

FOUNDATION FOR DIGITAL TRANSFORMATION

Optimized User Experience and
Network Readiness



Introduction

A recent IT executive survey conducted by EIQ revealed that while consumer industries pay attention to digital transformation initiatives, they need to place equal importance on backend processes and tools to support digital transformation. These processes and tools include network readiness, cloud migration and information security. This report is a culmination of a global IT and line of business survey conducted by EIQ Research in partnership with Infovista. Its goal is to help readers understand the impact of new consumer expectations on applications, digital transformation and networking systems initiatives within retail, manufacturing and banking/finance industries.

The era of digital convergence and transformation

As the lines between online and offline retailing are becoming increasingly blurred, more consumers have embraced online retailing. But this by no way means that in-store shopping is dead. In fact, a recent survey by National Retail Federation¹ revealed that 67% of Generation Z shoppers patronize brick-and-mortar stores most of the time. This dual preference contradicts the notion that this generation always put digital first. Yet they realize and value the importance of the hands-on in-store experience. While these customers enjoy shopping online, they are not averse to the idea of going to the store.

67%

Gen Z likes shopping
in physical stores

On the other hand, the traditional banking system, where customers conducted all their banking business in-person, is gradually declining as millennials prefer online banking. Though the rise of online banking has completely changed the landscape, the brick-and-mortar bank has not completely disappeared. A bank's physical branch still remains a key tool for acquiring new customers and loan disbursement.



The user experience should
be such that consumers
can evenly move from
one channel to the other
without obstacles and
hindrances

¹ Uniquely Gen Z by the IBM Institute for Business Value, 2017, <https://nrf.com/media/press-releases/despise-living-digital-life-98-percent-of-generation-z-still-shop-store>

The changing expectations of consumers have also affected the manufacturing industry. Manufacturing companies have been slow in embracing digital technology. **But Industry 4.0 has changed the entire manufacturing scenario.** The previous era where operations were carried out in-silos is being gradually replaced by an interconnected process which is streamlined, optimized and managed online with precision and sophistication.

The real question is should retailers/manufacturers/financial services focus primarily on online services with offline taking a backseat? Or, should it be the other way around? A successful and intelligent service provider thinks about this from a different perspective. For them, the aim is to drive excellence across the consumer journey. Hence, the focus should be to provide the consumer with a consistent set of features across both physical and digital channels.

Digital transformation is a conscience movement from point solutions that provide additional value to an integrated process backed by technology that redefines customer experience, competence and innovation.

But convergence is much more than digital and offline integration. It is a way of seamless communication between various business services without the intricacies of physical presence. Going forward, such a convergence is essential for not only retailers, but also for manufacturers and banking and financial institutions that want to stay relevant, competitive, and up to speed with cutting edge technologies such as Augmented Reality (AR), Virtual Reality (VR) and Internet of Things (IoT).

A quick look across the various industries reveals a host of names that are already using such technologies in their respective business.

The logo for Burberry, featuring the brand name in a bold, black, serif typeface.

Makes use of 'magic mirrors' to help shoppers 'try out' clothes before purchasing.



Assembles the advanced F-35 aircraft by using AR glasses that use cameras and motion sensors to overlay images onto a real working environment.



Uses HoloLens to give traders holographic workstations that combine 2D and 3D elements thus adding to the bank's existing processes.

However, as different industries have different expectations and transformation standards, it is important to analyze them at each industry level. Let us start with retail.



Retail Industry

2.1 'User experience' is the new differentiator

With the current pace at which technology is evolving in the retail space, retailers have realized that to remain competitive they must do much more than provide appropriate products and services. Customers have a plethora of products to choose from. This abundance of choice has forced retailers to re-think their strategies. One of the ways that a retailer can distinguish itself is by providing a pleasant customer buying journey. As modern retailing is gradually shifting towards more web-based and app-based services, a well designed, self-explanatory and interactive user experience is the first step towards customer satisfaction. In fact, customer expectations have already been

Customer expectations have been shaped by best-in-class experiences such as Uber & Netflix

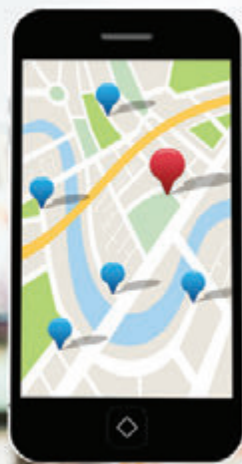
shaped by best-in-class experiences across categories like transportation (Uber) and movie recommendations (Netflix). Customers are looking for a similar kind of experience in retail.

- 86% of retailers agree that having a user experience standard is extremely important or critical; fewer than 15% feel that such experience can be ignored.

86%

believe user
experience standard
is extremely important

- To add, 89% of retailers already have a defined user experience standard for application performance in place.



Being aware of the fact that technological advances are shaping and re-shaping customer expectations, retailers need to think of digital transformation initiatives in terms of clearly defined user experiences both in-store and online

- For example, using a concierge or clienteling application during a path-to-purchase journey in the store requires an innate understanding of both customer and associate user experience as it relates to the digital catalog, loyalty, price comparison and check-out. Any interruption in this journey can lead to lost sales and poor customer satisfaction.

2.2 Yet, retailers are failing to deliver a consistent and effective user experience

Even though almost all retailers have designed their own way of creating a unique customer journey, they have failed to deliver a seamless experience. This results in disengaged customers. The problem is more apparent for retailers that are trying to deliver such an experience across a distributed network of stores. But, the real question is what is holding them back from creating an excellent customer experience?

- A whopping 98% believe that network performance of the non-corporate office locations is not commensurate with the demands of digital transformation.

74%

retailers cite the network as an impediment to an effective user experience

Interestingly, the next logical question that pops up is identifying the reason behind such a mammoth demand for digital transformation. The answer is once again linked to customer expectation and user experience. Beyond every fulfillment of customer expectation is the need to empower both customer and store associates with devices that require internet connectivity. It is also necessary to support all sorts of enterprise applications in the cloud, which is driving the need for a next-gen network. In fact, on an average, more than **50% of retailers vouch for the fact that an increasing number of employee devices and cloud based applications are the primary drivers for network capacity expansion needs.** Surprisingly, only 17% feel that applications generating real-time data are driving the demand for network capacity.

2.3 This calls for prioritizing of applications

Given the fact that retailers are still grappling with the process of increasing network capacity, there is a need to prioritize critical applications as per their business requirements. To support this process of prioritization, the store network needs to be designed in such a way so as to enable dynamic bandwidth allocation as per the requirement.

- Close to 90% of retailers agree that certain use-cases and applications are more critical than others and hence require bandwidth allocation on a priority basis to assure a consistent user experience.

90%

agree that certain applications are more critical and require bandwidth prioritization

- The most critical use-cases are Inventory Management Systems, Point of Sale and Workforce Management Systems. All three systems are mission-critical for seamless store operations and delivering a seamless customer experience.



Retailers are more open to prioritizing applications rather than adding to the existing network capacity as compared to manufacturers and banking and financial institutions

2.4 Yet, once again, retailers have failed to prioritize network usage

While 3 in 4 retailers focus on adding capacity, only one in four focuses on optimizing current capacity. To add to this, as many as 3 out of 4 retailers do not have the ability to define, measure and assure those standards as part of their enterprise network.

3 in 4

retailers focus on adding capacity to network usage

Thus, taking into account all the above considerations, one can conclude that retailers' digital transformation initiatives cannot meet customer expectations unless they adhere to the following:

- Each initiative is accompanied by a definition of a **user experience standard** and its impact on the current enterprise network is assessed clearly.
- Each initiative is reflected in the enterprise network as a use-case and the organization given the ability to assign **rule based priorities**.
- The network is made robust and flexible to maximize current capacity utilization, and the **user experience standards** are created as SLAs or benchmarks within the network so that it delivers **guaranteed performance** of critical use-cases.
- The entire process is based on close coordination between business and technology teams.



Manufacturing Industry

3.1 Manufacturers are lagging behind in delivering a consistently good user experience at factory and supplier locations

Our survey data indicates that a majority of manufacturers are faced with the **inability to deliver an effective user experience** at not only their factory but at various supplier locations. The primary reason for such a failure is the lack of an up-to-date network capacity management strategy.

- More than 70% of manufacturers are unable to deliver an effective user experience.

More than
70%

are unable to
provide an effective
user experience

- To add to the network capacity is the increased frequency of such occurrence. As many as 43% of manufacturers face such impediments on a recurrent basis.

30%

of manufacturers face frequent hindrances due to inadequate network capacity

It should be pointed out that when it comes to criticality of networks that help deliver an effective user experience, manufacturers believe that **Wi-Fi and transportation and logistics** top the list, followed by workforce management. Surprisingly, though warehouse operations, data analytics and video surveillance and security are important, they are not always prioritized by manufacturers. In addition, an upgraded Wi-Fi and transportation and logistics system adds to the 'required and satisfactory' quotient in terms of users. As a result, manufacturers value such applications much more than other long-standing functions, such as ERP or unified communication.

3.2 Having realized the vitality of a 'standard user experience', the industry is struggling to enforce a measurable standard



A deeper look into the industry shows that applications of technology inventions have always found a place in the core manufacturing sector

One might wonder what role 'user experience' plays in the manufacturing industry. **Surprisingly more than 60% of the segment considers defining and abiding by the standard as 'extremely important'.**

For example, ERP systems, large-scale information management, production/assembly automation and robotics have been implemented in the manufacturing sector for a long time. It is not an exaggeration to say that such applications started in the manufacturing sector and percolated to other industries. Yet, the dichotomy is that even after being in existence in the industry for such a long time, a 'user experience standard' has not been set. Even more, though the importance of such a 'standard' has been felt, **barely 60% have a measurable standard**, the lowest across the three industry types surveyed.

A little bit of research points out a couple of possible reasons for such a delay. First of all, the designs for a standard user experience are obsolete and require redesigning with additional features. Secondly, from an end-product/application perspective, in the process of integrating certain features or designs, manufacturers often lose focus of the actual usability of the end-application and its value addition to the system.

3.3 Internet-backed employee devices add to the demand for network capacity



For manufacturers, employee devices / applications that are connected to the Internet take up a big share of network capacity

- For two-thirds of manufacturers, employee applications/devices that require network connectivity eat up network capacity. This is followed by enterprise applications in the cloud and applications that require data

2/3rd

of manufacturers feel that network based employee applications / devices drive network capacity

connectivity between field locations and corporate offices. Such applications include but are not limited to supply chain, procurement, product lifecycle and CRM.

- **The ability to generate real time data exchange has lower adoption compared to employee application readiness (supply chain, PLM, CRM, etc.).** This is because mission critical employee functions take precedence over other network capacity requirements. So much so that even applications that can generate real-time data exchanges with supply chain network partners are given less priority compared to critical employee functions.

3.4 Prioritizing network capacity based on criticality may decrease the excess demand

Manufacturers do value the ability to clearly view network capacity usage by type of data/application. But, along with this capability, 75% of manufacturers require prioritizing network capacity based on the criticality

of any application. Typically, prioritized applications require quick reaction time or need to connect to the server multiple times daily to extract certain information. The less critical ones, often termed 'background applications', include automatic updates and can be postponed even at the non-peak hours.



From a manufacturer's viewpoint, prioritizing or optimizing network capacity is tied to production, warehousing, transportation and inventory management systems **to fulfill business and customer needs**. However, the ability to prioritize network capacity allocation by consumer segments or the ability to define rules that optimize capacity usage is comparatively less important. **This means manufacturers are still trying to determine network optimization requirements outside of mission critical applications.**



Banking & Finance Industry

4.1. Banking & Financial institutions have the additional task of complying with data security along with measurable 'user experience standards'

The digital revolution has heightened expectations of customers in the banking and finance segment as well. Such customers like to manage their banking needs in the comfort of their home with a simple click. In fact, banks have started functioning much like online stores in that almost all banking activities can be performed over the internet. Though digital banking continue to evolve, the role of a physical bank branch will still be essential. The trend will clearly shift towards a divide in online and in-branch customer base. While millennials will prefer fulfilling banking needs online, the older generation might still feel comfortable visiting

a branch for banking activities. The role of a brick-and-mortar branch will never lose out on prominence when it comes to new customer acquisition or sanctioning of loan disbursement. Interestingly, despite the challenge of integration of online and offline experiences, banks and financial institutions are most optimistic about measurable standards.

- As many as 80% of banking and financial institutions are confident about their ability to set measurable user experience standards compared to manufacturers and retailers.

ATM transactions
define user
experience

- User experience is dictated by performance of transactions involving withdrawals, deposits or ATM transactions. More than 35% emphasize performance with these type transactions. Of equal importance are ease of loan application processing and video surveillance and security.

4.2 Ability to deliver a smooth customer experience is often impeded by restricted network capacity; optimizing the existing capacity remains the best possible solution



All banking and financial
services industry are
affected by network
capacity issues

While the impact is less pronounced than in other industries, **more than 50% of institutions have felt the limitations of network capacity** at different banking branch locations.

50%

are restrained by
network capacity

The good point is that as many as 20% have rarely felt the restrictions imposed by network capacity. A possible reason could be that such institutions are too optimistic about the measurable 'standard'.

- The network performance of non-corporate locations (branches) is also not commensurate with the demands for digital transformation.
 - **90% of banking respondents feel that there is a discrepancy in network performance between corporate and non-corporate locations. However, 11% feel that such performance is on par.**

- Thus, optimizing existing network capacity utilization is perceived as most effective in improving network performance across non-corporate office locations. More than 40% consider adding to the network capacity, while just 15% prefer adding a secondary or tertiary network. Just 37% think that adding to the existing capacity will improve the performance and a mere 8% believe in prioritizing applications and access to capacity.



- Given the figures, it appears that the institutions are confident about their existing capacity. They believe that a **more planned and careful allocation and optimization of the existing network capacity can improve the performance without adding to existing capacity.** In fact, 80% of the institutions have capabilities that enable them to perform multiple tasks based on their criticality and view network capacity allocation by customer segments.





Conclusion

Integrating digital convergence along with network optimization and seamless connectivity are key ingredients for effective business performance.

A comprehensive study of the three different industries brings to light two priorities: visibility of network capacity and optimization of network capacity. While the extent to which the various industries prioritize and assign importance to the two main parameters may vary, the ultimate goal remains the same. In other words, while a more dynamic industry such as retail is forced to have a thorough insight on the network behavior by monitoring peaks, minimums and averages for multiple applications across locations, less dynamic ones like manufacturing are beginning to reap the benefits of optimization.

Retailers care most about visibility of network capacity and criticality management for customer devices/applications such as inventory, workforce and unified commerce. On the other hand, manufacturers may not only want to clearly view their network, but to prioritize capacity for employee devices/applications requiring internet connectivity (e.g., transportation and logistics, procurement, CRM, etc). From the banking perspective, the priority is on greater application performance for surveillance and security for enterprise applications hosted in the cloud and employee devices/applications.

Nevertheless, around **one-third of enterprises across industries believe that optimizing existing network capacity utilization is an effective way to improve network performance**. Hence, it would be a good practice for every organization to revisit, consider and plan the usage of the existing capacity before investing in additional capacity to ensure seamless operations and business performance. After all, the purpose of network optimization is to successfully evaluate, validate and recommend a swift and responsive logistics network that can provide user satisfaction and be cost-effective.

