This paper examines the importance of transforming the distribution business to cater to the digital age. It highlights the need for a digital-driven approach to transforming warehouses and looks at solution provider Infor's role in this strategically important market.

Building the Warehouse of the Future: Catering to the New Decade

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Supply Chain in the Spotlight

The global trade value chain is going through one of the most disruptive times in recent history. The COVID-19 pandemic has limited the movement of goods to an unprecedented extent, placing tremendous pressure on the global supply chain. The various players in the supply chain — suppliers, manufacturers, distributors, retailers — have responded quickly by increasing efficiency, embracing digital business models, creating new partnerships, developing new revenue streams, and containing costs. While the pandemic will have a strong impact on the supply chain over the short and medium term, the changes in consumer profiles and the emergence of digital players will be two trends that will have an overarching impact over the long term.

Millennials and Generation Z cohorts drive and define the consumer experience today. These consumers are ubiquitously connected and intolerant of complexity and latency. Members of these groups also value individuality and personalization and expect to have information at their fingertips in real time. These consumers, who make up nearly 75% of the population in the Middle East, have given rise to the digital economy that is characterized by digitally transformed products, services, and experiences. The rapid expansion of ecommerce and the growing ecosystem of digital-native players in the trade value chain are the most prominent indicators of the impact of this new generation of consumers.

The above trends have compelled players in the value chain to focus on a new area: the provision of engaging consumer experiences at scale. For example, the *"servitization"* trend in manufacturing — that is, the process of expanding capabilities to deliver a greater experience to the end consumer — is creating a need for organizations to provide value-added offerings such as rental services and connected products.

Implications to Food and Beverage Distributors

The aforementioned developments (i.e., the changes in customer profiles, the rise of digital players, and the outbreak of COVID-19) have major implications for distributors in the middle of the supply chain. These distributors are struggling to cope with the very demanding forces from either side of the value chain — forces emanating from manufacturers, retailers, or consumers themselves. At the same time, distributors are faced with increasing levels of competition from existing players (such as manufacturers and retailers delving deeper into the

supply chain) and new digital-native players. Many traditional distributors today are at risk of losing their market shares to these competitors.

The implications of these developments are more significant to food and beverages distributors considering the inherent challenges in their businesses. For example, the COVID-19 pandemic has brought distribution into the spotlight (as ensuring the sustainability and supply of essential items has become critical). This aspect, coupled with the innate need for fast-paced distribution methods, tighter service-level agreements, and high transportation costs, has significantly challenged food and beverage distributors. The growing number of regulations around food safety is also compelling distributors to renew their efforts to optimize product shelf life, manage seasonal changes in supply and demand, and guarantee end-to-end traceability of products across the value chain.

Distributors can address these evolving challenges, provide frictionless fulfilment, and economically deliver scalable experiences by leveraging data and automation, two of the most discussed and overarching themes of the current digital era. Many forward-thinking distributors have already embarked on enterprise modernization and transformation journeys, elevating data and automation as central pillars. However, the large volume and variety of data available today is a key challenge that hampers organizational efforts to extract the right information at the right time. According to IDC, the global datasphere will exceed 110 zettabytes by 2024, with real-time data growing at 1.5 times the rate of overall data creation.

The need for greater efficiency, cost containment, and 24/7 operations and the fresh challenges related to COVID-19 (such as lockdowns and social distancing measures) have catapulted automation to the top of distributor agendas. Data has also become a key priority as intelligent automation is enabled by technologies such as robotics, artificial intelligence (AI), and machine learning (ML) that require robust historical and streaming data sets.

Transforming the Distribution Business

Innovative players in the trade value chain are harnessing the power of data and automation through digital transformation (DX) initiatives. According to a recent IDC survey, 78% of CIOs from manufacturing, trade, and logistics companies in the Middle East, Turkey, and Africa (META) region are currently engaged in or are about to start a formal DX program. In fact, 48% mentioned that "operational excellence in the supply chain" is a key focus area of their DX programs. IDC estimates that spending on digital supply chain and logistics programs in the region will total $8.5 billion over the 2020-23 period.

Figure 1: DX Among Supply Chain Players in META

Digital Transformation	Supply Chain Excellence	Digital Supply Chain and Logistics
78% CIOs of manufacturing, trade, and logistics companies in META currently engaged in a digital transformation program	**48%** CIOs identified "operational excellence in supply chain" as a key focus area of their digital transformation programs	**$8.5B** Forecast spending on digital supply chain and logistics in META during the 2020-23 period

Source: IDC CIO Survey, 2020

Digital supply chain and logistics programs optimize supply chain procedures by enabling the seamless flow of information (thereby allowing manufacturing, trade, and logistics organizations to boost capacity and operations). These programs address four key aspects of distribution businesses:

» **Smart Warehousing:** A warehouse forms the heart of any distribution business. Tightly integrated process workflows and automations support the augmented and autonomous execution of warehouse operations (like pick and pack). Automation lowers labor costs, enables more effective allocation of manpower, makes work throughput more cost effective, reduces inventory levels, and improves accuracy. An optimized warehouse today harnesses both physical automation (which is enabled by robots, the Internet of Things [IoT], and machine-handling equipment) as well as process automation (which is enabled by AI systems). 3D visualizations with an interactive interface provides a comprehensive view of inventory placements and workflow in the warehouse. This aids the discovery of bottlenecks and enables corrective actions avoiding delays and increasing productivity.

» **Inventory Optimization and Extended Planning:** This program feature optimally aligns the needs of retailers with supplier capabilities, thereby ensuring ideal inventory levels. Leaders in the distribution space are distinguished by their real-time awareness of demand and inventory levels as well as their capacity to make predictive analyses. Consequently, the instrumenting (i.e., the digitalization) of the entire value chain ensures that a fully informed supply chain digital twin that is easily adaptable to real events can be created. Cognitive computing/AI systems can augment digital twins and enterprise resource planning (ERP) capabilities, enabling the anticipation of supply and demand imbalances and allowing for daily adjustments to be made to inventory levels.

» **Smart Product Management:** The increasing focus on quality and its impact on regulations and compliance, especially in the food and beverages industry, makes product management a key strategic priority for distributors. The traceability of items throughout the entire trade value chain has become more important than ever. The modern supply chain should be able to track items, lots, and shipments from their raw states all the way to the consumer's hands through connected intelligent systems that store and share chain-of-custody information. The overall goal is to trace — backwards and forwards — the chain of custody of goods to enhance record keeping and retrieval processes, which are often required for audits, recalls, and compliance. Blockchain technology is increasingly being used to augment the data generated by sensors and ERP systems in the value chain to achieve this goal.

» **Transportation Optimization:** The rapid instrumentation of the entire supply chain and advancements in AI/ML are helping organizations realize the true potential of fleet management. Through intelligent scheduling and route optimization, these technologies are enabling distribution and logistics players to balance cost optimization and service quality.

Digital Platforms – The Backbone of the Future of Distribution

Digital supply chain and logistics programs rely heavily on the power of technologies such as IoT, AI, Big Data analytics (BDA), robotics, mobility, and blockchain. Unfortunately, most distributors struggle to incorporate these technologies into their existing IT environments.

Distribution players have always tried to modernize their systems in response to the evolution of the sector and technology advancements. In the process, they have acquired various systems over time. The usual approach to modernization involves replacing legacy or core IT environments; however, this approach is often costly and time-consuming. The second approach involves building two separate environments — the digital IT environment and the traditional enterprise IT platform — and using application programming interfaces (APIs) and integration services to connect the two environments. However, the new technology paradigm requires a third approach that entails the use of an integrated digital platform.

Figure 2: Digital Supply Chain and Logistics: Strategic Priorities and the Platform Approach
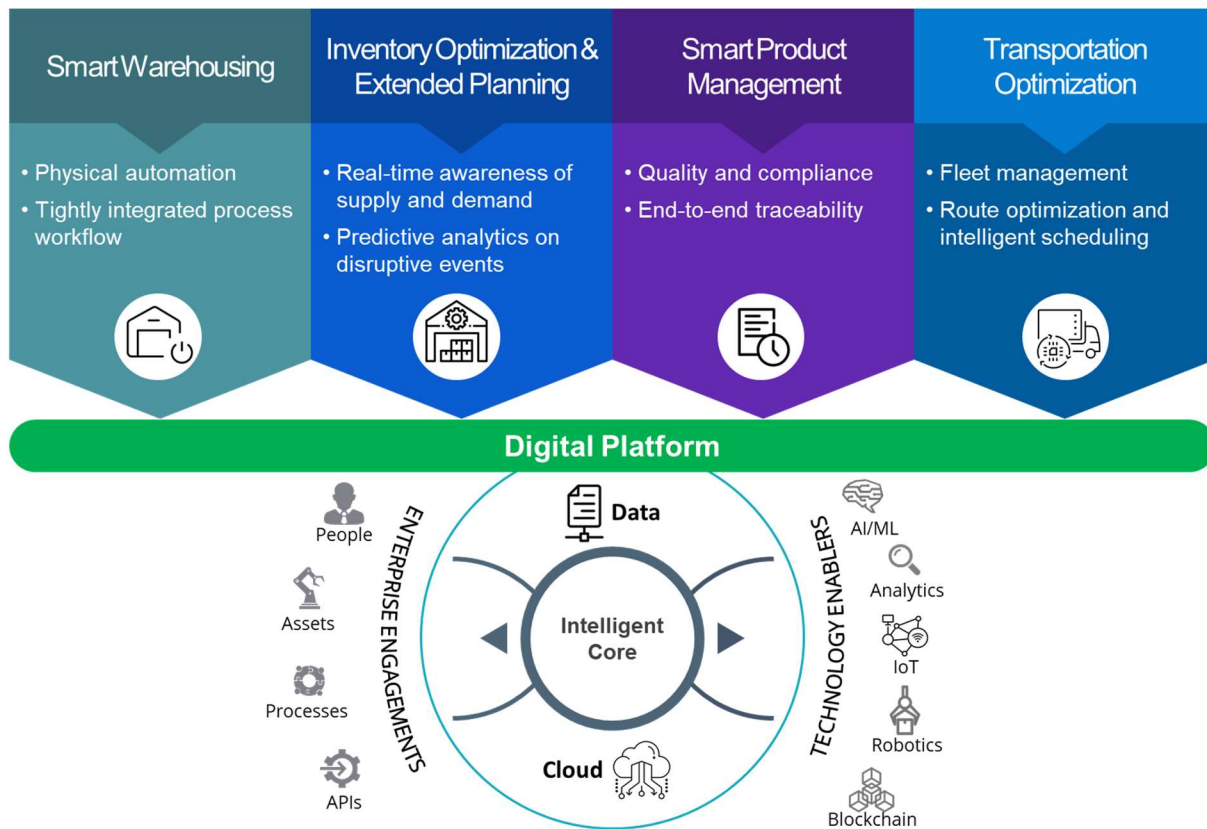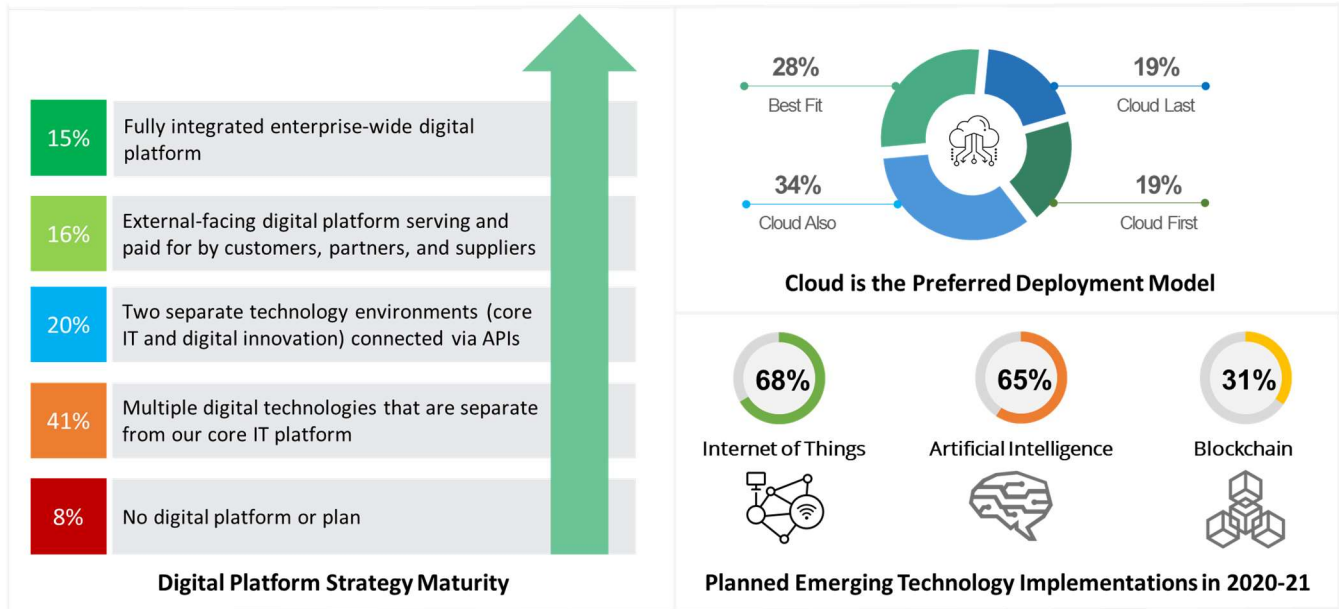

Source: IDC, 2020

An integrated digital platform is a technology architecture that uses an intelligent core as its engine and data as its fuel. Such a platform integrates every process and system, enabling data to flow seamlessly and continuously within the organization. Via APIs, data is brought into the intelligent core through connected assets, people, and processes. This data is transformed into insights and fed back into the value chain, thereby enabling various use cases such as warehouse automation, inventory and transportation optimization, and improved quality and compliance. However, given the scale of data demands, such platforms must have AI/ML capabilities to automate various data handling aspects. IDC predicts that over 75% of enterprise applications by 2022 will be powered by an intelligent core that analyzes different types of data from a myriad of sources.

The distributed nature of business operations and the need for data-driven experiences make cloud computing one of the most important considerations for distribution players. Indeed, a digital platform in such an environment requires the speed, agility, scalability, and flexibility of cloud to produce the intended results. Many organizations are considering a cloud-first approach for new applications and moving existing applications to cloud. Enterprise IT infrastructure is increasingly becoming a connected distributed cloud that includes publicly hosted systems, enterprise datacenters, and edge locations.

Figure 3: DX Implementation Models Among Supply Chain Players in META

15%	Fully integrated enterprise-wide digital platform
16%	External-facing digital platform serving and paid for by customers, partners, and suppliers
20%	Two separate technology environments (core IT and digital innovation) connected via APIs
41%	Multiple digital technologies that are separate from our core IT platform
8%	No digital platform or plan

Digital Platform Strategy Maturity

28% Best Fit — 19% Cloud Last — 34% Cloud Also — 19% Cloud First

Cloud is the Preferred Deployment Model

68% Internet of Things — 65% Artificial Intelligence — 31% Blockchain

Planned Emerging Technology Implementations in 2020-21

Source: IDC CIO Survey, 2020

It is important for players in the distribution business to choose vertical-specific platforms rather than horizontal applications. Because vertical applications are built to address the unique requirements of an industry, the need for expensive and time-consuming customizations diminishes. Such applications have inbuilt industry-specific capabilities that deliver targeted intelligence, industry context, and actionable analytics and guidance to users. IDC believes that distribution organizations that use integrated platforms and cloud-based, vertical-specific applications will be the most likely to digitally transform themselves in three to five years and emerge as true digital pioneers.

Considering Infor

Infor is a leading provider of business cloud software products serving 68,000 customers. The company has over 17,000 employees spread across 44 countries. Infor's CloudSuite™ solutions help organizations overcome market disruptions and achieve business-wide DX. Infor's cloud-based operating platform Infor® OS serves as the foundation of the business ecosystem and seamlessly connects services to provide a robust integration framework that eliminates information silos. The platform brings business processes and AI together to enable rapid application development and a common data strategy.

The key features that differentiate Infor's solutions include:

» **Industry Capabilities:** Infor solutions are based on decades of industry-specific experience and thousands of implementations with prepackaged workflows, content, integrations, and analytics. This helps to avoid complex customizations, enabling faster and simpler deployments. Infor has 5,000 distribution customers.

» **Designed for Cloud:** Infor's cloud-based solutions have a lower total cost of ownership, greater scalability (with respect to computing power and storage), and faster upgrade potential.

» **Advanced Analytics:** In-context data with prepackaged industry and role-based content enables accurate, data-driven decisions.

» **AI-powered:** Infor solutions have AI capabilities that help automate repetitive tasks, provide instant access to information (via voice or chat), and make use of intelligent digital assistants.

» **Modern User Interface:** Infor provides modern and consistent user experiences for the digital age employee, in line with the mobile and social apps used in day-to-day life.

Case Study – Fetim Group

The Dutch company Fetim Group's implementation of Infor solutions provides an interesting case study with respect to industry-specific DX. Fetim Group is a leading provider of home-improvement products and is active in more than 40 countries across Europe. The company supplies professional end users and retailers. The group wanted to quickly adapt to the significant market disruption in the home furnishing and decor market caused by globalization and the rise of online shopping.

The group thus embarked on an enterprise-wide DX initiative by deploying various Infor solutions. Infor's CloudSuite Distribution Enterprise helped the organization move its applications to the cloud and enabled it to outsource all hardware, including its datacenter. The group now benefits from Amazon Web Services' security features. The group also uses Infor's M3 ERP application and Infor's CloudSuite Configure Price Quote (CPQ), a digital portal that improves the customer buying experience. Infor OS handles the integrations with other applications such as a third-party warehouse management systems.

> *"We chose Infor very consciously because of its micro-vertical approach that increases efficiency. Infor also has in-depth knowledge of our industry."*
>
> **Frans Beerkens**
> IT Director, Fetim Group

The group is continuing its DX journey and currently rolling out Infor CRM and Infor Nexus, an online real-time collaboration platform, to help improve cooperation with suppliers and maximize the reliability of the supply chain. The group plans to add AI capabilities by deploying Infor's Coleman suite of applications. The group now actively advises Infor on how to improve its software and better align its products with customer needs.

Conclusion

The world is steadily adapting to the "new normal" brought forth by the COVID-19 pandemic. In this context, distributors need to understand the threat of disruption and gauge the opportunities of data-driven transformation. To provide superior customer experiences, adapt to new digital business models, and find new revenue streams, distributors need to harness the power of a cloud-based enterprise-wide digital platform.

About the Analyst

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Jebin leads IDC's META industry-specific research. In this role, he works closely with technology and country analysts to understand industry-specific digital transformation trends, analyze technology spending patterns, and advise end users as well as technology suppliers.

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