A Framework for Digital Business Transformation

By embracing Code Halo thinking and a programmatic approach to business process change, organizations can better engage with customers and deliver mass-customized products and services that drive differentiation and outperformance.
Executive Summary

Successful organizations operate with a clear business direction, using a vision and roadmap that define the way forward. Without these crucial strategic instruments, businesses would focus only on solving today’s problems and fail to create continuous value for their stakeholders.

But does your organization have a clear digital strategy? The answer, most likely, is “no.” This has created an untenable situation for many companies, considering that IT is increasingly interwoven into the very fabric of most businesses, markets and societies. New digital solutions offer an opportunity to improve how organizations compete and create a foundation for outperforming rivals near and far.

This white paper introduces a framework that organizations can use to develop a digital vision and build new business models based on digital opportunities. We provide examples of organizations that have disrupted their industries by rethinking their approach to doing business, and we end with a recommended approach to jumpstarting your organization’s digital journey.
Focusing on Digital

For companies that use the newest digital solutions, namely social, mobile, analytics and cloud (SMAC Stack™), major benefits can quickly accrue. Today’s organizations have a variety of information technology solutions at their disposal to simultaneously increase operational efficiency and generate unprecedented business capabilities. Unfortunately, many do not use these tools to their full potential, often as a result of not knowing what these solutions entail or because of the sheer volume of data and complexity of analysis that renders decision-making a challenge. As a result, these organizations miss the most profitable business opportunities.

Digital transformation often begins with the customer: How to get to know customers better, improve your service levels and digitize the customer experience. It then extends to three additional areas: digitizing operations, products and services (see Figure 1).

By analyzing digital developments across several industries – for example, life sciences, electronics, retail, manufacturing, consumer goods, chemicals, banking and insurance – we have found common elements in all four of these areas that apply to most companies in both the B2C and B2B markets. Based on these common elements, we have developed a framework for organizations to develop a digital transformation blueprint. Not all elements will be relevant for every industry, so for each market and organization, the framework must be tailored to ensure proper fit. For instance, not every organization is ready to operate its business in line with the Agile methodology.

Note that when an organization decides to use this digital framework, it should be introduced in a staged approach rather than all at once; therefore, it is vital to set priorities and identify the most important areas of focus.
Digital Re-mastering of Business
The following sections elaborate on each area of our digital framework.

Digitizing the Customer Experience
Customers are clearly the most important stakeholder of any organization. In order to serve customers in the best possible way, it’s essential to know them, which until recently was only possible through companies’ internal systems. Using CRM, companies can identify which products a particular customer has historically purchased; now, better analysis can be performed through the Internet: What complementary products do similar customers buy who have a similar purchasing history?

We call these digital footprints that consumers leave behind in their day-to-day online behavior a Code Halo™, or the digital field of information that accumulates not only around customers, but also around processes, organizations and devices. Based on information derived from social media, organizations can link certain consumer preferences to potential buying habits. Every action that consumers take, in both the physical and virtual worlds, contributes to the growth of Code Halos.

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For instance, according to Echo Nest, a music intelligence startup, your music-based Code Halo can convey much more about you than just what kind of music you like to listen to. It can also reveal your tastes in food, movies and literature, as well as your product preferences, political learnings and even measures of intelligence. Justin Timberlake fans, for example, are more likely to enjoy Pixar films; people who listen to jazz music tend to care less about sports; and people who listen to Madonna are more likely to vote Democrat in U.S. elections.

Customer insights acquired through digital technology can also be used for digital marketing. In today’s connected world, the first thing that consumers and business customers often do when researching a purchase is to check the Internet, exploring Web sites and their own personal networks and communities for advice and rankings before they decide to buy. To be competitive, organizations must provide up-to-date product information online and engage with online communities to provide advice on their products. Since customers and businesses are increasingly active and identifiable online, organizations can use digital marketing tools to personalize their product and service promotions, with the goal of increasing customer loyalty.

With new channels of interaction, such as mobile and social media, customers now expect all their engagements with the company to be consistent across all available channels. For instance, they expect to place an order when and where it’s most convenient for them, and then to receive their products through the channel of their choosing. If organizations do not enable such an omni-channel approach, they risk losing customers and increasing customer dissatisfaction.

Omni-channel communication and service is, therefore, key. It is no longer a question of whether your organization should act on this but when, as consistent and efficient interactions across channels are now a crucial requirement for competing in the digital world.
Digitizing Products and Services

Organizations today increasingly realize they can no longer focus on just selling products; they need to sell an experience. An increasing number of products today both consume and generate data, and many are interconnected through the Web. Because of this increased intelligence, their usage can be monitored, additional services can be proactively offered, or maintenance can be provided when a problem is detected. A good example is a smart toothbrush with sensors scanning your teeth for any problems. The physical tool itself is a commodity, but a user’s brushing habits, dental hygiene history and health needs create a Code Halo of information of premium value. Information can be sent to the dentist, who can provide feedback and advice or schedule an appointment. The Code Halo can also be used by the device manufacturer to make product improvements. As it becomes easier and more affordable to make products Code Halo-capable, the question will soon become not what to wrap with a Code Halo but what not to wrap with a Code Halo.

To create such experiences, customers should be taken on a journey through the process. To accomplish this, organizations need to think about how they can stay in touch with customers all along their journey. (For an example of what this could look like for a car manufacturer, see sidebar, below.)

As organizations implement more sophisticated ways to understand their customers, expectations will rise for product and service offerings that are tailored to individual customer needs. Organizations can accomplish this by breaking up products into smaller pieces (modules) and then rebuilding the product with the pieces that are relevant to the needs of the customer. Such “mass customization” is often focused on software and service components, as they are easiest

Quick Take

The New Car Buying Journey

Here is an example of what could happen for an auto manufacturer that has made the digital transformation. A customer walks into an online showroom, where he can chat with a salesperson and even take the car for a virtual test drive.

The virtual salesperson makes an offer that the customer can accept or reject on his tablet, or visit the physical showroom for further negotiation. Once the initial offer is saved on the auto manufacturer’s system, the salesperson can proceed rapidly.

Once the customer decides to order the car, he can use an app on his mobile device to track the car’s movement through the entire manufacturing process, making him feel connected to the whole experience. Once he owns the car, installed sensors alert both the customer and the car manufacturer when certain parts need replacement or servicing, enabling the customer or manufacturer to take action before a problem occurs.

Another app can keep tabs on the customer’s level of satisfaction or invite suggestions for improvement. This input can then be further discussed in a social media-based forum, on which other owners of the same type of car are active. If an issue comes up that appears to be a real point of concern, the car manufacturer can work to ensure the improvement is incorporated into new models of the car or into the sales or servicing process.
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to adjust. Mass customization is being adopted across industries and is likely to increase as a result of digital technology. Examples include customized LED lighting for homes, animal feed mixes for farmers, individually designed sport shoes, etc.

By analyzing customer behavior on social media, it is possible to predict their usage of a business's products and their level of satisfaction, enabling organizations to anticipate customer needs before they even make them clear and before problems arise.

Because they can easily access vast volumes of information and switch suppliers with the click of a mouse or tap on a touchscreen, consumers no longer feel compelled to pay for products or services they don't want or need. They only want to pay for what they use, requiring organizations to respond in kind. For example, publishers might let customers pay per article instead of for the whole newspaper, like the “Blendle” initiative in The Netherlands. A combination of subscriptions based on pay-per-use is possible, with articles from different newspapers being combined into one overview. New pricing models – such as charging extra for upgraded service – are also possible, but because pricing has become so transparent, companies should proceed with caution. If pricing is inexplicably high, this could backfire.

**Digitizing Operations**

Advanced digital technology, powered by the SMAC Stack and aided by sensors, can improve business processes in several ways. For example, big data analytics can help in-bound logistics run more smoothly by tracking product movements; the cloud can be used to create uniform business processing platforms; and mobile platforms can enable employees to perform their work anytime, anywhere and on any device. Standard cloud platforms offer feature and function-ality updates more quickly and can lower testing costs.

When using standardized platforms, either within a large organization (as a propriety platform) or as an open-market standard, it is also much easier to globally source processes, which can lead to substantial cost reductions. Based on our own experience, aggressive sourcing and offshoring can cut up to 50% of operational costs. More organizations are choosing to do this across a larger variety of business processes and IT services.

By automating, standardizing and globally sourcing processes, organizations can become more agile, more responsive to changes in demand, and better able to increase and sustain profitability. Such agility is essential as competitiveness is increasingly dependent on responding and anticipating to fast-changing market developments through human intervention; artificial intelligence and automated machines are not yet fully able to respond. Therefore, organizations must adopt an agile way of working.

IT organizations have successfully adopted Agile practices, enabling quicker product development and organizational transformation. And because new products and software are developed and implemented more quickly, organizations should be able to transform at the same pace and adapt more quickly to continuous, sudden and rapid change. Using Code Halos will enable businesses to identify the changes that are needed. Organizations also need to enable employees the flexibility and freedom to work anytime, anywhere and on any device.
Digitizing the Organization

With value chains increasingly integrated among businesses, organizations can become part of a larger ecosystem, enabling them to offer end-to-end services to their customers. Insurance companies can, for example, offer a car replacement when a customer’s automobile breaks down, improving the customer experience through this added service.

Digital solutions can support value chain players to work more closely together. Organizations can either shape and orchestrate an ecosystem themselves, and provide a significant number of products and services, or focus on a niche service that adds value to the customer experience and become part of an already existing ecosystem. Organizations that shape and orchestrate an ecosystem and introduce their standards into the industry value chain, like Airbus and Walmart, tend to become dominant players in global markets.

To work effectively within an integrated ecosystem, employees need to work together in a new way, breaking down silos and collaborating across different departments. Employees need to learn from each other in order to respond more quickly and consistently to changes in the market and within their own organization. Geographically dispersed employees need collaboration tools to share documents, ideas, contacts, experiences and knowledge so that they avoid “reinventing the wheel” and provide the business with enhanced value. Corporate cultures also need to move toward a digital mindset; innovation should be rewarded, and additional digital expertise can be brought in to help employees embrace the digital world and acquire the necessary skills and knowledge.

Digital collaboration today stretches beyond the borders of the organization, with communities co-creating products or services, and customers providing opinions and suggestions for product improve-
ments through online forums. In this way, customers can influence product development, benefiting both themselves and the business.

**Looking Forward**

Figure 2 (previous page) illustrates how the process of digital transformation could look for your organization. As a starting point, the framework and use cases can be used for digital opportunity ideation. The use cases are industry-specific, cross-industry or process-specific. All the elements of the framework should be analyzed to ensure full exploration of relevant digital opportunities and the ability to implement them to their full potential.

To maximize stakeholder acceptance of the changes within the organization, it is crucial to establish a high level of digital awareness. To accomplish this, businesses can consider holding a Code Halo workshop to relay the opportunities and potential digital solutions, illustrated by use cases.

Based on these activities, organizations can develop their digital vision, design new digital business models and determine how to acquire the necessary digital skills and capabilities. Based on the industry and business case, the digital roadmap needs to outline which areas or opportunities should be brought to market first.

To avoid falling behind the competition, organizations need to rethink how they do business in the digital era, in which change happens at warp speed. Those that cannot keep up will lose business to competitors that respond rapidly. It is crucial, therefore, to develop a digital strategy and begin the digital transformation sooner rather than later.

**Footnotes**


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