr. Johnson, retailers are no longer competing just on products, as you know, but instead for people's time. In particular, you mention in your testimony new innovations like the Overstock mobile app, cryptocurrency, personalized recommendations that can help shoppers save time by providing an array of tools and options. How has this changed the way companies operate?

Mr. JOHNSON. Well, we have been in business for 18 years as an e-commerce company. If you went back and looked at our original site 18 years ago, it feels almost cavemanlike compared to today.

We are always trying to make the customer experience better, easier for them to interface in, and to make it more pleasing.

We now put up, for example, videos so that they can see all around the product. We have better sizing and color. You know, sometimes your computer screen has a little bit different color than the actual thing.

We do all this to make the customer experience better and to reduce the potential of returns to us. So, I think technology lets us find ways to make it easier for the customer to access what he or she wants.

Mr. BILIRAKIS. Yes. And again, you have a lot of competition, so you have to keep up with the times, correct?

Mr. JOHNSON. The competition is fierce. And, you know, frankly, we have gone from a place where it was brick and mortar or e-commerce, and most companies today are more like a brick and click. You can buy something online and pick it up at the local store or return it to the local store. Competition is fierce, and I think that means the customer is ultimately the winner, because businesses are competing hard for the customer's time and money.

Mr. BILIRAKIS. What is the percentage of revenue on e-commerce as opposed to the brick-and-mortar store?

Mr. JOHNSON. It is certainly going up over time, and I think that is because customers find convenience in it. It is the convenience factor, it is not whether they have to pay sales tax or not. Every customer who buys online has to either pay sales or use tax. It is a convenience factor.

And I know when wedding invitations come into my house, my wife always shops online because they can ship it. She doesn't have to do all the extra work. People like e-commerce because it is easier.

Mr. BILIRAKIS. She doesn't mind not having to try something on, you know, and maybe getting it online as opposed—and I guess she would send it back if it didn't fit?

Mr. JOHNSON. And I think companies have gotten so much better at helping us size. I bought a pair of shoes the other day online, and it was very specific in its sizing on this company, saying if your, you know, foot is wide, buy a size extra. When they showed up—I bought a size that is not my natural size kind of following what was on the website—when they showed up, they fit perfectly.

Mr. BILIRAKIS. Yes. I hate trying things on anyways.

Mr. JOHNSON. There you go.

Mr. BILIRAKIS. I just gamble.

Mr. JOHNSON. You and me both. You and me both.

Mr. BILIRAKIS. I take a risk.

All right. Mr. Taylor, I am always concerned about the welfare of my senior citizen constituents from the great State of Florida. Are there new last-mile and independent contractor services that will help the elderly and disabled live more independently?

Mr. TAYLOR. You know, this is a really interesting issue. I mean, we don't directly deal with this specific question in our business, but I do think that consumer demand around convenience, the ability to be in our homes and shop from our homes and have delivery gratification quickly, will certainly benefit those who have more difficulty getting out to a physical store.

But, as I mentioned in my testimony, I think care must be taken around a world where delivery drivers are more and more coming into our homes. We are ordering more and more large-item deliveries today than ever—couches, other furniture, patio furniture, appliances—we no longer have to see and touch these items. And so all of those items require delivery appointments and strangers to come into our homes.

So, I think it is an interesting issue that this subcommittee may wish to address.

Mr. BILIRAKIS. Very good. Thank you. Next question—well, I don't have time. I will submit it for the record, Mr. Chairman. Thank you so much. Appreciate it.

Mr. LATTA. Thank you very much. The gentleman yields back. And the Chair now recognizes the gentlelady from California for 5 minutes.

Mrs. WALTERS. Thank you, Mr. Chairman.

So, I am actually one of those women that does shop online, yes. I almost exclusively now buy my clothes online. And I love it because it is so much easier, although I think it is costing me a lot more money. I don't think my husband is too happy about that.

Mr. JOHNSON. The more you shop, the more you save.

Mrs. WALTERS. There you go. And I look for all of those special deals that I can get.

Anyway, my questions are going to be for Mr. Johnson. Consumers are increasingly utilizing voice-activated assistants to play music, check the weather, or set cooking timers. One company's voice-activated assistant product saw a 325 percent increase in its users from May 2014 to May 2017. Voice-activated assistants are expected to see continued growth in the coming years.

One estimate predicts that a majority of U.S. homes will have one of these smart speakers by 2022. There are expected to be over 800 million of these devices worldwide in coming years. Since current technology is somewhat limited, purchases via voice-activated assistants are typically limited to small or replenishment purchases because it is difficult to compare prices or visually inspect a product.

Mr. Johnson, do you have any thoughts on how voice-activated assistants could offer an improved shopping experience by leveraging personalized and behavioral data like other platforms offer, or is this platform's usefulness in e-commerce limited?

Mr. JOHNSON. We have not looked at this a lot, so I am not sure I will speak really intelligently on it. But as we use voice-activated assistants in my home, it is just an easier way to do things. It is convenient. It is less typing. It is more talking. And I think it, you know, lets you access data quickly.

But I am afraid I can't give a great answer because we are not using it a lot in our business.

Mrs. WALTERS. OK. Then, I don't know, let me ask this other one and see if you can answer that.

Are there ways to benefit consumers who shop by voice-activated assistants so they receive recommendations for the best-reviewed product or the product that best fits their needs, as opposed to products that pay for enhanced placements?

Mr. JOHNSON. Sure. Absolutely. And our view is we want to be serving the customer and not have suppliers buying shelf space. And so we are serving up recommendations. You know, as I mention in my testimony, if you search for a red couch or a specific style of red couch, the other search results that come up underneath that will be based on your browsing experience, or your voice-activated browsing experience, so that it will fit you.

Our goal is to please the customer, not to necessarily push one product over another.

Mrs. WALTERS. OK, thank you. That is the only questions I had, so I yield back the balance of my time.

Mr. JOHNSON. Thank you.

Mr. LATTA. Thank you very much. The gentlelady yields back. The Chair now recognizes the gentleman from Pennsylvania for 5 minutes.

Mr. COSTELLO. I always thought that it was the more that you shop, the more than you spend. But I appreciate the perspective that you actually save more when you shop more. That is a good way of looking at it.

Mr. JOHNSON. At least on Overstock.

Mr. COSTELLO. And you were quick with it, you were so quick with it. That is very good.

I have QVC, which is actually now Qurate Retail Group, is a constituent company of mine, and I have been very interested to see them navigate the new digital economy as they are, modernizing their television platform and marrying it with internet sales as they have.

The question I want to focus on is sort of what is around the corner, Internet of Things, IoT. And I am just curious—and this is a question for each of the witnesses—explain or share with me how IoT is being used to enhance your supply chain, both in terms of getting consumers their packages, in situations potentially where consumers need to return items. Sometimes Mrs. Walters gets the package, she decides she doesn't want it then, and so it needs to get back to you. So share with me how technology is changing the face of the consumer experience as well as the supply chain.

Mr. SANKER. I can talk a little bit about supply chain.

From a transportation and warehousing perspective, there are a lot of new IoT devices that are now connected, so that as we build out our new supply-side platform we are building APIs so that it is easy for all these IoT devices to connect. So things like, you know, when you order or you buy in a store your food, it was supposed to be refrigerated. You know, you have got IoT devices now in the trailers that can track to see if it actually was refrigerated for the whole ride or even internationally.

I think things like that are all throughout the warehousing and transportation industry. And they are going to just keep on growing because they get less expensive each year.

Mr. JOHNSON. I think one of the things that IoT can help with is knowing when the replenishment purchases need to be made. If you have the Internet of Things telling you when you are out of milk, or when at a farm you need, you know, more fertilizer or whatever, that is particularly useful and can help in the replenishment.

Mr. BORRIS. Well, certainly when we purchased small wares, equipment 12 years ago, we would call four different potential suppliers and they would have to fax over spec sheets. And then it would come up murky and we couldn't read them. And then we would have to bang back and forth with working on price back and forth, and what are the shipping costs. And now probably 80 percent of what we purchase for supplies are purchased from Webstaurant or any one of a half a dozen other sites.

The negative to that, you know, in my community long-term is that we don't pay sales tax on that, which takes out of Northbrook and takes out of North Chicago and takes out of Waukegan or wherever the vendors were located. That is an issue. I mean, for me it puts a little bit more money in my pocket as a business owner, but certainly nothing is going to change on that, right? I mean, the Internet of Things is here and it is going to be used and exploited. And it works in many ways to the benefit of a company like mine.

Mr. TAYLOR. In last-mile delivery, you know, we are sort of early days in Internet of Things.

Mr. COSTELLO. Right.

Mr. TAYLOR. But we are excited about it. I mean, again, our business is connecting data from all these disparate systems, and as these physical devices get deployed in last-mile retail, you know, we will be able to ingest, unify, and make sense out of all of this data that is going to be produced. So, we think it holds great promise and are excited.

Mr. COSTELLO. How about the issue of, you know, oftentimes it is brick and mortar versus e-commerce. But I thought The Wall Street Journal has done a pretty good job in cataloging how, sure, it can be viewed comparatively, but if you look at—there is a decline in retail jobs but the increase in warehousing jobs, or what is traditionally termed a warehousing job, but it is much more sophisticated, requires much more tech savviness than one might expect. Just share the future of your workforce, and how it may more than compensate potentially for the loss of jobs that are being displaced as a consequence.

Mr. SANKER. It does seem like that there, you know, the new jobs will be warehousing instead of retail clerk-type jobs.

Mr. COSTELLO. More ergonomically friendly.

Mr. SANKER. Yes. We also, it is interesting, we are also working with a company called StrongArm. What they do is ergonomic tracking so they can actually track people in the warehouses and see—

Mr. COSTELLO. Yes.

Mr. SANKER [continuing]. That they are lifting properly. And there is a lot of new technology around that.

So the jobs in warehouses. I think if you go back 5 years ago some of the retail warehouses that I used to visit, you would not want to work there. But I do think it is improving.

And I think what we are going to get is a whole new crop of people who will start out in warehouse jobs, move up, salaries will increase, they will become skilled, and then there are so many new technologies that they have to learn that it is not going to just be, you know, lifting boxes. So I think it is a good thing for a whole

new group of people to get into the supply chain management workforce.

Mr. COSTELLO. Good points. Thank you. I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back. The Chair now recognizes the gentleman from Oklahoma for 5 minutes.

Mr. MULLIN. Thank you, Mr. Chairman.

One point I just want to follow up on, on the jobs to which my colleague from Pennsylvania brought up. Yes, those jobs may be getting replaced in numbers, but they are not on Main Street. They are not in the small towns, which—I am all about business, but you can't compare apples to apples. I love the idea of creating new jobs. Every industry needs to create new jobs. That is awesome. I am very pro-business. But we have got to be careful there that we are not comparing them.

Because the guys and gals that lose their jobs on Main Street, they are not working at your warehouses, because they don't live there. They are centrally located in areas that most places aren't.

Going on to some questions. And, Mr. Chairman, I appreciate you holding this hearing. Appreciate the witnesses for being here, too. I want to talk to Mr. Johnson for just a second.

I know my colleague from Illinois brought this up a little bit, about cryptocurrency. The question that I have is, are there tax consequences with this?

Mr. JOHNSON. Yes. And I think that the IRS ruling on it has made it difficult. Today cryptocurrencies are not treated like a currency, but they are treated more like an asset or a stock.

So, if I were to receive a Bitcoin today, I need to know the price when I received it. And then when I spend it or any portion of it, I need to know its value or price when I spent it. I need to know how long I held it, whether it is going to be treated as ordinary income or capital income or a loss. It makes it very difficult to transact in Bitcoin or cryptocurrencies on a daily way because it would almost be like being a day trader in stock. And most of us don't have accounting systems set up to do that.

Mr. MULLIN. Sure. I can see the difficulty in that.

Staying on the topic of taxes, you are aware of the case in South Dakota right now?

Mr. JOHNSON. We are a defendant in the case.

Mr. MULLIN. Right. That is what I said, you are aware of it.

Mr. JOHNSON. Yes.

Mr. MULLIN. What do you think the reaction is going to be with the States and local municipalities if this case gets overturned?

Mr. JOHNSON. Well, I guess it depends how it is overturned. If it is overturned and remote sellers now owe taxes that they weren't required to collect, now have to pay out of their bottom lines, it is going to be a problem.

I have long been a proponent of Congress acting and taking the invitation that the Supreme Court gave it in *Quill* and putting together fair legislation. I don't think that the court should be legislating, but I think the Congress should be. And I think that the ideas of Chairman Goodlatte and others have put out are good, fair solutions that work for both remote sellers and—

Mr. MULLIN. Right.

Mr. JOHNSON [continuing]. Point-of-sale sellers.

Mr. MULLIN. Mr. Johnson, Mr. Goodlatte, his bill—he doesn't have a bill. It hasn't been marked up. There hasn't been a bill placed. But Representative Kristi Noem's bill is out there.

Do you support her bill, RTPA?

Mr. JOHNSON. So, we worked very closely with Mr. Chaffetz in the previous Congress—

Mr. MULLIN. Right.

Mr. JOHNSON [continuing]. On the same bill. We do support it. We think it has some extra burdens for remote sellers that, for example, Mr. Sensenbrenner's bill does not. We are concerned that it allows the States to reach across borders and put regulations in place that aren't appropriate. But we have expressed our support for it.

Mr. MULLIN. It would be—I get your concerns. They are legit concerns. However, I do agree with you: RTPA is a much better solution than allowing our court system to make this decision. I believe at that point we have a potential for a lot worse consequences for retailers, because you are going to have a hodgepodge, possibly, of rules and regulations that you are going to have to deal with.

And so we are encouraging that RTPA be brought up, too. I am helping Congresswoman Kristi Noem on this and appreciate your support for it, too. That means a lot to us.

Mr. JOHNSON. You are welcome.

Mr. MULLIN. With that, Mr. Johnson, I am done. And, Mr. Chairman, I will yield back the remainder of my time.

Mr. LATTA. Thank you very much. The gentleman yields back. The Chair now recognizes the gentleman from South Carolina for 5 minutes.

Mr. DUNCAN. Thank you, Mr. Chairman. I apologize, with multiple committees going on. But we are dealing with electric vehicles upstairs, AI, and now we are dealing with cryptocurrency and digital commerce. And I think it is pretty fascinating.

I don't know how many Members of Congress actually own cryptocurrency in some form, but I do. And the reason I do is because I wanted to educate myself on how to purchase it, the different exchanges. I look at it every day just like I look at a stock portfolio, just to try to understand these type topics that we deal with here in this committee and are talking about today.

So, Mr. Taylor, what specific consumer preferences or trends do you see being the driving force behind a lot of the retail innovations?

Mr. TAYLOR. Well, certainly the consumer's appetite for convenience, for fast and free, are driving many of the innovations we see in the last mile. And I think that, you know, the Amazon effect is very real here. And, you know, we are helping many other retailers be able to provide similar or even better, better level of service.

And so the innovations we see and that we are directly involved in is helping our retail customers gain much deeper visibility in last-mile delivery, and the ability to be truly proactive in helping the distressed shipments get back on track, and then communicate with the customer in a proactive way as well.

Mr. DUNCAN. Right. I guess this is for the panel. Because of the demand for speedy delivery—and my wife and I use Amazon a lot

for, you know, household goods, I mean, just because of the convenience of it—but do you see more trucks taking less than full trailers, and how is that affecting the trucking industry? And that is for the panel.

Mr. SANKER. Yes, I mentioned earlier, we spend most of our time trying to figure out how to consolidate, again, because things have become deconsolidated as we have all ordered less than, like, really tiny packages going all over the place and coming from all over the place. So I think consolidation is the answer.

And I think that what a lot of it—some of the subcommittees you just mentioned—I think it all kind of gets back to math, really. It is not our favorite subject for most of us, but all this stuff is going to be solved with algorithms. And we don't really have the people. It all comes down to the people that can do the math.

So the consolidation example is a great one. We use some pretty sophisticated algorithms that I couldn't possibly understand, that we have got some great developers that do. And I think that is the key to a lot of everything now.

Mr. DUNCAN. Yes. I have visited some fulfillment centers, like Walgreen's, where the stores are actually sending in orders, done automatically, I guess, that they need, you know, three or four bottles of aspirin and 10 bottles of formaldehyde, or whatever, you know, hydrogen peroxide. And they don't have warehouses in the back of the stores anymore. It is all just-in-time fulfillment.

But the box may only have four items in it that's going to that store. And so, and it is just, that is going to take up a lot of truck space for a box that only has three or four items in it. I can think only how that translates to individual consumers that are purchasing one item and that truck has got to go to Eureka, Montana, right, that delivery truck.

So let me move on in the little bit of time I have got left.

Mr. Sanker, CaseStack is considered a third-party logistics company, or a 3PL. What are the primary functions of 3PLs within that supply chain? And why do companies hire 3PLs to handle parts or even all of their logistics?

Mr. SANKER. Yes, I think the bar has gone up a lot on all of this stuff. So it is not something that anyone can do anymore. So you need expertise. So third parties that provide logistics services are becoming increasingly relevant and having to invest quite a bit in technology.

So I think the divide that is happening is, you have got low-tech and you have got high-tech warehousing and logistics. At some point, you know, the higher-technology-based logistics operations are the ones that will be surviving and the lower-tech ones won't because there is just demand for instant visibility, immediate shipping, and the things that you have mentioned, like the consolidation of packaging so that it is efficient.

And when I say sustainability, there is an environmental impact to allow these things that is pretty serious. And then, from a business standpoint, like I mentioned the \$3.00 or so box of cereal I ordered, you know, it was less than a dollar of profit in that for businesses, too. So, really, nobody could possibly make money if they spent, in order to get me a \$3.00 box of cereal they used a gallon

of diesel fuel, 2 pounds of paper and cardboard, and 6 feet of tape, plastic tape. And you can imagine that cost more than a dollar.

So, at some point, the market figures this out. I think some of the retailers are a little bit ahead of the consumers. Consumers, some of the surveys I have seen for consumers is they are all right waiting a little while for some of the deliveries. But right now the businesses haven't really given them the incentives to do it. It's free shipping. I mean, a lot of times—I imagine everybody in here has the same experience—I ordered something on a Friday, that is this Friday, I got it on Sunday. I didn't really need it for a week, but it is there. And I didn't need all that.

So that is going to change. I think the market will adjust for that.

Mr. DUNCAN. Definitely a paradigm shift going on all across the globe, I mean, not only in the U.S. with your companies, and Amazon, and other fulfillment companies like that, but you are seeing Alibaba and JD and some others in the Asian markets.

We have a logistics system in this country with good roads, good trains, and good airports. But I am just curious and really watching what is going on overseas with companies like Alibaba and JD and how they are getting those items to their customers in much ruraler areas than we have in this country.

It is a great hearing, Mr. Chairman. I appreciate the time.

Mr. LATTA. Well, thank you very much. The gentleman yields back.

And seeing that we have no other Members to ask questions, I want to thank our panel for being with us today. It has been very, very informational. We really appreciate it.

And before we conclude, I would like to include the following documents to be submitted for the record, by unanimous consent: A letter from the U.S. Chamber of Commerce Technology Engagement Center; and a letter from RILA.

And without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. LATTA. And pursuant to committee rules, I remind Members that they have 10 business days to submit additional question for the record. I ask that witnesses submit their response within 10 business days upon receipt of the questions.

Without objection, the subcommittee will stand adjourned. And, again, thank you very much for being with us today.

[Whereupon, at 11:44 a.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]



Tim Day
Senior Vice President
U.S. Chamber of Commerce

1615 H Street, NW
Washington, DC 20062

March 7, 2018

The Honorable Robert Latta
Chairman
Digital Commerce and Consumer Protection
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Janice Schakowsky
Ranking Member
Digital Commerce and Consumer Protection
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Latta and Ranking Member Schakowsky:

The U.S. Chamber of Commerce applauds the Subcommittee for today's hearing dealing with the critical issue of emerging tech's impact on retail operations and logistics.

The Chamber created the Technology Engagement Center (C_TEC) to promote the role of technology in the economy and to advocate for rational policies that drive economic growth, spur innovation, and create jobs. C_TEC convenes working groups focused on autonomous vehicles ("AVs") and unmanned aerial systems ("UAS").

C_TEC believes that autonomy in both surface and aerial logistics will be necessary to ensure America leads in digital commerce. According to the U.S. Census Bureau, it is estimated that in the United States, total e-commerce sales amounted to \$453.5 billion, which was a 16 percent increase from the year before.¹

Trucking is one of the current major forms of transportation to ensure fulfillment of e-commerce purchases. Unfortunately, the nation is experiencing a shortage of truck drivers.² One of the many solutions to this shortage will be autonomy. Fortunately, testing has shown that autonomous commercial trucking is viable as demonstrated by Embark which recently conducted a test of an autonomous truck on a 2,400-mile trip from California to Florida.³

¹ U.S. Census Bureau News, "Quarterly Retail E-Commerce Sales 4th Quarter 2017," (Feb. 16, 2018) *available at* https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf.

² Samantha Raphaelson, "Trucking Industry Struggles With Growing Driver Shortage," National Public Radio (Jan. 9, 2017) *available at* <https://www.npr.org/2018/01/09/576752327/trucking-industry-struggles-with-growing-driver-shortage>.

³ Darrell Etherington, "Embark's self-driving truck completes 2,400 mile cross-U.S. trip," Tech Crunch (Feb. 6, 2018) *available at* <https://beta.techcrunch.com/2018/02/06/embarks-self-driving-truck-drove-2400-miles-across-the-u-s/>.

In order for autonomous truck use to become ubiquitous, it will require that regulatory certainty exists for this new technology. Unfortunately, there exists a patchwork of 50-state safety regimes for autonomous vehicles, which has the effect of hindering nationwide deployment of AVs.

Industries operating in the UAS space have to deal with this same patchwork of safety regimes. To combat this, many of America's technology leaders are testing, and in some cases, commercially operating UAS overseas. To ensure the U.S. remains a leader in AV and UAS innovation, it is important to create a favorable regulatory environment that attracts industry.

The Chamber applauds this Subcommittee's leadership on H.R. 3388, the SELF-DRIVE Act, which passed the full House. While this bill goes a great way in creating the right regulatory environment for passenger vehicles, it is C_TEC's hope that Congress will also work to find the right federal framework and a national standard for autonomous commercial vehicles and UAS.

We applaud the work of this Subcommittee on emerging tech and hope to work with you to ensure that they enable American businesses to lead the way in e-commerce.

Sincerely,



Tim Day
Senior Vice President
C_TEC U.S. Chamber of Commerce

Cc: Members of the Subcommittee on Digital Commerce and Consumer Protection



March 7, 2018

The Honorable Bob Latta
Chairman
Subcommittee on Digital Commerce and
Consumer Protection
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Jan Schakowsky
Ranking Member
Subcommittee on Digital Commerce and
Consumer Protection
2322A Rayburn House Office Building
Washington, DC 20515

Dear Chairman Latta and Ranking Member Schakowsky:

On behalf of the Retail Industry Leaders Association (RILA), I write to commend you for hosting today's House Energy & Commerce Subcommittee on Digital Commerce and Consumer Protection hearing entitled, "Review of Emerging Tech's Impact on Retail Operations and Logistics." Retailers are dynamic businesses rapidly deploying new innovations and technology and RILA welcomes this and future conversations about the transformations occurring in retail.

RILA is the trade association of the world's largest and most innovative retail companies. RILA members include more than 200 retailers, product manufacturers, and service suppliers, which together account for more than \$1.5 trillion in annual sales, millions of American jobs, and more than 100,000 stores, manufacturing facilities, and distribution centers domestically and abroad.

Expanding internet access and changing U.S. and global consumer values, preferences, and lifestyles, have led to unprecedented disruption in virtually every industry. The digital revolution continues to transform the way customers buy and interact with retailers and products. For retailers, the pace and depth of change is unprecedented and accelerating. As the retail industry aggressively transforms and innovates to meet customer expectations, retailers see two major consumer trends: toward "ubiquitous and ultra-personal shopping" and toward a circular economy. Retailers seek new ways to meet these expectations and enable shopping anytime, anywhere. Often consumer-facing service upgrades are the visible element of deep investment in back-end supply chain enhancements. As such, RILA members are leading the way in adopting new technology and innovation to improve operations and efficiency in the flow of our goods in every aspect of the supply chain. RILA sees three technologies and accelerating the supply of Americans with key skills as enabling supply chain innovations. Some of these technologies are in their infancy and others are already growing more advanced. Those are detailed below.

Enable Blockchain

Blockchain has emerged as a revolutionary technology with the potential to bring transformational change to retail supply chains, payment systems, and other operations. Originally constructed to safely and securely record, store, and track digital currency transactions, blockchain technology has the capacity to reduce fraud, enable smart contracts,

create a more transparent and secure retail supply chain, and ensure that shopping experiences are consistent and transparent.

Last year, Walmart and a coalition of food suppliers, including Unilever, Nestle, and Dole, announced a partnership with IBM to test the use of blockchain for addressing food safety. By implementing this technology, they hope to bolster their data management processes across a complex supply network that includes farmers, brokers, distributors, processors, retailers, regulators, and consumers. Walmart and IBM have already completed two successful pilots using blockchain to trace pork and mangoes as they move through the supply chain and onto store shelves. Walmart was able to reduce the time it took to trace a package of mangoes from the farm to the store from days or weeks to two seconds. Perhaps more importantly, these trials also demonstrated that stakeholders throughout the global food supply chain view food safety as a collaborative issue, rather than a competitive one, and are willing to work together to improve the food system to benefit American consumers.

Support Last Mile Innovation

As consumers increasingly expect on-demand services, last mile—the final and often most expensive leg of delivery to a consumer—has become a leading priority among retailers. In fact, many in the industry have begun to experiment with a variety of last mile solutions, including “buy online, pick up in store” or BOPUS, street level delivery drones, and rideshare delivery. BOPUS alleviates some of the high shipping costs associated with last mile by having the physical store become the distribution center. In 2016, CVS partnered with Curbside, a startup mobile application where customers place their order, allowing consumers to receive a notification when their order is ready and enjoy prompt delivery directly to their car upon arrival at the store. Retailers are also keenly interested in developments in both autonomous cars as well as autonomous trucks. RILA members believe technology will be a crucial element in unlocking last mile delivery services that improve overall supply chain effectiveness and exceed customer expectations.

Invest in Port Technology

Retailers meet the needs of U.S. consumers, and in doing so are essential drivers of the U.S. economy and leaders in international trade. Retailers also serve the global market for consumer goods and bring U.S. products to the foreign markets where they operate. The efficiency and productivity of United States seaports and their connecting infrastructure is crucial to our nation’s ability to successfully compete in the global marketplace and to promote our domestic economy. Approximately seventy-five percent of America’s merchandise imports and exports by volume flow through our seaports, linking our producers and retailers with their suppliers and customers and our supply chains with the global economy. Retailers strongly support utilizing innovation and technology to increase the speed of processing, expand the capacity, and enhance the capabilities of our nations seaports.

Congestion at America’s seaports and inland infrastructure is an increasingly severe threat to the reliability and efficiency of U.S. industries and supply chains. Over the past decade, the operational systems and infrastructure at our seaports and inland links are not being improved

comprehensively and rapidly enough to handle the growth of U.S. trade and quickly-changing maritime industry and shipping trends. A few U.S. ports have begun experimenting with advanced robotics, artificial intelligence, and other digital tools to facilitate goods flowing into and out of major U.S. ports. By digitizing and automating activities once handled by human crane operators and cargo haulers, seaports can reduce the amount of time ships sit in port and otherwise boost port productivity by up to 30% by some estimates. RILA encourages policymakers to invest in upgrading port infrastructure utilizing these cutting-edge tools.

Accelerate the Retail Talent Pipeline

Now more than ever, retailers are dependent upon their logistics teams to predict which products will be in demand and in which markets, to implement delivery innovations, and even contribute to their marketing campaigns. And today, supply chain jobs are growing — a direct reflection of the increasing strategic importance and complexity of the domain. In fact, there is a shortage of talent as the logistics field expands into data science and information technology. Retailers are looking to hire data and behavioral scientists, engineers, and other tech strategists to fill these voids; this is an area where public-private partnerships backed by policymaker support would be incredibly valuable.

Retailers recognize that the adoption of new, innovative technologies that enhance efficiency and productivity in the supply chain is the key to meeting growing consumer demands. We appreciate the Subcommittee holding today's hearing and welcome any opportunities to work together to continue the conversation.

Sincerely,

Nicholas R. Ahrens

Nicholas R. Ahrens
Vice President, Privacy & Cybersecurity