



Building the 5G Experience

White paper

Intro

5G is expected to enable extraordinary experiences to consumers and enterprises alike, from immersive entertainment to machine remote control. Many of these new services will require a partner ecosystem and new business models, which means changes to people, processes and tools must be part of the shift to monetize 5G. Better visibility to the customer and their touchpoints will also be required, with service provider employees being one touchpoint that must be enhanced. Bringing these factors together will allow service providers to get their share of the estimated \$2 trillion 5G market and ensure long term loyalty of their customers.

Changing the business focus with 5G

5G is not an incremental change to telecoms. It provides more throughput, as has every new generation, but it also promises a massive decrease in latency. Latency has decreased with each “G” that has been introduced, but this is the first time that latency is significantly lower than the previous generation, with 4G able to support 50-100 milliseconds and 5G predicted to deliver 1-10 milliseconds. There’s also prediction of higher reliability, bringing not just five 9s, but six 9s onto the table. Packaging all this together is opening the doors for new use cases and business models.

Matching 5G capabilities with the demand generated by the 4th industrial revolution brings tremendous impact and business value. Bell Labs consulting estimates the opportunity approaches 2 trillion dollars. For service providers worldwide, seizing that opportunity isn’t just about deploying new technology; it’s about adopting new ways of working that support new business models built around the network as a value creation platform. This is because 5G isn’t simply the fifth generation of existing radio technology. It’s the first generation of something entirely new.

As a platform, the network will have any number of uses – from IoT (Internet of Things) and Industry 4.0 applications to new kinds of consumer and enterprise services. Enterprise will be especially significant. Traditionally, service providers focused on winning subscribers for well-defined services. In the 5G era, the network-as-platform will also be an enabler of enterprise innovation – for use by enterprises to develop and deliver solutions to their own markets. Today’s business to business (B2B) and business to consumer (B2C) models will take on an extra enterprise dimension: business to business to business (B2B2B) or business to business to consumer (B2B2C).

To get from today to that fully realized 5G future, there are challenges to overcome, including the complexity of current operations. Years of building technologies on top of technologies and silo next to silo have severely constrained service providers’ agility. To be ready for 5G, you need to look beyond technology and also evolve your approaches to people, processes and tools. What does all this mean in the context of customer experience? The starting point for that discussion is how your customers look at you today.

Customer experience isn't judged within a single industry

It's commonly said that customer expectations—against which they will judge their experience with your brand—have never been higher. You often hear the phrase “an Amazon-like experience,” which is frequently understood to mean:

- easy to use
- broad and deep selection
- intuitive and tailored recommendations
- no hassle returns
- fast delivery

You may not compare your brand with the likes of Amazon, but your customers certainly do when thinking about the quality of experience your brand delivers. It's no longer enough to be the best in the communications industry.

In Salesforce's 2019 State of the Connected Customer report, 69% of consumers and 82% of business buyers said, “one extraordinary experience raises their expectations of other companies.” A combined 84% of these consumer and business customers said, “the experience a company provides is as important as its products and services.”

That then begs the question of what steps you must take to make sure your brand compares favorably against the best-in-class across industries and all facets of experience. Getting the right foundation in place is key to supporting great customer experience, and we believe that investing in predictive artificial intelligence (AI), automation and intelligence connected across your business and network will give you the critical building blocks you need to have in place to succeed in the 5G era. These building blocks are:

- Analytics tied to aggregated insight
- Personalized, contextual and automated experiences
- Growth driven by a sustainable partner ecosystem
- Collectively enabled commercial accountability

Designing experiences starts with your people

For businesses that excel in customer experience, there is a huge amount of work that goes into designing experiences for customers. Unfortunately, there often isn't as much thought put into the experiences of the employees that do the design work. According to Forbes, companies that invest in employee experience are 4x more profitable than those that don't, so putting effort into designing for employees can bring some extraordinary business results via improved performance.

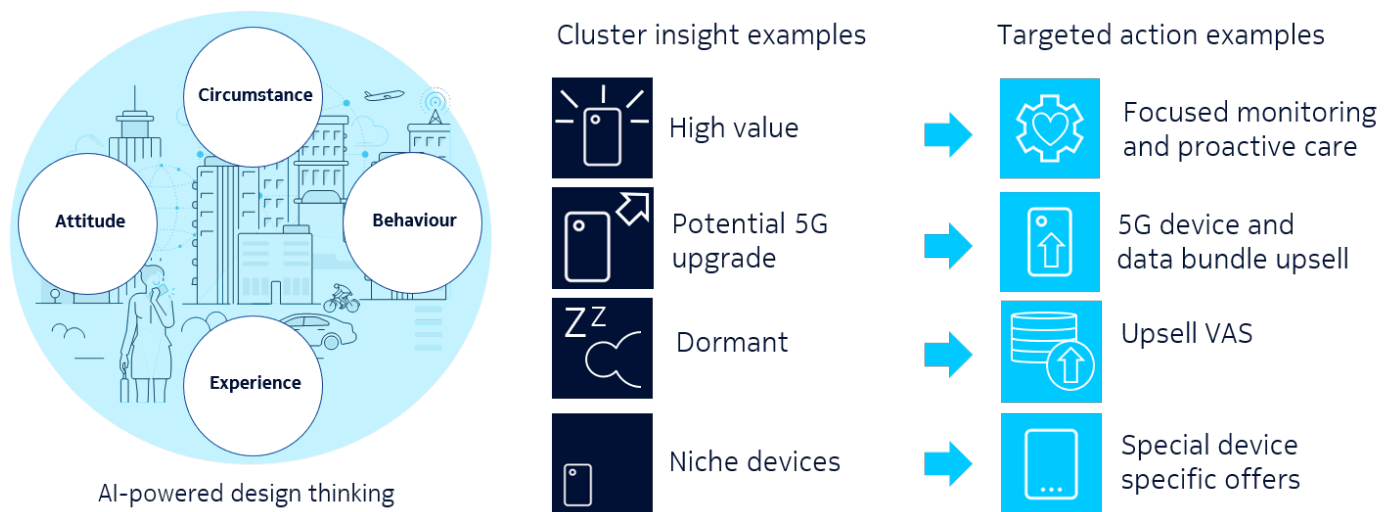
Design thinking puts the end user - your employees - at the heart of the innovation process, and some of what it delivers is better tools and experiences for the employees. By combining the principles of design thinking with the power of analytics and AI, CIOs can help deliver powerful business results for their organizations.

Building a picture of the customer

Organizations that want to deliver targeted, personalized services and experiences must understand customers inside and out: their wants, wishes, behaviors and attitudes. These days, the data to develop that understanding is abundantly available. The challenge is to extract meaningful customer insights from it and convert those insights into actions.

Besides building a better employee experience, design thinking and AI can build a 360° real-time view of customers to determine their needs and tailor services. This involves getting a complete view of the customer from both internal and external channels to see all the influences. These channels include network information, customer care, billing and charging, social media, retail experiences – everything that can build that dynamic, comprehensive customer view.

Figure 1: Combining design thinking and AI on top of data can create clusters or microsegments on which you can take targeted actions.



Design thinking means analyzing your external customers based on four categories:

- Circumstance: e.g. What is their age, gender, location, etc.?
- Behavior: When and where do they use different engagement channels, services, devices, etc.?
- Experience: How satisfied are they with the service they receive?
How many calls do they make to customer care?
- Attitude: Are they planning to move to a different service provider?
Are they recommending the service provider to others as a promoter?

Across these four categories we have found more than 300 different data insights that can be tracked and measured, then leveraged by applying artificial intelligence and trend analysis. These can then create microsegments or clusters for very targeted actions. Whether it is corrective actions being applied or offers to improve their packages, those targeted actions are all about raising customer satisfaction.

The microsegments differ from traditional CRM segments in more ways than just size. Where traditional CRM segments are based on manual rules, fewer variables, and revisions on a less frequent basis, these microsegments can encompass a much larger variable set to get very specific targeting and can be updated in small windows of time to take advantage of short-term situations.

Once you get down to a microsegment level, the discussion really starts to be more about personalization, which has been a topic for many years in telecoms but has never really come to fruition. That raises the question whether there is a business driver for more specific personalization. Does it make sense now that more intelligence is available to smooth the way?

The business case for AI driven personalization

Ovum does a yearly survey of priorities for service providers, and for the last three years running the top two business challenges were launching digital services and creating a personalized customer experience.

Obviously, that means personalization holds a position of importance, but it still doesn't explain why the priority is not getting realized. Many believe that analytics and AI needed to mature to enable a cohesive view of the customer and suggestions for what actions to take towards them.

STL Partners carried out a study in 2019 that quantified the benefits and costs of implementing AI for personalization. They built out an entire methodology using a hypothetical operator located in a developed market along with a very familiar use case – that is, proactively offering personalized services to existing customers who are at risk of churn.

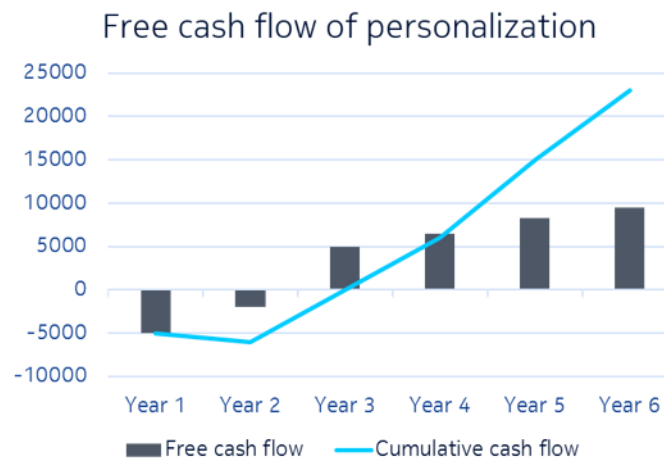
They found several key benefits. One obvious benefit is a decrease in churn. In their example, the operator continues to acquire new customers at the same rate they always have but loses fewer subscribers to churn each month by proactively targeting them with a personalized service prior to contract renewal. This resulted in net income from the reduced churn.

The second benefit comes from ARPU growth. This is made up in part by extending the average customer lifetime value with targeted upsell/cross sell opportunities made possible with AI.

The third benefit is reducing bad debt by identifying subscribers who may default on their contracts by using machine learning and accessing relevant data such as billing records.

With respect to cost benefits, the STL partners analysis found lower operating costs primarily based on reduced need for specialized retention staff. These employees can be redeployed in other areas to handle more complex interactions. Automation and AI can assist with offer management and the delivery of personalized offers based on a subscriber's past preferences, channel of choice and even time of day, making customers more likely to take up offers that address personal pain points.

Figure 2: Free and cumulative cash flow based on STL partners business modeling around AI and personalization



Altogether their methodology resulted in retention of around 50,000 more subscribers annually and a positive free cash flow over the 6-year period they modeled.

Partnering in areas where it matters most

Now let's look at another important concept for elevating customer experience, the role of partners. Trusted partners help extend your customer reach or fill gaps in tools and processes. They can play a strategic role in helping achieve the business priorities of launching new services and creating personalized experiences as well as driving innovation around 5G.

As you drive digital across the business, there are key areas where it can make more sense to partner with software vendors to complement your own tools and processes.

First there is end-to-end solution architecture and design that leverages significant technology expertise in both network and applications areas. This allows for rethinking software platforms and operations, especially in support of next gen 5G business cases.

The second area is use case prioritization and development. This means the ability to quickly roll-out the most profitable digital services in real time, leveraging data science services and real-time analytics.

The third is the combination of design thinking and AI to create that meaningful view of your customer pulled together across data lakes.

And finally, the ability to test and trial new applications and services with strong R&D and lab capabilities to ensure they align with how you want to deploy and sell new digital offerings to your customers.

Bringing it all together across the customer journey

Partners can also play a role in elevating your brand and customer reach – particularly when it comes to connecting the customer journey.

In KPMG's global study of customer experience excellence, they found that the top 50 customer experience brands across many different industries had 50% higher revenue growth than the companies below them. They also found that the common thread among these top 50 brands was their use of customer journey mapping, citing that it was the single most important customer experience tool in their toolbox.

One of the use cases we have developed with a North American tier one service provider focuses exactly on that, connecting the customer journey to accelerate time to market for 5G FWA services. This starts with targeting the right subscribers based on service availability and on their marketing profile. It continues with guiding them through the self-install process, monitoring that service, proactively resolving issues and finally offering targeted upsells.

Figure 3: Connecting touchpoints across the customer journey with Fixed Wireless Access



This use case brought in partners from the beginning, being developed and taken to market with Salesforce as the lead CRM. By bringing in a partner, we demonstrate the advantage of connecting customer and network insights across the user journey to accelerate time to market and generate new revenue.

The right strategic approach to 5G experience

The North American tier one service provider in our example is not the only one investing in connected intelligence across the entire customer journey. Other service providers are doing the same, and there is a three-step approach that we recommend.

The approach to fixed wireless access illustrated above is a perfect example of how operators should leverage what already works in their transformation to 5G. Many operators are already utilizing connected intelligence to manage their entire customer journey across fixed broadband and consumer mobile use cases. They should utilize these systems and processes, and then add the additional steps to combine data sources in order to drive new insights. This will inform them about their customers' experience on fixed broadband services that are delivered over the last mile with mobile 5G connections.

The second step is automation. We've seen a great number of effective projects implement various types of automation in the industry. These are mostly tactical and point to specific use cases of automation implemented within various departments to improve the operations within their direct responsibility. Some of these projects have automated the routine steps within departmental processes to drive accuracy, pace and scale that allows staff to work on more sophisticated activities.

Projects take a trust but verify approach that allows for human insight and control, such as human in the loop and human on the loop - a step whereby humans are involved in the process only on an exception basis. And they do this until more steps can be released for full automation because it requires a trust level that has yet to be achieved.

There's an important inflection point that presents considerable opportunity for further automation, which we call chain reactions. After some tactical automation steps have been taken, usually within a given department's area of responsibility, new baselines are reached. At this point, a cross-departmental review may identify some new potential automation opportunities that may not have been possible until the tactical automations were achieved in those individual departments.

Net Promoter Score (NPS) is a good example. It's an important index but in its purest sense an NPS is somewhat of an offline and time elapsed calculation. We have worked with operators who have built additional intelligence to autotune this index using real-time data sources and AI algorithms to arrive at more operationally relevant indices. With that in place, they can look to adjacent departmental operations where they can infuse this new index to trigger further operational actions. These types of chain reactions can continue to grow and flow throughout the operational process.

The third step is what we're seeing within IT organizations - enabling and facilitating more use of intelligence throughout the business. By establishing a viable data collection mediation infrastructure, elements of disparate data sources can be collected and normalized and by applying analytics and AI to this data, allowing operational departments to generate new types of applied insights that drive prioritized operations.

Many of our customers have established very evolved DevOps programs that bring together their operational departments together with their IT departments to build use cases. We also see them taking aggressive steps to engage and incorporate vendors into that DevOps process. When we participate in these programs with our customers, we offer Nokia Bell Labs R&D to provide industry-specific AI algorithms that are utilized within the customer's use cases and operations.

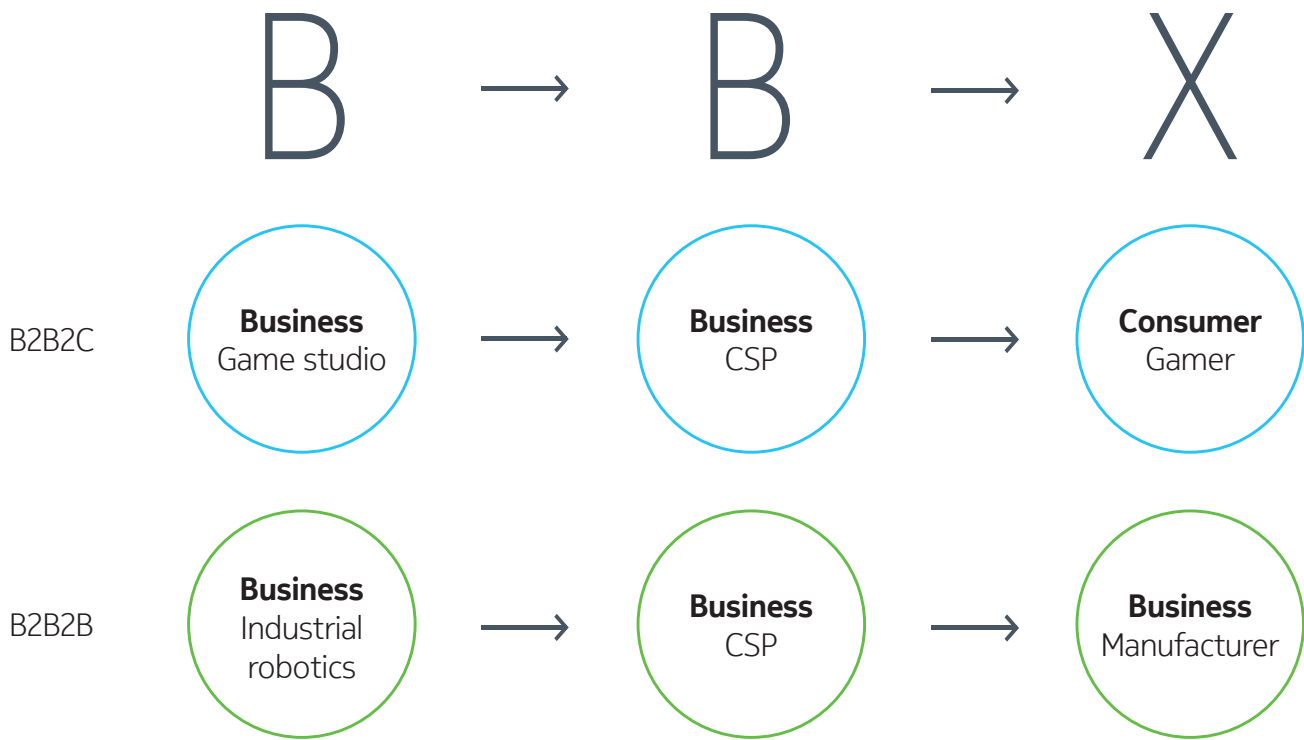
These three steps are all about setting up an infrastructure that utilizes connected intelligence, automation and AI as a foundation for managing customer experience in the 5G era. Now let's tie that back to one of the principal transformations of the 5G era, where operators will be formulating partnerships with vertical industry partners to fully tap into the opportunities that 5G will offer.

New business models and the challenges to support them

In many cases new commercial models are established whereby the monetization flow takes a new and different form. This means friction must be removed from B2B operations - systems must be open and support fluid interaction with commercial partners in varying combinations. Most legacy systems would be challenged to support this effectively.

TM Forum believes that 67% of total revenue from 5G use cases beyond enhanced mobile broadband and fixed wireless access is dependent on OSS/BSS transformation. Taking advantage of the new business model opportunities that come with 5G, change is not an option, but a requirement.

Figure 4: Some examples of business model transformations coming with 5G



As these various multi-level commercial models become established, new dimensions of customer experience come into view. There's the experience of the end customer of the service, but now we have the additional dimension of the experience of the commercial partners. Has the service provider successfully satisfied the service level agreements to partners? Have they presented a business-friendly platform that meets the needs of their commercial partners? The platform must enable the service provider to onboard new business partners and then set up various types of commercial models and monetization schemes to support the B2B2X agreements.

Become a customer experience leader

5G offers a wealth of opportunity for service providers. Given the expectations of consumers and businesses alike, there is much to live up to regarding customer experience. We have identified 4 things that experience leaders focus on to ensure that their customers have extraordinary experiences:

- 1. Personalization to increase loyalty:** One of the characteristics of top brands today is their ability to personalize experiences for their customers, whether it's suggesting complementary products or suggesting next best actions. With 73% of customers expecting companies to understand their needs and expectations, delivering that personalization in the right moment has a huge impact on the experience and creates loyalty across the board.
- 2. Innovative engagements and business models to grow revenues:** To the customer base, innovation in customer engagement is incredibly important. 68% of consumer and business buyers expect a higher level of innovation in offerings from companies today. And in the telco arena, expansion into new markets is a requirement, especially in mature markets. New 5G business models are top of mind for everyone given the opportunities with B2B2X on the horizon.
- 3. Connecting intelligence across the customer journey to accelerate business:** Customers expect connected experiences that are omni channel and automated and 64% of them expect tailored engagement based on past interactions. Understanding the entire customer journey, connecting intelligence across it and automating as much as possible is the only way to accelerate your business.
- 4. Enhancing employee experiences to improve productivity:** J.W. Marriott said, "Take care of associates and they'll take care of your customers." Companies with a highly engaged workforce experience 19.2% growth in operating income over a 12-month period, so help your workforce raise that bar.

Conclusion

Today's experience leaders outperform laggards in the market by 120%. Those service providers who want to create and monetize extraordinary experiences for their customers must embrace the ecosystem of commercial and vendor partners required to build those new digital, dynamic services and navigate the associated new business models. Better knowledge of enterprise and consumer customer segments, how they interact with touchpoints along their journeys, and more heightened personalization efforts through connected intelligence will be the keys to leadership positions in customer retention. And as a foundation, improving the experiences of the people who support your customers is integral to better customer experiences and improved productivity.

Further reading

- [2019 State of the Connected Customer report](#), Salesforce report, 2019
- [CIOs setting the right Cx foundation for 5G](#), Ashley Hernandez, Nokia blog, 2019
- [The Un-Ignorable Link Between Employee Experience and Customer Experience](#), Blake Morgan, Forbes article, 2018
- [Design thinking, AI and starting with what users need](#), Santeri Jussila and Jose de Francisco, CIO Dive article, 2019
- [Survival of the Fastest: How Should Telcos Use Network Analytics to Improve Agility and Experience](#), Ovum webinar, 2019
- [Streamlining customer retention: the AI opportunity](#), STL Partners study, 2019
- [Three keys to win the race to 5G profitability in an open ecosystem](#), Claire Burgaud, Nokia blog, 2019
- [2018 Customer Experience Excellence report](#), KPMG report, 2018
- [Connecting touchpoints across the customer journey](#), Rich Crowe, Nokia blog, 2019
- [3 keys to getting your customer experience technology strategy right](#), William Stanley, Nokia blog, 2019
- [5G monetization: Operational imperatives](#), Catherine Haslam, TM Forum research report, 2018
- [2019 Customer Experience ROI Study](#), Watermark Consulting study, 2019

About the authors

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Sandra is a senior portfolio marketing manager for Nokia's digital experience portfolio which is used by the largest CSPs to boost loyalty, generate revenue and reduce churn. Her activities focus on communicating the business value of Nokia's monetization and customer care offerings, including the role of Nokia's growing partner ecosystem. Sandra is passionate about creating clear and compelling content to drive better customer conversations and ROI.

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As a member of Nokia's global marketing team, Bill focuses on a portfolio of solutions that Nokia offers to enable our customers to make effective use of their network infrastructure investment to deliver offerings to their customer markets. Bill has over 25 years of experience that ranges from marketing and product line management to direct sales and business development.

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Shelley focuses on content strategy and evangelizing Nokia's messages to the market. Having held a wide variety of IT, engineering and marketing roles throughout her 24 year career, Shelley has always been committed to close collaboration across teams to drive the business forward and create better ways of working for everyone.