

IoT

THE INTERNET OF THINGS

by Robert Cavitt, CEO, Jenkon 

“And just like any company that blissfully ignored the Internet at the turn of the century, the ones that dismiss the Internet of Things risk getting left behind.”

—Jared Newman

The Internet of Things (IoT) phenomenon is not about 7.5 billion people using, or being impacted, by the internet every day. The IoT is about nearly every device or “thing” that somehow touches 7.5 billion people every day, constantly communicating across the internet. The IoT is the platform of the world’s next digital transformation. A 2020 *Business Insider Intelligence* report estimates a proliferation of as many as 64 billion IoT devices by 2026. This estimate means there will be nearly eight IoT-connected devices for every person on the planet. In 2020, estimates for business and consumer IoT technology-spend were \$15 trillion—a 23 percent annual increase during a pandemic year. Despite similar market conditions for 2021, IDC projects increases in consumer spending of more than 14 percent.

The fundamental infrastructure of how consumer goods and services are sold, distributed, and used is changing before our eyes. It is essential for direct sellers of all sizes to incorporate the IoT paradigm into their marketing, product, and distribution

strategies now. Otherwise, tech-driven competitors from the expanding gig and sharing economies, and new distribution opportunities in the traditional consumer goods sector, will seize the emerging demand from a new workforce seeking the flexibility of independent contractor status.

But what is the IoT? And what does it mean to your customers and your business? Kevin Ashton, a British technologist, first coined the term “IoT” in the late 1990s as part of his research at the Massachusetts Institute of Technology. Ashton was developing digital communication standards for inventory supply chains. He used “IoT” to describe a connected system of physically disbursed devices, each with sensors, using the internet to communicate with each other. In the two decades since then, consumers have benefited from IoT’s adolescence as personal devices were connected to the internet. FitBit® wearers share health and fitness data with personal trainers, nutritionists, and healthcare professionals. Ring® doorbells allow remote mobile-monitoring and control of home security systems. Xbox and

PlayStation allow thousands of gamers from around the world to compete in real-time.

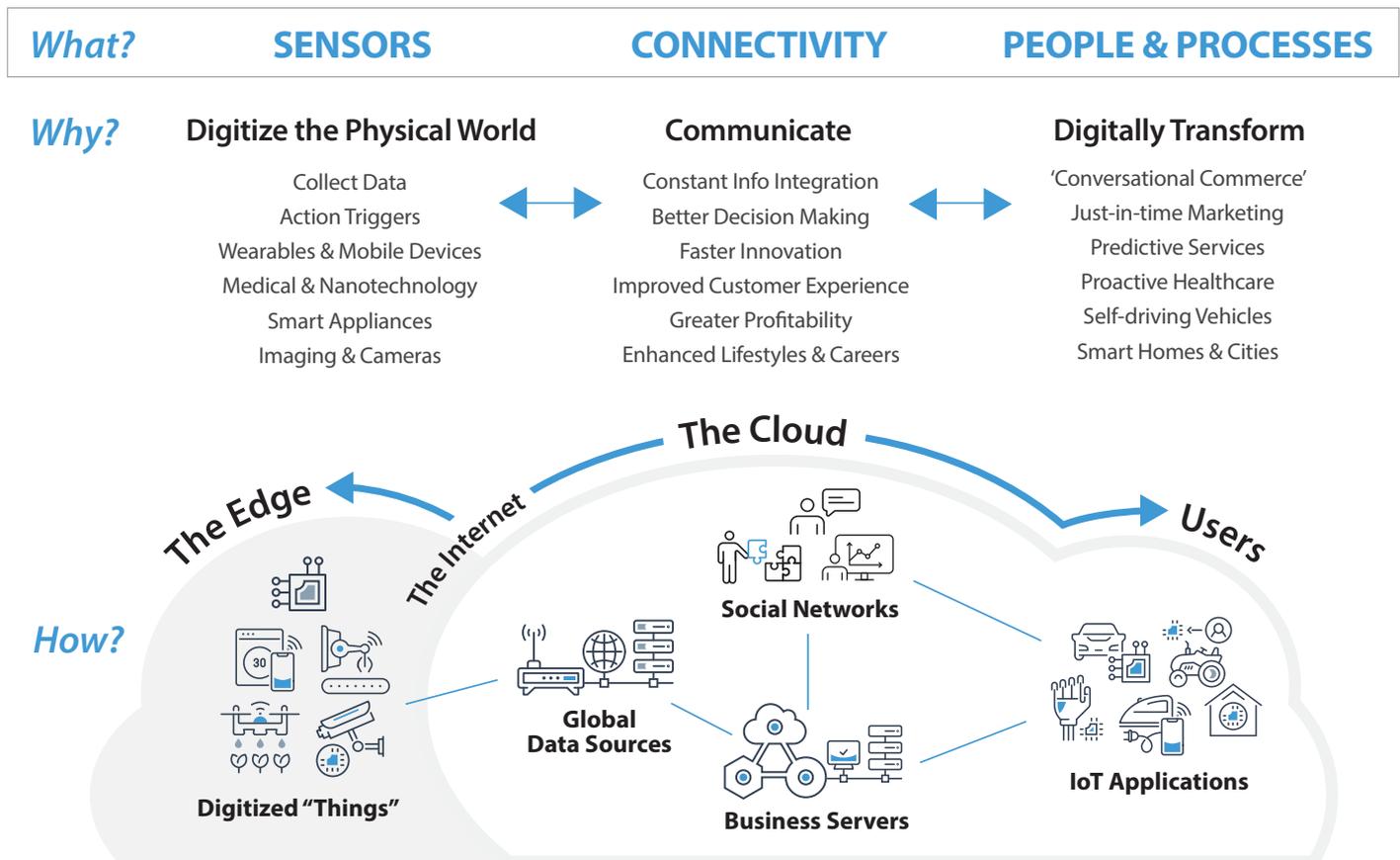
The IoT phenomenon is being empowered by technology beyond simply connecting personal devices to the internet. Cloud computing, 5G cellular networks, and edge computing technology deliver a new infrastructure upon which the internet will transform. Artificial intelligence (AI), machine learning (ML), and big data analytics are software technologies creating new consumer expectations for the products they purchase, and the businesses to which they align.

The world is expecting and demanding greater wireless connectivity to the internet, and all private networks. The new 5G cellular networks are estimated to support up to 100x more connected devices at 10-20x the speed of existing networks. Similarly, the cloud computing network of servers and software technology, the backbone by which the internet is utilized, improves its efficiency and capacity at mind-boggling rates. Just as important is the emergence of edge computing—“edge” because it refers to the place on the internet where people or devices (“things”) initially produce information that will be delivered back into the internet. These edge devices will also consume information from the web to help perform their tasks. Tremendous capability

is being engineered into these edge devices. Their power certainly comes from the ever-shrinking, ever-faster micro-processors, but it also comes from AI and sophisticated analytics software being engineered into these “things” on the internet.

Today’s chatbots and virtual assistants (VAs) are early examples of AI devices using the internet to communicate and become “smarter.” Apple’s Siri, Amazon’s Alexa, Google Assistant, and Microsoft’s Cortana are VAs using AI and advanced voice-recognition to communicate with consumers. You may have already noticed the more we talk to Siri and Alexa, the better they understand and interact with us. The devices learn, improving their understanding and reasoning as they accumulate more data when conversing with us. As you continue interacting with them, Siri and Alexa strengthen their ability to anticipate your needs, make personal recommendations, and even initiate action. This “machine learning” is a form of AI and happens in real time with the help of constantly updated resources accessed from the internet. Speech recognition, Natural Language Processing (NLP), and voice synthesis technologies are maturing so fast our youngest generation’s primary form of interaction with smartphones and personal computing devices is talking. Youth today simply look down on finger tapping, keyboard-entry, and having to divert their eyes’ attention.

IOT (The Internet of Things)



Artificial intelligence and machine learning are being rapidly implemented across many other types of devices accessing the internet. Like Alexa or Siri, machine learning will allow them to anticipate how and when you want to use them. Devices will be Wi-Fi- and Bluetooth-enabled for easy internet connectivity, information sharing, and sending automated notifications. Imaging technology is shrinking at such a fast rate that cameras will become a standard part of these IoT devices for sharing information with a product support person, medical technician, personal coach, or family member. Much of this functionality and automation will occur without any human intervention at all.

The consumer expectation for a personalized and efficient experience creates an opportunity for businesses to better understand customer preferences and behavioral insights. IoT technology enables new marketing practices to deliver unparalleled customer experiences when shopping and making purchase decisions. Customer engagement technologies such as digital signage, marketing beacons, inventory management, smart shelves and mirrors, and automated checkouts create a faster and more convenient shopping experiences. GPS and radio frequency identification, asset tracking, and drone technologies have transformed order fulfillment and delivery experiences.

The demand for improved lifestyles has driven IoT innovation in personal health and well-being, home automation and security, smart appliances, entertainment, and connected cars. IoT device sensors are frequently combined to make more capable home systems that, for example, detect power outages and boot up a generator to ensure electricity. These home technologies can not only self-start, but they also perform monthly diagnostics, alert homeowners of problems, and automatically schedule field service. Today's smart homes are the consumer's extension and end-point (edge) of tomorrow's smart cities. The value afforded by IoT-enabled retail products, used in everyday life, will continue to skyrocket. But, as importantly, the cost of embedding IoT technology into our ubiquitous and required consumer goods is becoming almost negligible.

The massive amounts of consumer data generated by e-commerce and smart retail technology gave rise to Big Data analytics and AI analysis software. Analytics and AI are critical factors in the ongoing transformation of e-commerce and smart retail. Just as data is the bridge that connects the physical and digital worlds, analytics and intelligence applications create an overlap between businesses and consumers. Businesses can harvest massive amounts of data on consumer behavior via the new smart IoT devices. The real value comes when data from one type of IoT device is merged with other data sets to develop more prescriptive and predictive strategies for marketing, sales, inventory control, and customer support strategies. For consumers, the payback of

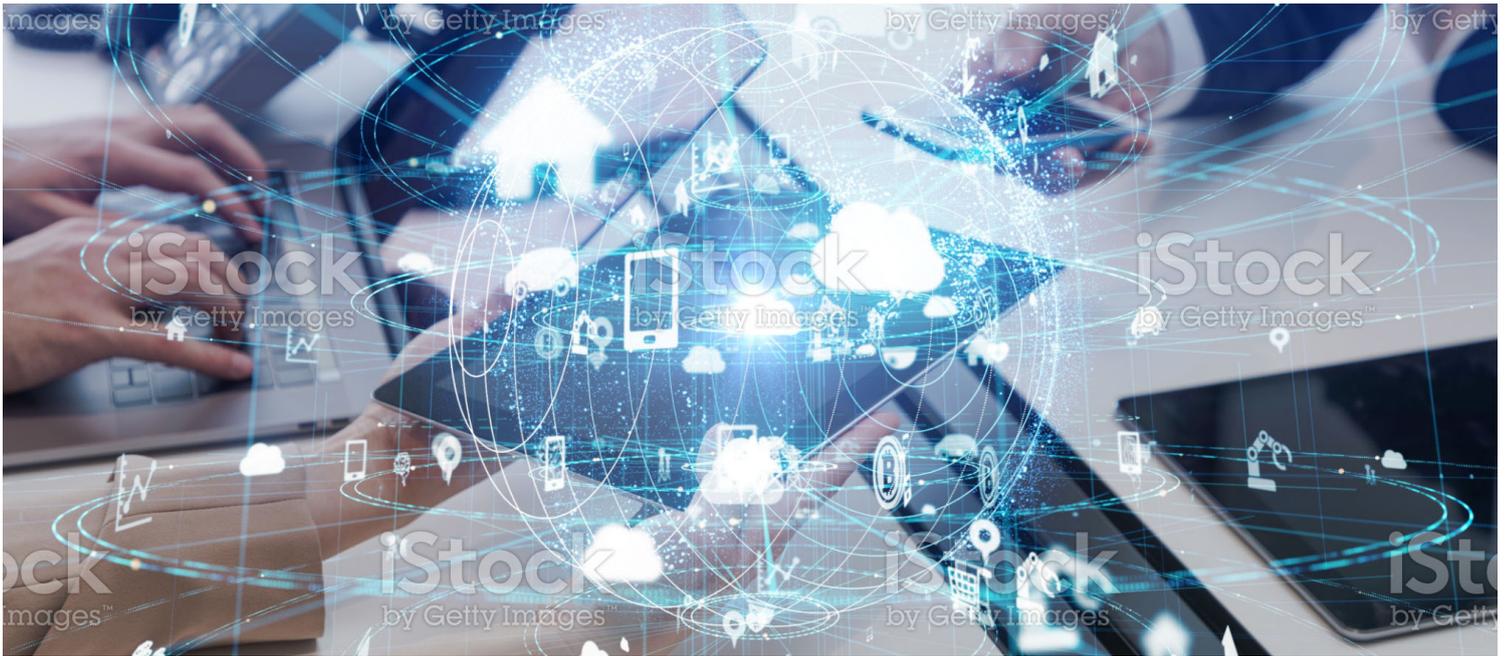
those kinds of business analytics is improved retail experiences in the form of better decisions, greater convenience, and faster service. For example, smart mirrors allow consumers to compare cosmetics or outfits side-by-side, place orders with their provider, change light levels in the changing room, view themselves in 360 degrees, and snap photos to share with friends on social media. Riding on the backbone of 5G networks, IoT will be creating useful information at a level exponentially beyond anything in history.

It's true that information security also needs to be addressed. By all measures, information security and proper regulation has historically been a major laggard in the evolution of information processing. That said, data security requirements and legislation will most certainly evolve to become a fundamental part of this ever-changing landscape.

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New opportunities have driven IoT adoption in manufacturing, transportation, healthcare, finance, government services, and other consumer markets. Smart cities represent a quintessential realization of consumer-facing IoT, ultimately impacting all commercial enterprise. Smart city initiatives use the synergy of other "smart" IoT as applications in transportation, signage, buildings, medical and health services, power distribution, communications, water and sewage, agriculture, and more. Recent statistics cite more than 60 percent of US cities are investing in smart city IoT technology. Boulder, CO; Pittsburgh, PA; San Francisco, CA; Columbus, OH; Austin, TX; and New York, NY, are a few of the US cities leading the way. The market value of smart city initiatives incorporating IoT and AI is expected to surpass \$2 trillion by 2025, with the top 600 smart cities accounting for 60 percent of global GDP. The pace of this IoT expansion has driven prominent market competitors like Amazon, Microsoft, Google, Cisco, IBM, Oracle, Verizon, and others to execute acquisition and partnership strategies in building institutional IoT ecosystems. Organizations such as the Internet of Things Consortium (IoTC), the IoT World Alliance, and Eclipse IoT have established business development associations to foster strategic partnerships in support of these new IoT-based infrastructures of society's future.

Globally, consumers are benefiting from the more efficient delivery of citizen-facing government services. The Intelligent Operations Center (IOC) is the IoT-based system that smart cities use to administer these networked public services. Smart transportation systems integrate travel information with smart cars, trains, buses, e-bikes/scooters, and even pedestrians to sense traffic congestion, control traffic lights, reroute traffic, recommend parking locations,



and provide estimated arrival times. Smart grids integrate with smart buildings to automate energy distribution based on building occupancy, temperature, and time of day. Smart water systems link smart weather, smart grids, and smart meters to control storm watershed systems, manage wastewater operations, and monitor consumer water usage and costs. Smart health systems receive fire hazard and air quality information from smart weather and smart transportation systems to provide public alerts and emergency response plans. Many other smart city infrastructures combined to make up a highly connected mesh of smart systems. The IOC application monitors and controls the various smart systems, empowering city administrators and public leaders to make better and faster decisions regarding consumers' life services, all powered by the IoT.

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Direct selling executives must quickly acknowledge and understand the groundswell impact of IoT on sales representatives and retail customers' expectations. Boards of directors and C-suite management of the world's largest consumer-goods companies are specifically strategizing about IoT's impact on customer relationships, operations, and distribution. The IoT is not an issue simply being tossed over to their IT department. IoT, like the internet, will change every facet of the enterprise from high-impact branding to servicing product warranty. The right planning and investment will do more than allow you to accurately meet evolving expectations of your customers and representatives. The IoT will provide savings in operational costs, faster go-to-market implementations, and more efficient customer service and distribution processes.

Direct sellers should first focus on how to use the IoT to enhance and simplify the journey of independent sales representatives. Like the gig and sharing economy competitors also offering independent contractor opportunities, direct sellers can deliver solutions that:

- Provide just-in-time promotion and marketing to new and existing consumers
- Present ultra-fast, ultra-simple and customized order experiences
- Identify prospective new customers with automated field notifications and coaching
- Automate all customer service responsibilities for representatives and customers so they can simply "promote" and "consume"
- Profile the best candidates for becoming new sales representatives, trigger the right marketing communications, and link them with ideal sponsors

The internet was the next evolutionary step in humanity's need to better communicate and share information. The Internet of Things is the progressive connection of devices, machines, computers, and people to develop new insights, improve decision-making, deliver automation, and improve the life experience. Even before the 2020 pandemic, the world was placing a new value on part-time careers, home-based businesses, flexible income opportunities, and working when the individual chooses. In 2021 and beyond, IoT strategy in market development, as well as internal operations, can create a transformative platform for direct selling at an unprecedented time in world history. Proactive IoT planning will help you to not only differentiate your business opportunity, but also seize a share of new workforce culture and consumer markets never before attainable by direct sellers. **DSJ**