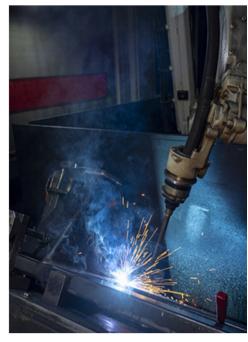# From Hardware to Holistic: The IoT Revolution in Business

By: Ron Konezny

As organizations around the world embrace digitalization and Industry 4.0, the demand for Internet of Things (IoT) technology is skyrocketing. In fact, the global IoT market is expected to be worth $2.23 trillion by 2028, with a compound annual growth rate (CAGR) of 12.57 percent. The pressure to adapt and transform is undeniable in this rapidly evolving landscape.

Business transformation can be daunting, particularly for large, established technology companies in the IoT space. Rarely a simple task, business transformation often involves a fundamental shift in strategy, operations, and company culture. However, when the principal driver for transformation is the customers' IoT needs, the journey, despite its challenges, becomes not only necessary but also extremely rewarding. Moreover, when the impetus for this transformation is the customer, the entire organization can more easily align itself around a common goal – in this case, modern IoT enablement.

The evolving IoT-related customer demands and needs that arise from the IoT revolution also require businesses to take a more comprehensive approach. For example, rather than forcing customers to tackle IoT in a piecemeal fashion – buying hardware from one vendor while using others to address connectivity, security, and IoT management – organizations in the IoT space can solve their customers' current challenges more effectively by undergoing business transformation and delivering complete integrated solutions, all from one vendor.

Businesses Drivers for Digital Transformation

The catalyst for business transformation for many companies typically involves the pursuit of revenue gains or product offering diversification to hedge against market volatility. Baked into these business drivers is the recognition that customer needs and challenges evolve amid technological change. An example of this customer-driven transformation is seen in brands like Netflix, which originally mailed DVDs to customers' homes before eventually switching to online streaming in order to accommodate the growing demand for on-demand entertainment.

Over in the technology space, IBM's initial business model focused on products like accounting and

calculating machines. Today, after multiple transformations that coincided with the rise of new technologies like the personal computer, IBM sells a variety of software for applications in cybersecurity, automation, cloud, and artificial intelligence, including consulting services to help its clients modernize and digitally transform their operations.

The rewards of such transformation are far-reaching, with the most evident being a long-term roadmap of business viability. Consider that the IoT landscape is dynamic and growing, and IoT solutions and services are poised to take center stage. In fact, the IoT solutions and services market will quickly grow, hitting $575 billion by 2027 at a compound annual growth rate of 18.8 percent. This rapid growth is due to the evolution and adoption of new technologies — namely cloud platforms, artificial intelligence and machine learning.

Today, organizations around the world are trying to embrace these new technologies in a constantly shifting landscape. The providers that can craft business-solving solutions using these new technologies, while simplifying the planning, procurement, and deployment of connected systems and helping their customers to achieve ROI as quickly as possible will win. At the same time, providers must support customers in managing and maintaining those systems over their lifetime. This underscores the need for end-to-end solutions.

The Typical Challenges of Business Transformation

The challenges and hurdles a company may face in transforming itself can be enormous, depending upon the company size, the existing product portfolio and the goals of the transformation. One of the most significant challenges can be cultural resistance to change and a lack of buy-in from stakeholders.

External stakeholders, for example, may feel disenfranchised because they are accustomed to a previous product-centric approach and need reassurance and clear communication about the benefits of the new solutions-oriented model. Similarly, internal stakeholders can be so embedded in their methods that they can't speak the new language and need complete retraining. As such, companies must recalibrate what they offer and how they package it while re-educating internal stakeholders, sales, marketing, and support teams accordingly. Consider salespeople who may have mastered selling a particular piece of IoT hardware, like a sensor, but must now learn to sell that sensor along with a connectivity and platform component.

Not only will business transformation require adjustment for the company but also for the marketplace, especially if the brand has been around for a long time and built a reputation in a particular niche of the IoT market. Galvanizing one's entire channel around a business overhaul is no small task but is vital to getting key players onboard and up to speed. Companies must collaborate with multiple vendors and stakeholders — from component providers and systems integrators to cellular carriers, channel partners, and, of course, the customer.

Another common challenge is that sometimes the mechanisms in place don't always support the new IoT business model; everything must be reworked, from how orders get taken to how support handles requests. Getting mechanisms to adapt new business models can be tricky for companies undertaking digital transformation where legacy systems clash with new digital technologies. While IoT providers shouldn't abandon their legacy systems wholesale, these systems often lack interoperability, resulting in data inconsistencies and communication issues.

How to Carry Out Transformation: Keeping the Customer at the Center

Business transformation is hard — however, when customer-driven, the positive sea change is worth the accompanying challenges. Indeed, it cannot be stressed enough how important it is for companies to have the customer (and their IoT needs) as the chief driver of transformation. When transitioning,

an organization must establish how this transformation will benefit its customer base. Unfortunately, it is not uncommon for misalignment to exist between what the provider believes the customer cares about and what the customer actually desires.

The customer typically doesn't have the time or knowledge to piece together an IoT deployment on their own — they want something that delivers clear benefits. They also want something they can easily adopt, just like any other product or service they bring into their business. If adoption is challenging, it becomes a nuisance, causing that thing to fall down the priority list and possibly fail. This will not result in a high grade for the provider.

IoT providers should design their products, services, and offerings to make the lives of their customers easier. They must identify customer pain points and needs, like automating processes, overcoming technical and regulatory changes, or protecting against emerging security issues that continue to ramp up in their frequency and volume. For instance, businesses often send their workers into the field to manually examine the status of every IoT installation; alternatively, IoT companies should offer a device management platform that allows their customers to manage and view device insights remotely and in an automated fashion.

A Peek into the Future of IoT

The IoT revolution will hinge on whether businesses are ready for change. One trend on the horizon is that IoT software applications will become more affordable and higher quality, allowing more things to get connected and permitting the monitoring of less-expensive assets. Within IoT applications, there will also be an evolution from large language models to small language models. Increasingly, these models will get integrated into IoT systems to drive intelligence, automation, and predictive maintenance.

Lastly, businesses will encounter change management challenges as they fully integrate IoT. For instance, if a grocery store deploys a temperature monitoring and workflow management platform, the greatest ROI it expects is savings in labor costs. Workers won't need eight hours a week to monitor temperatures manually and can instead focus on higher-value work. Nevertheless, when it is time for rollout, the store manager might hesitate to "give up" those eight hours because they don't fully trust the system yet.

These developments will require that businesses think holistically, prioritizing speed and scalability. Consequently, they'll need to leverage vendors that can provide comprehensive IoT offerings rather than different hardware pieces, further underscoring the opportunity for those who can successfully actualize business transformation.