Digital Transformation Disrupts the OEM Business

What to Do in Order to Survive

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What is the OEM Model?

In the OEM business, vertical service providers integrate building blocks provided by OEMs into their solutions.

Examples of vertical solution providers (VSPs):
- Magnetic resonance imaging scanner suppliers
- Video surveillance systems providers
- Distributed energy systems manufacturers

Key differentiators of VSPs typically include:
- Proprietary hardware and software with related services
- Ability to customize to fit customers’ needs
- Customer reach
- Vertical focus

On top of supplying the building blocks, the OEMs may also:
- Offer their customization to fit specific verticals’ or even individual VSP’s needs
- Take over some or all parts of the manufacturing process, including packaging, branding, and shipping, as well as preinstallation of VSPs’ proprietary software, OS, dependencies, documentation, etc.
- Supply VSPs with digital transformation-related technologies, e.g., with cloud services or IoT devices
- Provide additional services, e.g., training, technical support

OEMs and VSPs often cooperate to deliver the solution as a black box or white box. Digital transformation will have a cascade effect on the OEM business — it will disrupt the business of VSPs’ customers, which will in turn spill over to the providers themselves.
Digital Transformation is Here
Is Your Business Ready for It?

Digital transformation is the process by which enterprises drive disruptive changes in their customers and markets. They do this by leveraging digital competencies to innovate new business models, products, and services that seamlessly blend digital and physical and business and customer experiences while improving operational efficiencies and organizational performance.

Digital transformation is enabled by rapid advancements of:

- 3rd Platform technologies (as opposed to the 2nd Platform of client server computers and the 1st Platform of mainframe computers) cloud, Big Data, social, and mobile.
- “Innovation Accelerator” technologies — next-gen security, virtual and augmented reality, the Internet of Things (IoT), cognitive computing, robotics, and 3D printing.
Digital Transformation Will Disrupt the IT You Work With But its Implications Go Far Beyond This

Digital transformation will disrupt IT, which will in turn disrupt businesses and society as a whole. Examples of changes that digital transformation brings about include:

**IT**
- Unprecedented amounts of actionable data
- Digitalization of previously analog spaces
- Commoditization of hardware
- Differentiation moving up the HW-SW-services stack
- Everything-as-a-service delivery
- Growing importance of scalability and speed of deployment

**Enterprises**
- Constant need for innovation
- Growing importance of IT within businesses
- Shifting role of IT from business enabling to value generation
- New ways of customer engagement
- Transformation of business interactions from supplier-consumer to partner-partner model

**Society**
- Emergence of the "digital economy" centered around:
  - Unlocking value in data rather than in resources
  - Expert skills rather than labor
  - Intangible rather than fixed capital
  - Opex rather than capex costs
Digital Transformation is Not Only About the Future. Its Impacts Are Already Being Felt.

Many digital transformation–related technologies are still in their nascent stages, but they already have a profound impact across verticals:
Digital Transformation Means Unprecedented Growth Opportunity But Only for Enterprises That Act Quickly

- The economy shifts from consumption of resources and raw labor to consumption of actionable data generated by the 3rd Platform and Innovation Accelerator technologies.
- Spending on solutions that harness value in this wealth of data will grow much faster than spending on 2nd Platform solutions.
- Many traditionally strong markets for hardware, software, and IT services will shrink in the digital transformation era.
- In cloud appliances and converged infrastructure hardware, spending on appliances, converged solutions, and reference architectures is predicted to grow by a CAGR of 13.3%, while traditional IT infrastructure is predicted to decline by a CAGR of 1.4% in 2014–2019.
- Those enterprises that are quick to embrace digital transformation trends are predicted to outgrow their competition. Those too slow to react will eventually struggle to survive at all.
Examples of Vertical Impact — Healthcare

- The next three years in healthcare will be about adoption of disruptive technologies:
  - The rise of computer-based intelligence with the increased adoption of cognitive/artificial intelligence (AI). This is aimed at identifying patterns in clinical data and dynamic adjustment of care plans.
  - The increased adoption of IoT technology resulting in the convergence of mobile, social, and sensors, especially in passive biometrics.
  - Investments in robotic process automation by the health insurance industry — eliminating tasks and transactions will free up clinicians’ time.
- Patient engagement across healthcare ecosystems will transform from passive to active and will be heavily assisted by mobile and social technologies, similar to the consumer, retail, and financial industries.
- Digital transformation will also bring about new risks. By 2018, ransomware attacks on healthcare organizations will double. This is a direct result of an increase in threat vectors.

Payers will have saved $1 billion globally through implementation of robotic process automation (RPA) tools, skill sets, and process reengineering by the end of 2018

60% of healthcare applications will collect real-time location data and clinical IoT device data by 2019

There will be a 50% increase in the use of robots in medications, supplies, and food delivery in hospitals by 2019

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Examples of Vertical Impact — Manufacturing

- Digital transformation technologies are already here. IDC surveys show that 49% of manufacturers use IoT, 47% use Big Data, and 62% use analytics. Most use cases involve increasing productivity, e.g., predictive maintenance of heavy machinery and vehicles enabled by a combination of embedded devices and analytical algorithms.

- Benchmarks of the future will quickly shift from pure productivity to innovation. The future is not only about using new technologies to increase productivity — it is about finding completely new value in data that the technology generates and building information-based products and solutions.

- This requires breaking down existing information silos around one product or line of business and leveraging new technologies to integrate supply chains with plant operations and life-cycle management.

15% of large manufacturers will update their operations with IoT and analytics-based situational awareness by 2019

60% of plant workers at G2000 manufacturers will work alongside robotics, 3D printing, AI, and AR/VR by 2020

50% of manufacturing supply chains will have an in-house or outsourced capability for direct-to-consumption shipments and home delivery by 2020

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Examples of Vertical Impact — Telecommunications

- There is an ever-growing demand for connectivity. This in turn places extreme pressure on optimization of networking usage. Until recently, progress in networking technologies has lagged behind. Networking became a major inhibitor in many areas, for example in cloud consumption.

- For these reasons, the future of telecommunications will be very much about virtualized and software-defined networking (SDN). Today, it is well realized within datacenters, but it will also be extended into the disparate and often chaotic access networks.

- This will have a massive impact across verticals. For example, IDC predicts that by 2018, 50% of multinational corporations will leverage SDN-based virtual network services to complement Layer 3 MPLS-based applications.

90% of enterprises will leverage communications service provider “cloud connect” services to access multiple public cloud (IaaS, PaaS, and SaaS) capabilities by 2018

More than 65% of enterprise UC&C implementations will be cloud-based UC as a service (UCaaS) by 2018

Software-defined wide area networks will be adopted by 60% of enterprises by 2018
Examples of Vertical Impact — Security and Surveillance

- In the world of digital transformation, security and surveillance becomes IT security and surveillance. On one hand, vertical service providers in these verticals will leverage technologies such as IoT and Big Data analytics to build unprecedented security capabilities that are predictive and actionable in real time. This will revolutionize security of physical assets in particular. On the other hand, security providers will increasingly become targets of new threats themselves.

- Digital transformation creates a boom in a number of potential vectors of attack — think mobile devices or IoT. This is compounded by factors such as the growing complexity of IT ecosystems that are ever more difficult to keep from leaking, an increasingly mobile workforce that demands always-on access to corporate resources, and a general shortage of IT security skills caused by IT progressing much faster than its security.

- In IoT specifically, there are early signs that poor security can become a major trust issue. Vertical solution providers will have to look hard to improve their security and privacy capabilities.

By 2021, 50% of online transactions will use biometric authentication with broad user acceptance, ubiquitous technology infrastructure, and low implementation costs.

By 2018, 70% of enterprise cybersecurity environments will use cognitive/AI to assist in dealing with cyberthreats.

By 2019, 25% of IT security spend will be driven by EU regulations, especially GDPR.
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Rapid Technological Advancement Means Focusing on Innovation

- Digital transformation does not only mean new technologies that will unlock new values in actionable data, more effective internal operations, or new ways of engaging customers. It also means that enterprises will have to evolve rapidly to stay relevant because their competitors will as well.

- Digital transformation creates a funnel through which only some enterprises will pass. In many markets, the composition of the top players is expected to change dramatically as a result of this. About 25% of cloud services introduced last year will no longer be available next year. By 2020, the 3D printing market will be controlled by four or five vendors that control less than 1% of it today.

- This applies across verticals and enterprise sizes. Non-IT enterprises are particularly vulnerable as they often lack the expertise to deal with a shift in the internal role of IT from a business enabler and a net cost to a critical driver of value.

- Enterprises, including vertical solution providers, should focus their innovation efforts around their key differentiators — embracing digital transformation–related technologies and incorporating them into their solutions.

- Vertical solution providers should consider shedding non-differentiating parts of their business and partnering with their OEMs to take over some aspects of the production process. This includes manufacturing, shipping, and technical support.

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Digital Transformation Means Faster Time to Market

- Digital transformation disrupts even those verticals that have made reasonable technological progress in the past. In building automation, for more than 20 years now end customers have demanded functionalities such as remotely monitoring energy usage, temperature, equipment run times, and occupancy schedules. Only recently has technological progress, brought about by digital transformation, finally caught up.

- Vertical solution providers as well as their customers will be busy innovating in order to stay competitive in a rapidly evolving world. This is why they expect their vertical solution providers to deliver turnkey, easy-to-access, and ready-to-use solutions.

- Digital transformation–related technologies not only create the pressure to reduce the time to market, they also provide the tools to achieve this. For example, many vertical solution providers offer remote installation and support of their proprietary software via cloud platforms, often delivered in partnership with their OEMs, which also function as cloud service providers.

A U.S. building automation company reduced time to market from 12–18 to 9 months with its IoT- and cloud-powered building control system.

A Dutch data visualization company offers its software as a black-box solution delivered by its OEM — allowing it to deploy quickly anywhere in the world.

A U.S. micro-grid systems manufacturer partnered with an OEM that delivered affordable IoT devices that could survive in harsh climates.
Digital Transformation is All About Software

• All digital transformation is intimately tied to software. This creates a boom in applications, software platforms, and services. At the same time, commoditization of hardware continues at a fast pace.

• This has two effects:
  • Differentiation and value generation move up the hardware-software-services stack.
  • Software, the smallest but still most commercially viable stack, becomes larger.

• Selling multipurpose hardware boxes with a thin software layer and minimalistic configuration is no longer enough. What makes and breaks the success of a solution now also includes analytic platforms, integration to cloud platforms of multiple cloud service providers, and seamless interoperability with complex IoT environments.

• A software-defined approach to solutions means optimized deployment models, reduced barriers to entry, broader customer choice, minimized vendor lock-in, and lower infrastructure cost.
Digital Transformation Means Facing New Challenges

- Digitalization of previously analog spaces brings about new challenges. For example, almost 50% of enterprises worldwide cite security concerns as an important inhibitor in considering public cloud services and private cloud technologies. By 2020, 10% of all attacks are predicted to target intelligent IoT systems.

- Other frequently cited digital transformation challenges include data ownership issues or compliance with regulatory policies caused by unprecedented amounts of actionable and therefore often sensitive data travelling around the world potentially unrestricted.

Cloud, Appliance, and Converged Infrastructure Hardware Growth

- Security concerns: 45%
- Regulatory or compliance issues: 27%
- Reliability concerns in terms of service availability: 27%
- IT governance issues: 27%
- Hard to integrate with in-house IT systems: 27%
- Concerns cloud cannot support critical applications: 26%
- Reduced customization opportunities: 22%
- Lack of internal IT skills: 20%

Source: IDC CloudView, January 2016, n = 11,350
Vertical Solution Providers Do Not Have to Face Them Alone

- Vertical service providers with a digital transformation–ready portfolio of solutions are potentially exposed to risks associated with these new challenges, be it attacks on IoT networking or regulatory concerns about where customers’ cloud-based data is located.

- But this does not mean that vertical solution providers must also have to become experts in overcoming these challenges. And they should not be — their business models will be rapidly disrupted by a number of trends associated with digital transformation and they will be busy innovating in order to stay competitive.

- Moreover, enterprises including vertical service providers already face a general shortage of IT skills. In the near future, experts in digital transformation and its challenges will be an extremely scarce resource and there will be fierce competition for them.
Partner with a Strong OEM with a Digital Transformation–Ready Portfolio

- A crucial component of surviving digital transformation and emerging as a market leader is partnering with an OEM that can enable the transition. This includes:
  - Providing cloud services to deliver software remotely or store data from multiple locations off-premise
  - Delivering well optimized IoT devices orchestrated with existing products such as servers or networking equipment
  - Offering next-generation security of the digital transformation building blocks of VSPs’ solutions
- OEMs can take — and in many cases have already successfully taken — over non-differentiating parts of vertical solution providers’ business in order to free their hands to focus on innovation and reduce their time to market. This includes advanced logistics that enable rapid deployment and scaling worldwide to reduce time to market.
- Large and established OEMs can benefit by having built sizable ecosystems of partners, including enterprises on the bleeding edge of innovation, and therefore being able to facilitate cooperation between their ecosystem members and their vertical solution providers.
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