A new direction for IT user support: Enabling an omnichannel experience in the cognitive era

Contents

Executive summary

Consumerisation of IT and the Internet of Things (IoT) are revolutionising how people live. Users are increasingly becoming accustomed to instant gratification when using technology in their personal lives, whether for gaming, shopping or managing their daily activities. And they want the same kind of immediate service when they go to work. To address this expectation, IT support needs to adapt, evolve and even revolutionise itself or become outdated. In short, IT support must reinvent itself into a friendly, proactive service that is tied directly to a business' profitability.

To meet these expectations, the IT support organisation needs to be capable of delivering the right level of support to its users at the right time. This requires viewing the user as an individual consumer of IT services and addressing the immediate needs of that user in the moment. As the face of the IT organisation, IT support must also be able to demonstrate quantitative improvements in user satisfaction, productivity and contribution to profitability while providing tangible and intangible cost savings for its organisation.

An 'omnichannel' strategy can transform IT support environments and begin the journey to cognitive IT support. Omnichannel for IT support can be defined as IT support that is built on a multichannel strategy to allow access anytime, anywhere and on any device with a consistent experience across channels. It enables interactions across multiple user touch points where the IT support organisation can capture intents, derive insights and personalise and optimise conversations. With omnichannel, IT support not only fulfills users' explicit, individual needs, but it also anticipates their wants and likes and understanding that user in a cognitive way.

This white paper describes omnichannel IT support, why it has become critical for a superior personalised user experience and how organisations can begin incorporating this more cognitive strategy into their IT support organisations.

Introduction

Today's mobile and flexible workplace is multilayered, interconnected and evolving rapidly. Multiple channels supporting today's 'anytime, anywhere and on any device' work style enable users to be more productive and thus have a greater impact on business profitability. According to IDC, the convergence of cloud, analytics, social and mobile technologies - combined with generational expectations - is presenting a hyperdisruptive cycle not seen in 20 to 25 years.[1] In this complex and fast-changing workplace, users are demanding a superior and personalised support experience at work that is driven by the support experiences of consumers and the IT community. This mandate requires establishing a new support delivery mindset.

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Some IT support organisations have taken initial, basic steps to enhance the user experience by adding support channels such as self-service and chat. However, users have raised the bar with their expectations. Nowadays, they - not IT - often dictate which technology they should have, how they will use it and what level of support they should receive. For example, they may want self-service for some issues and high-touch for others. This empowerment of the user is bringing about a shift in how support must be delivered. Enter a new strategy: Omnichannel for cognitive IT support.

Empowerment of the user is bringing about a shift in how support must be delivered.

Omnichannel implementations are not entirely new. Both the retail and banking industries have begun to realise expansive benefits from them. By transforming their consumer engagement models, businesses in these industries have been able to deliver seamless and personalised service for shoppers and banking clients. Using mobility, big data and analytics, these businesses have improved web, social, support and call centre experiences.

For instance, retail shoppers expect and get consistency in brand interactions across channels. They also get relevant and timely offers based on their online behaviour, purchase history and 'in-the-moment' experience, as well as on more personal or social events, such as holidays or anniversaries. Shoppers have visibility into available inventory and flexibility in how their orders are fulfilled regardless of which purchasing channel they use. When walking into a branch office, wealth advisors can immediately greet high-value banking clients and be at the ready with banking products personalised for that client's needs at that specific moment in time.

How does an omnichannel strategy apply to cognitive IT support

In the past, IT support organisations were focused on handling service requests as transactions only. This meant resolving the issue, of course, but primarily delivering the least expensive resolution and driving the user towards it. Additionally, reducing total cost of ownership (TCO) was an imperative. Without losing sight of costs, isn't it possible to view the end user more as a 'customer' or 'consumer' of IT support and not simply as a 'ticket?' Just as retail and banking customers vary in their

needs and how they want to be treated, individuals seeking IT help have varying needs as well. Why couldn't the same omnichannel strategy that has garnered such success in the retail and banking industries also be applied to IT support and become more cognitive? We believe that it can.

Taking its cue from banking and retail, IT support can transform from being transaction centric to being customer driven. It can deliver a superb personalised user experience that provides clients and users with support that is relationship based, socially informed and proactive. Step by step, advances in mobility, big data, analytics and IoT are making it possible to derive knowledge of the user and their personal preferences from multiple sources, such as:

- A user's device(s)
- A user's past behaviour at work and outside of work
- Contextual, situational and location-based data.

Cognitive IT support has the potential to use these sources to anticipate and deliver an exceptional user experience, including reducing user downtime and optimising user confidence,

satisfaction and productivity. By understanding information from multiple independent engagement channels and individual opportunities, traditional IT support can transform into an integrated user engagement model. And it can deliver support consistently anywhere a user is working.

This doesn't mean throwing out the current single/dual channel approach used by many IT support organisations. Rather, transitioning that environment to a more multichannel approach serves as the foundation upon which to build an omnichannel experience, as shown in *Figure 1*.

Evolving from a multichannel to an omnichannel IT support organisation involves four primary shifts:

- Cultivating a new mindset to transform transactions into interactions and relationships
- Building upon systems of record to include systems of engagement
- Personalising the interaction by adding wants and likes to needs, i.e., becoming cognitive
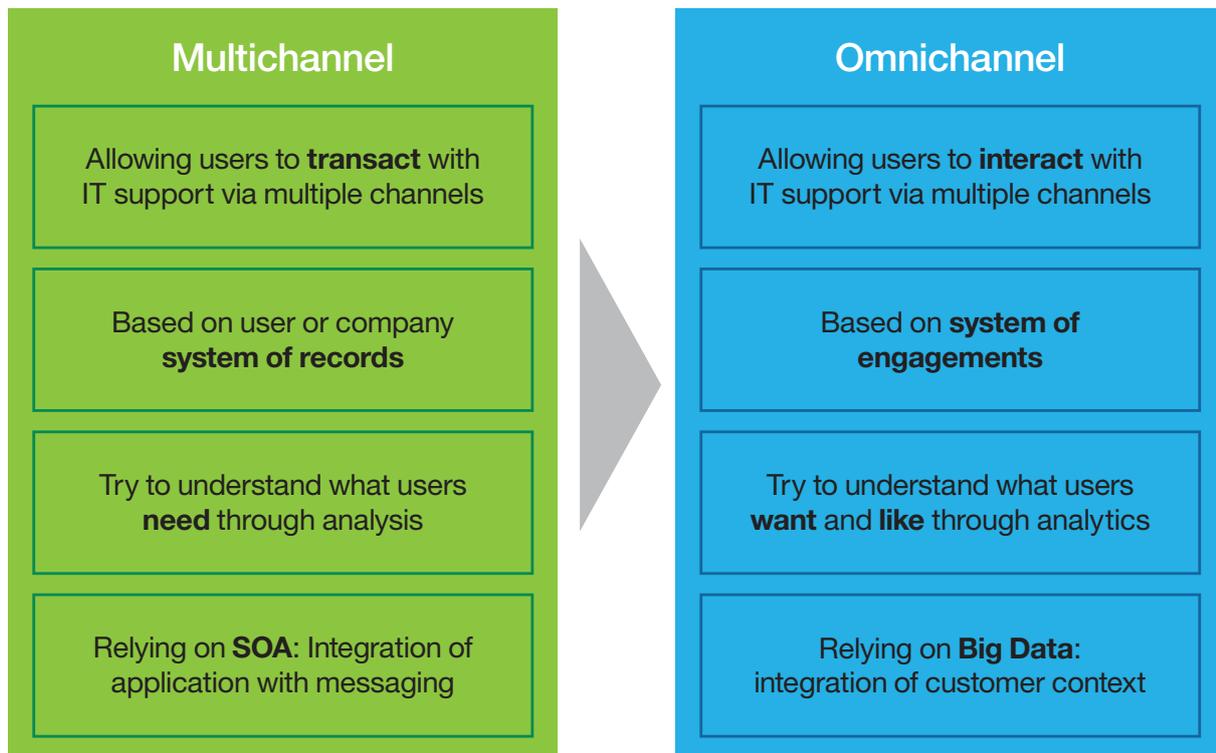- Constructing the customer contextual layer on top of the service-oriented architecture (SOA).

Multichannel

Allowing users to **transact** with IT support via multiple channels

Based on user or company **system of records**

Try to understand what users **need** through analysis

Relying on **SOA**: Integration of application with messaging

Omnichannel

Allowing users to **interact** with IT support via multiple channels

Based on **system of engagements**

Try to understand what users **want** and **like** through analytics

Relying on **Big Data**: integration of customer context

Figure 1. An omnichannel strategy evolves from a multichannel approach

These topics are discussed in the following sections.

Transforming transactions into interactions and relationships

Today, end users may have a choice of many channels for getting IT support, such as a self-service portal, messaging or video chat, remote takeover, phone support and even, at times, face-to-face onsite support. These channels have served users well in the past by giving them a choice of support avenues, mostly at the behest of IT support. Users are required to engage a specific support channel as per the IT support model in use at the time. For instance, one company might require end users to access a self-service portal to initiate all tickets or service requests and to call the service desk only with Priority One problems. This helps IT support keep costs low, but it may not be the best way to service the user. It is definitely not a personalised service designed to further enhance user confidence, satisfaction or productivity.

What if …

We treated end users as consumers of IT support? IT support would then need to be more engaging and allow users to interact with them in a manner that the users preferred. They would also need to know which channel would optimise a particular end user's experience, as well as better meet the company's business objectives. In short, IT support would have to know more about the end user than just what hardware and software they might be using to do their job.

In an omnichannel approach, IT support would augment that basic agent and channel knowledge with a range of big data such as:

- Device monitoring and logging data
- Information about how the end user has successfully engaged IT support in the past
- Data about what the current IT environment is experiencing (for example, year-end reporting, quarterly sales cycle, virus attacks)
- Information about other events, such as daily occurrences, weather and additional interactions with technology.

An omnichannel encounter would use analytics based on big data to understand the end user, to know the end user preferences and to reach out proactively to assist that end user. An example might be to alert an end user that a software update to a key application is available for downloading prior to the user developing month-end reports, or even proactively installing the update without the user needing to know about it. Or IT support might be able to sense that the user's workstation is experiencing its third 'blue screen of death' in the last two weeks and could offer the user an appointment with the client centre (walk-up, face-to-face service bar) for a health check and device update as the end user passes by the client centre location. External events could be incorporated so that, for example, users in the Southeast US could be alerted when the hurricane season starts that IT is available to perform backups for them. The fact that bad weather in general tends to increase calls to the help desk could provide an alert that additional agents need to be added to certain areas.

Excellent multichannel support is the must-have foundation to begin a journey towards omnichannel support. The IT support organisation must first have the supporting processes, tools and skilled resources to be able to handle current transactional requests in a cost-effective manner that drives to first-call resolution.

Building upon systems of record to include systems of engagement

IT support systems of record, such as service management tool suites, interact with users on a case-by-case, ticket-by-ticket basis, recording accurate and necessary information about each transaction. However, they have neither foreknowledge about the user nor a means for conducting a proactive assessment of what that user might require in the near or long term. To support an omnichannel experience, these systems of record need to be updated, augmented or integrated into a more client-oriented approach. They need to be able to recognise each user as an individual over time and to provide an actual customer record of the 'soft' side of the support experience, rather than just categorising users by ticket, problem or service request.

To make this possible, either current systems of record need to be updated to employ an omnichannel approach, or a current system(s) of record needs to be integrated with a system of engagement, beginning with, perhaps, client relationship management. This is the main challenge that businesses will face over the next three to five years.

These combined systems offer a new class of support infrastructure centered on a 'consumer-first' perspective rather than on the traditional projection of IT and organisational constructs. It is enabled by four technology trends: cloud, analytics, mobile and social. By understanding the end user's role, persona, assigned hardware and software, location, company calendar and environment, etc., IT support can design and implement rich, personalised user-centric support that integrates multichannel touch points to deliver more cognitive, relational and value-added support.

Information captured by each user interaction can be saved, managed and acted upon using big data and analytics. This means that a financial analyst might be automatically granted additional storage space at the end of a quarter to accommodate the larger data needs of consolidating and saving large company reports. Or perhaps, the monitoring software could detect a problem that can be fixed using self-healing. This event would be recorded in the user's system of engagement record, along with logging data to prevent comparable problems from occurring among other users with a similar infrastructure.

Personalising the interaction by adding wants and likes: becoming cognitive

As consumers' expectations of getting instant gratification increase, technology continues to respond. More and more simple, integrated technologies that consumers can use daily in their personal lives (such as Dropbox, Gmail and Skype) are being developed to give consumers the experiences they desire.

These same consumers are demanding similar experiences from their employers. Ideally, they want their personal and workplace technologies to converge. And they want to be able to handle their work in a fashion of *their* choosing while getting a more personalised experience. Making this happen takes a deeper understanding of how individual end users like to work and what makes them most productive and then combining that understanding with business objectives, as opposed to focusing on IT support needs.

For example, a user searches for information for a particular problem and spends more than a couple of minutes doing so. Proactive sensors detect this problem then, depending on the user's preference, initiate a service desk chat or proactively provide Watson-based results beyond the search. In another example, receiving proactive updates on the status of an issue resolution with estimated resolution time could help increase user satisfaction, confidence and thus productivity. Providing industry-relevant information or an experience or story that is germane to the user's role could further increase satisfaction (or even create delight). Finally, including external social information such as weather details or favorite sports updates while on the run could make satisfaction soar and produce highly focused results. After all, who wouldn't be more productive in a work environment that caters to individual needs and interests?

Constructing the customer contextual layer on top of SOA

SOA is an IT architectural approach that supports integration of a business as linked, repeatable business tasks or services. Service orientation is a way of thinking in terms of services and service-based development and the outcome of services. It is this

approach that is used to develop and implement a multichannel service management infrastructure. Be aware of the difference between a multichannel approach (which just gives the user a set of multiple ways to contact support) and an omnichannel approach which enables cognitive support for the user. SOA enables components to interact with each other in standardised ways and therefore allows for easier integration and greater reuse.

But to capture intents, motivations and the context of conversations, an omnichannel infrastructure needs to be built with different technologies and then tied to a strong multichannel SOA underpinning. Combining advanced technology with user activities (for instance, using speech analytics for voice conversations) makes it possible to analyse behaviours and semantic texts in order to understand deep relationships in real time and to gain actionable insights, thus becoming cognitive - or rather, able to learn.

Enabling the infrastructure for omnichannel support

Delivering on such a promising new service model requires three activities: *capture, retain and analyse*. The first requirement is to capture the context of conversations, interactions and activities. Next, there needs to be a way to retain and manage the billions of data points that come out of these real-time activities. A big-data platform is needed to organise all of this information and access it at 'in-the-moment' response time. Finally, once all of this experiential data is collected, it must be analysed in such a way as to present cognitive and actionable insights. Figure 2 shows how these steps could apply in an IT support environment.
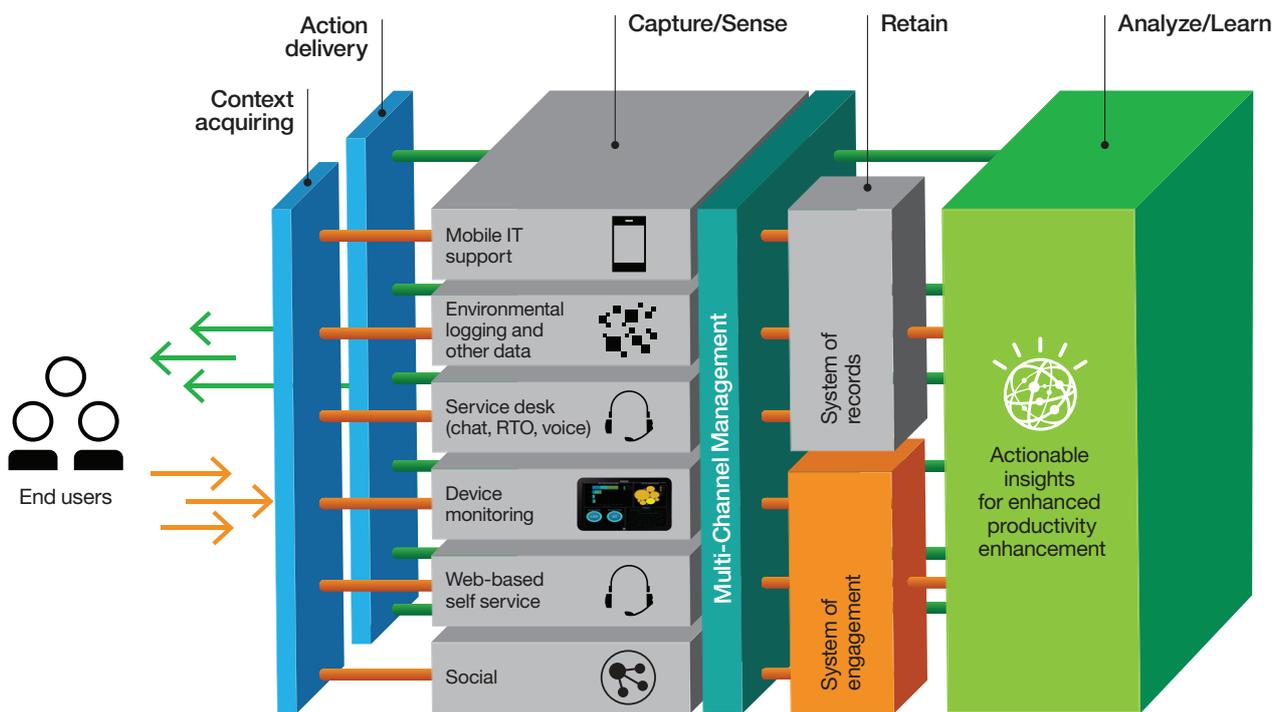
Figure 2. Exploiting data captured from all channels, including mobile and social is a prerequisite for gaining actionable insights.

Context capturing and delivery mechanisms are set up across support channels recording into systems of record. This allows transaction data to be captured at each support channel interaction. Note that support channels have expanded to include environments, social, device usage and logs, weather and so on. The data warehouse logs this data in an effective and efficient organisation - a system of engagement - that is capable of storing and managing structured and unstructured customer and conversation data in order to derive user wants and likes. Advanced analytics and learning algorithms quickly intake the timely data artifacts and the system of engagement crafts a proactive response meaningful to the current user activity. Actionable insights might include, for example, segmentation,

next-best actions and productivity alerts. The idea is to exploit existing information, information relationships and user preferences to drive consequential insights, thus helping the user be more productive and satisfied with the response.

Actionable insights produce a differentiated user experience

Transformation of the user-IT support relationship requires a human-centric approach that is discernibly different from today's delivery of IT support. Tomorrow's cognitive, anticipatory and self-healing omnichannel approach must transparently manage complexities, diversity and technologies to assist users to be as productive and valuable to their employer as possible.

The need for a human-centric approach in IT support is driven by the mobile user who has grown accustomed to support in the consumer world. Bringing it to fruition in IT support can best be accomplished in three waves of implementation, as shown in Figure 3.

The first wave entails having a support platform that consistently handles transactional service requests in an efficient and cost-effective manner. This necessary transaction-driven foundation brings together optimised multichannel support and cost reductions with closed-loop processes.

Once this platform is established, systems of record can be integrated with systems of engagement to help deliver a more individualised service based on personas. This allows a user to be treated as a 'caller' rather than a 'call.' Predictive analytics that deliver insight into the user experience, the issues that they encounter and how support can best be provided are integrated into the IT support infrastructure. This second wave creates new levels of productivity and personalisation driven by data and insights.
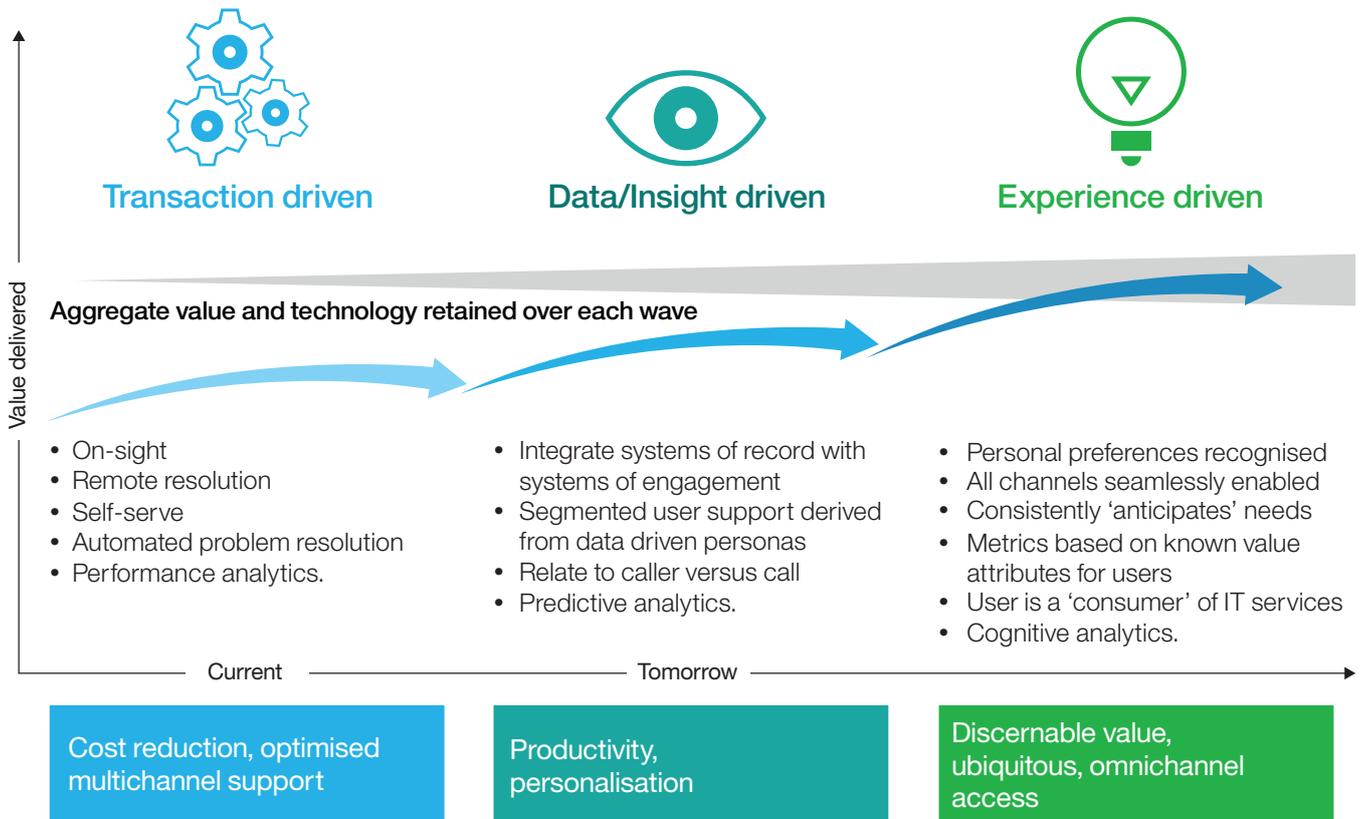

Transaction driven

Data/Insight driven

Experience driven

Value delivered

Aggregate value and technology retained over each wave

- On-sight
- Remote resolution
- Self-serve
- Automated problem resolution
- Performance analytics.

- Integrate systems of record with systems of engagement
- Segmented user support derived from data driven personas
- Relate to caller versus call
- Predictive analytics.

- Personal preferences recognised
- All channels seamlessly enabled
- Consistently 'anticipates' needs
- Metrics based on known value attributes for users
- User is a 'consumer' of IT services
- Cognitive analytics.

Current ———————————— Tomorrow ————

Cost reduction, optimised multichannel support

Productivity, personalisation

Discernable value, ubiquitous, omnichannel access

Figure 3. Transform from transaction driven to insight driven to a superb personalised experience – the journey to omnichannel support.

The last and most important wave is when personal preferences are recognised through data derived from IoT and other technologies that consistently anticipate an individual user's needs and wants and learns about the user by understanding. This is enabled by metrics based on known value attributes for each user and deep learning abilities using cognitive technologies. Thus, a user becomes an informed consumer of IT services. Applying cognitive analytics means the solution continually learns and adapts to support the end user as an individual. Users can deliver discernable value only when they are at their best. The sequential execution of these three waves transforms the vision of a superb personalised experience for IT support users into a reality.

Starting your journey

While systems of engagement are being developed and integrated with systems of record for IT support, IT organisations can elevate their current single- or dual-channel support into true multichannel support with today's available tools, technologies and skills. Here are a few steps to help you begin the journey:

1) Review your current infrastructure, including your network and determine what is required to implement full multi-channel support
2) Verify that transactional service requests are being handled properly
3) Confirm or develop end-user support profiles or personas; assess users' support requirements and expectations; and align these with business needs, user workloads and opportunities (both current and future), including transactional, relational and value added
4) Understand the need for agility and enablement in an omnichannel infrastructure and determine your build or buy strategy
5) Design and develop your omnichannel infrastructure

6) Begin your implementation using a phased or staggered approach and be aware of how well the user is accepting the selected omnichannel approach
7) Keep abreast of cognitive technology, its increasingly rapid changes and look for ways to apply it in your support environment.

Key questions that can guide you on your journey include:

- How well are you applying your multichannel approach to support your 'transaction' service requests?
- What issues are you facing in your support centres?
- What do you envision your enterprise needing to meet end-user demands?
- What other business needs or opportunities may impact how you deliver support?
- What support capabilities have you identified to create a differentiated mobile experience? What will you need to do to implement these capabilities?

Conclusion

Today, creating a more effective and productive user experience is possible by using multichannel IT support, along with an optimised network, to manage the increased data workloads of monitoring, tracking and digitising structured and unstructured data. Tomorrow, digital innovations such as big data, deep analytics, IoT and others (many not even invented yet) can be introduced with agility once the foundational system of engagement is built and in service, delivering true cognitive support.

These integrated components can transform IT support by driving current multichannel user support into a cognitive omnichannel user experience that can only enhance a business' overall profitability. Buckle up for the ride!

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For more information

Excellent multichannel support is the must-have foundation to begin a journey toward omnichannel support. IBM® has established the feasibility and advisability of moving IT support in an omnichannel direction based on its years of experience and knowledge within the omnichannel retail and banking environments, as well as the user support environment in a cognitive era. To learn more about how IBM can help you on your journey to an omnichannel experience, visit: ibm. biz/mobileclientcare

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[1] IDC, "Four Key Trends Impacting Mobile Infrastructure Strategy," August 2014.

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