



Digital transformation

Enabling disruptive digital experiences where the customer is the first mover





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Modern enterprises adapt digital transformation initiatives powered by next-generation, contextually aware, digital user experiences.

Digital transformation for the idea economy

Just in case you missed the memo, the world is now digital.

Competition for your customers will come from unexpected, nontraditional sources that can disrupt entire industries and ecosystems.

Millennials were born into this digital era—an era driven by a new economy, an economy we (Hewlett Packard Enterprise) refer to as the Idea Economy.

In the Idea Economy, the consumer (your customer) is in charge and will define your next move. Today's consumers vote with their fingers, and if they are not clicking on your products and services, you are losing them as customers.

In this era of disruption, barriers to entry are falling across every industry. Enterprises that will succeed are those that will turn ideas to realisation to products and services in a matter of days, not years.

Thanks to technology, it has never been easier to disrupt—but it's also never been easier to be disrupted. Competition is coming from unexpected sources disrupting entire industries and ecosystems. These new enterprises are “asset light,” making them nimble, agile, and able to react quickly to changing markets.

The big winners will maintain control and visibility without owning assets. Newer-generation enterprises will have business models that are radically different or have built upon the transformation drivers, with no real asset base.



Figure 1: HPE point of view on digital transformation

Enterprises must embrace digital transformation to realise the potential value of innovation and next-generation digital user experiences. Next-generation digital solutions leverage a variety of industrial-strength mobility platforms: Internet of Things (IoT), analytics, social, and cloud to create and automate contextually aware services that use analytical insights to truly change the way we engage customers and drive employee productivity. Services like object recognition to recognise faces in retail, banking, law enforcement, and airport security and then automatically act on those triggers based on situational awareness.

To date, enterprises have only applied digital initiatives in bursts, and such incremental efforts will not result in breakthrough business outcomes. Instead, enterprises must adapt and leverage the true power of digital transformation and innovation and apply it to the core of their business. Otherwise, they will face digital obsolescence. Simply having a website and social media channels does not make you a digital enterprise.

Digital has reshaped industries across the globe, driven by technology and customer-centricity.

Digital is reshaping industries across the globe

In recent years, digital has reshaped entire industries, driven by technology and customer-centricity like never before.

The landscape of the music industry has been forever changed as a result of a digital transformation that put music and artists online, in a digital format, and available to billions of people across the globe.



Figure 2: Digital has completely transformed the music industry landscape

Enterprises across the globe are having to take a stance in this digital era and adopt one of four positions on digital:

- Defend their business model against digital disruption
- Extend their existing systems to digital channels
- Create new digital channels to entice customers
- Disrupt entire industries with new digital business models

IoT is an enabler of digital transformation that will quickly become the beating heart that drives both our personal and our corporate worlds.

The rise of IoT platforms in the digital landscape

The Internet of Things (IoT) is an integral part of this new digital landscape. A 2015 report by the World Economic Forum summarised the disruptive opportunity that IoT will present as being: “value creation made possible by massive volumes of data from connected products, and the increased ability to make automated decisions and take actions in real time.

If you view IOT as an enabling concept rather than a specific technology, then it becomes easier to understand how it will quickly become the beating heart that drives both our personal and our corporate worlds. IoT will make a profound difference and drive real disruptive opportunities in areas like: predictive analytics, remote monitoring, geo-tech (including: geo-fencing, geo-blocking, geo-targeting), artificial intelligence, image and pattern recognition, for example.

Embedded devices generate and share massive volumes of data that will drive key business opportunities in four major areas:

- Vastly improved operational efficiency (e.g., improved uptime, asset utilisation) through predictive maintenance and remote management.
- The emergence of an outcome economy, fuelled by software-driven services; innovations in hardware; and the increased visibility into products, processes, customers and partners.
- New connected ecosystems, coalescing around software platforms that blur traditional industry boundaries.
- Collaboration between humans and machines, resulting in unprecedented levels of productivity and more engaging work experiences.

The “next-gen” world is a consumer-powered ecosystem connected by intelligent, contextually aware, digital solutions.

Asymmetric competitors from unexpected and nontraditional sources that operate an “asset light” business model will compete for the loyalty of your customers.

Consumers are in charge of your next move

Today, we live in a world of instant gratification—one full of consumer-inspired digital experiences in our homes, our work, and across our lives.

Digital technology—including cloud, mobility, wearables, IoT platforms, security, Big Data, and analytics—has made it possible to deliver innovative and creative digital solutions that captivate customers and enhance employee productivity.

Your customers are the first movers in this digital revolution, and they have already moved. Their loyalty is now measured in clicks, as customers vote on your brand with their fingers. You simply must give your customers a consumer-inspired digital experience. And guess what? The experience is your brand.

The next-generation world is a consumer-powered ecosystem connected by intelligent, contextually aware, digital solutions.

Your customers are ready; the technology is ready—the question is: Are you ready? Digital transformation isn't just the future, it is the present, it is here today.

Unexpected competition from nontraditional asymmetric sources

Competition for customer loyalty is intense. Millennials entering the workforce are the customers of the future, and they expect consumer-inspired experiences on their preferred digital devices.

Asymmetric competition from unexpected sources is delivering unique value with a focus on the customer's experience. These nontraditional competitors emerge quickly, and they are not going away.

Consider your industry. Your future asymmetrical competitor is probably not (yet) in your industry. You need to be thinking beyond your industry's boundaries.

For example, the world's largest taxi company does not own a single vehicle. The world's most popular media owner creates no content. The most valuable retailer has no inventory. And the world's largest accommodation provider owns no real estate.

What makes these examples so unique is the fact that these companies own no real assets. They own no vehicles, no hotels, no inventory, no content, and no infrastructure. As such, they can emerge quickly with disruptive business models, can create unique value for their customers, and deliver a customer experience that changes the landscape.

These competitors most likely are not even in the same industry as you, but they are out there. They are devising new business models; they are building secure solutions in the cloud, taking advantage of mobility; and they understand the value of data and how to use it to personalise the customer experience.

Consider the automotive industry of the future. The leaders will not necessarily be the ones that can produce the best vehicle. Instead, it will be the ones that create the most connected automotive ecosystem, where vehicles communicate information to each other through an IoT platform that radically changes the driving experience. There will be an ecosystem that connects the purchasing, financing, insuring, servicing, and driving of vehicles into a personalised experience that makes us safer, entertains us, finds us the best travel deals, and anticipates our every need. Could Apple or Google become the No. 1 player in the automotive industry?

Asymmetric disrupters approach digital transformation in unique ways

- Asymmetric competitors tend to disrupt profitable customer-facing businesses and avoid capital-intensive areas.
- Established enterprises relying on existing barriers to entry such as high physical infrastructure costs will find themselves vulnerable. Today, physical assets can be virtualised, driving the marginal cost of production toward zero. And information is being embedded in products and services so that they can be redefined. Be clear that competition may emerge from adjacent markets or from companies with completely different business objectives.
- Digital transformation also enables new sources to enter product and labour markets in ways that were previously harder to make available. In the process, a whole new market consumer demand remains to be uncovered. Airbnb, Uber, and Amazon Web Services are well-known examples of unlocking potential supply—whether it's lodging, innovation sources, or simple ride-sharing.
- Digital platforms that can scale and enable other businesses have become a weapon of choice for disintermediation. Platforms that can encompass data, intelligence, and service delivery with an immaculate user experience enable these competitors in ways that are difficult to predict.
- Companies like Apple, Amazon, and Google are blurring traditional industry definitions by spanning product categories and customer segments. They have succeeded in disrupting traditional business models due to massive operating leverage provided by their platforms to upsell and cross-sell products and services without human intervention.

Enterprises are rethinking their competitive advantage

Businesses are being forced to rethink their competitive advantage as nontraditional competitors from unexpected sources threaten their existence.

Mobility and digital ecosystems enable you to reimagine customer interactions and employee productivity, and are redefining the core of the business processes. The digital ecosystem drivers include:

- **Personalisation**—In mobile and social networks, using context-based services with situational awareness.
- **Data as the new natural resource**—New technologies enable faster data insights to be imbedded in the user experience.
- **Customer expectations**—Consumers have rapidly changing desires and needs from solutions at home and work.
- **Breakthrough technology**—This includes wearables, sensors, drones, virtual reality, and other Internet of Things end-point devices.

Enterprises are defining their digital transformation strategy and executing digital transformation initiatives with an eye toward creating business value. They are envisioning new ways of working and are redefining decades-old business processes to take advantage of cloud, mobility, security, big data, and analytics.

Mobile devices enable information to be captured and consumed at the point of service. This is driven by analytical insight and situational awareness to change the way we engage customers, make employees more productive, and improve overall business efficiency.

Mobility and digital ecosystems are redefining the core of the business processes.

The business value of digital transformation can include these benefits:

- **Supercharged customer experiences** delivered to mobile devices, must be relevant, contextually aware, and timely in order to convert customer interactions into revenue opportunities.
- **Intuitive solutions** driven by analytical insights improve business operational efficiency and customer engagement.
- **Speed to market** maximises the customer share of spend through digital channels.
- **Options for future businesses** will arise from new capabilities, innovation, and creativity that differentiates you from the competition.

Enterprises need help with digital transformation. They need a true partnership where collaborative people, empowering technology, and transformative ideas accelerate change.

Unlocking the true value of digital

When it comes to digital transformation and innovative, creative digital user experiences, there is no ceiling on the possibilities. Digital and wireless use cases for smart glasses, sensors in clothing, augmented and virtual reality, and other digital devices are bound only by the imagination. We're talking about delivering the right information to the right device, at the right time, based on situational awareness of the activities that a customer or employee is involved in.

Businesses that have focused on their products and services since their inception need help when it comes to digital transformation and the art of the possible. They need a true partnership where collaborative people, empowering technology, and transformative ideas accelerate change and transform their business operations. They need help with these areas:

- **Advisory framework** that will enable them to make the choices between an asset-light business model and leveraging and maximising the returns on their committed assets
- **Integrated set of services** through a curated ecosystem to enable the digital transformation journey for their enterprise
- **Innovation and speed** from ideation to execution through digital platforms, mobile solutions, advanced analytics, and a range of options to build and maintain a scalable infrastructure to support digital solutions
- **End-to-end relevant digital services** integrating front-end digital devices with back-end systems of record
- **Industry domain expertise** with a superior digital customer experience that will front-end their solution set and thinking

Enterprises, regardless of size, have not realised the potential value of digital transformation and innovation, and have only leveraged it in bursts. Such incremental effort will not result in breakthrough results. If they do not adapt and leverage the true power of digital transformation and innovation, and apply it to the core of their business (not in bursts or incremental, as that will not result in breakthrough achievements), they will become irrelevant.

Start early and design your own digital journey map in a manner that takes into consideration the organisational long-term business objectives. Categorise your needs into how you want to see the business value created, and align those needs to how your enterprise design should look.

Table 1: Digital transformation business value**Maximise the share of spend with a superior customer experience.**

- Deliver products and services swiftly and securely, with an exciting and innovative user experience.
- Gain a 360-degree view of the customer through a seamless multichannel experience.
- Increase brand awareness, equity, and loyalty across social and mobile channels.
- Create context-aware, personalised, digital user experiences.
- Deliver around-the-clock availability, real-time fulfilment, global consistency, and zero errors.
- Automate decision-making with advanced analytical models.
- Focus on innovation throughout the customer journey.

Improve organisational effectiveness; increase enterprise productivity.

- Enhance interactions amongst customers, suppliers, stakeholders, and employees.
- Reimagine new, integrated digital workflows (such as airline “queue busting” or consumer products direct sales delivery insight) to improve agility, reduce cost, and enhance operational effectiveness.
- Deliver anytime, anywhere, trusted access to enterprise information.
- Ensure enterprise data is secured from unauthorised access.
- Digitise and mobile-enable legacy apps to extend the value of existing investments.
- Imbed superior analytics-driven insights that are embedded into systems for better decision, product, and operations management.

Enable new business and operating models to disintermediate markets.

- Establish new techniques that can help make better decisions by using accurate, reliable, and scientific information to analyse risk, optimise processes, and predict failure.
- Create a scalable structure for consistent innovation in products, services, and operations.
- Implement the ability to offer products and services on a timely basis.
- Define a scalable organisation and governance structure for consistent innovation in products, services, and operations.
- Deliver hyper-scale platforms whose operating leverage provides an opportunity to upsell and cross-sell products and services without human intervention.

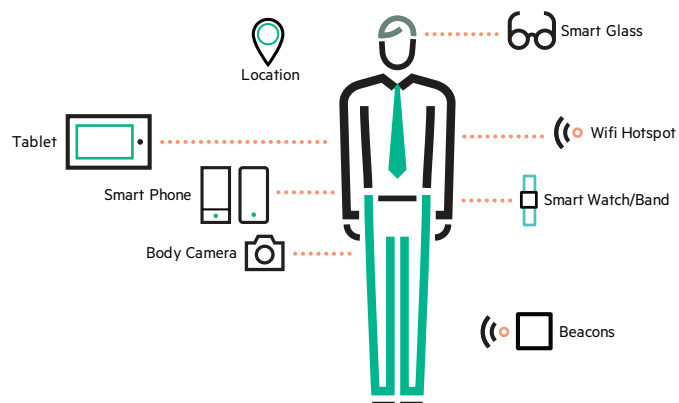
Accelerate the planning and implementation of digital transformation initiatives aligned to specific business values.

- Gain help to establish a clear strategic direction and vision.
- Leverage industry-proven advisory processes and frameworks.
- Access highly skilled digital consultants who understand digital technologies and solving related complexities.

Digital transformation within industries

As we mentioned at the start of this viewpoint paper, digital has reshaped industries across the globe, driven by technology and customer-centricity.

Creating next-generation, contextually aware, digital user experiences requires a level of industry domain expertise, technology insight, innovation, and creativity to deliver use cases that transform the customer engagement and improve employee productivity. Whilst enterprises continue to focus on specific value through digital transformation, they are still struggling to holistically transform.

**Figure 3:** The right information, delivered to the right device, at the right time

Consumer travel, especially airlines, is seeing key shifts in its industry. Ancillary revenue, service differentiation, increasing airline capacity, omni-channel experience, and cost optimisation are some of the top challenges. Technology transformation to a digital enterprise, core airline modernisations, and flight operations are some of the big plays that must be executed to address the key shifts.

The healthcare industry is affected by political and regulatory forces, economic and societal influences, and technological advances.

Political and regulatory forces include healthcare reforms—such as Patient Protection and the Affordable Care Act in the U.S.—that push health providers to provide better care at lower cost. Healthcare is becoming more about well-being than disease management, moving from diagnostic to preventative medicine.

Slowing economic growth, higher uncertainty and unemployment, and pressure on healthcare costs have all contributed to constraints on healthcare spending. Payers—government and private—are linking healthcare reimbursements to quality parameters, increasing the focus on customer service and quality processes. And changing patient behaviour has led to “best value for money” being the norm. Increasingly, patients are demanding care outside the hospital setting, such as telemedicine.

Technological advancements such as mobile gadgets, wearable devices, and electronic patient records have changed patient expectations and delivery models. Better-informed, information-driven, technology-savvy, and empowered healthcare consumers are demanding better access to healthcare and wellness programmes.

Banking and capital markets similarly are being reshaped through some macro drivers, including higher capital restrictions, cost-efficiencies, expansion strategies, common reporting standards, dwindling customer loyalty, and the rise of millennials. The drive to digital will focus on integrating and transforming the delivery network for omni-channel, shifting to a centralised digital sales model, migrating toward a new-age customer experience, and linking payment information with better buying behaviour.

Industrial manufacturing companies will begin to use digital technologies and create an intermesh of connections between physical assets, thereby enabling valuable data flow across the product lifecycle. Manufacturing companies have already begun using data analytics to optimise operations. With clear visibility to the supply chain, it is becoming easier to predict the flow of raw materials and optimise supply-demand issues. Cutting costs and increasing efficiencies through anticipated demand and aligning inventory levels of parts will be the norm. Data mining and insights into equipment performance will influence the reliability factor of factory equipment. Internet of Things-based solutions will enable predictive maintenance and are expected to cut operational costs.

Let's look at a few examples and explore how digital solutions can change the journey for the connected traveller, mobile telemedicine, and intelligent venues.

Connected travellers are using their smart phones to quickly and easily navigate through airports from the right check in location, through security, and all the way to their departure gates.

Connected traveller

Airports across the land are improving and personalising the consumer travel experience with wireless beacon technology and proximity-based services. These help their customers navigate their way from check-in, through security, and all the way to their departure gate.

As travellers enter the airport, they can see a map of the airport on their mobile device, with “bludot” navigation and way-finding to the correct check-in and bag drop locations based on their individual flight information.

As they get closer to the bag drop area, their boarding pass and baggage receipt are automatically displayed on their device so the agent can quickly check their bags.

Next, they get step-by-step navigation through airport security, automatically displaying their boarding pass when they reach the security inspection checkpoint.

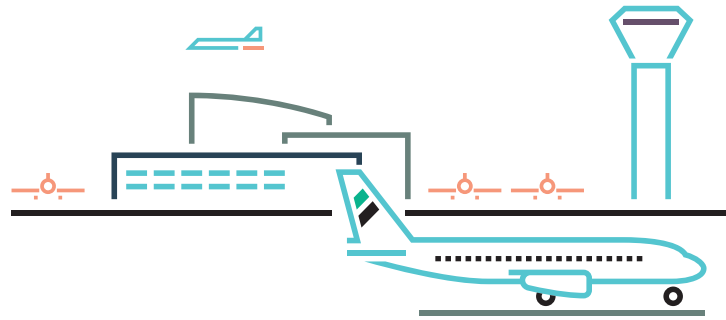


Figure 4: Personalising the consumer travel experience

As travellers navigate through the airport and pass by the airport's retail outlets, they receive personalised offers based on their flight schedule, time available, and other preferences they have set to enhance their travel journey.

In the event of a flight delay or gate change, the travellers are immediately notified of the changes and are provided with options and offers to make their travel experience an enjoyable one.

Airlines are also mobilising their gate agents with mobile check-in functions that enable queue-busting to prevent those long lines occurring and make it that much more convenient for their customers.

Mobile telemedicine solutions are revolutionising patient healthcare, connecting nurses and paramedics with doctors and physicians to improve the level of care before the patient reaches the hospital.

Mobile telemedicine

The mobile telemedicine platform is a cloud-based digital solution that allows nurses and paramedics to instantly connect with doctors and physicians at the hospital. The solution uses digital collaboration so the nurses and paramedics who are treating the patients can have video and phone connections to consult with doctors and physicians on the best course of treatment.

As patients are en route to the hospital, nurses and paramedics can make all vital statistics and relevant patient information available in real time so the emergency room can prepare for the patient's arrival.

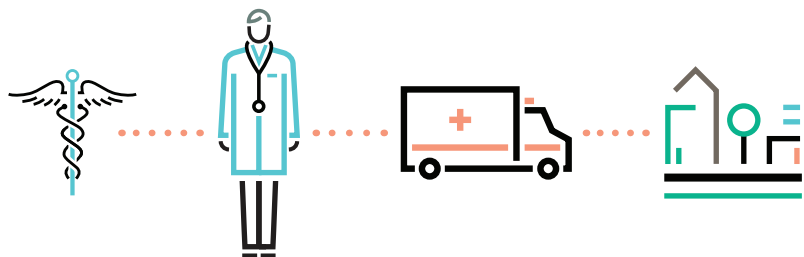


Figure 5: Mobilising healthcare services and telemedicine solutions

Patients get a greater sense of comfort knowing that the emergency room is set for their arrival, and the doctors are notified in advance, which helps improve the survival expectancy for the patient.

With neurology and cardiology patients, the "time-to-needle" is critical, so treatment must begin as soon as possible to give patients a better chance of survival.

This digital user experience is all about saving patient lives by having all the data readily available on mobile medical tablets. This ensures all necessary medical expertise is available at the point of service, where and when the patient needs it the most.

Intelligent venues are set to breed a new generation of customers who will be known as the "Uber Fan" and will be the envy of their friends.

Intelligent venues

Venues across the globe such as stadiums, museums, performing art centres, and theme parks are set to transform themselves into super-intelligent, contextually aware locations that deliver new levels of superior customer experiences and convenience for their fans and patrons.

These venues will create a new class of fans and patrons that will be the envy of their friends because they simply know more and are aware of more things than anyone else. These Uber Fans know the fastest route to the venue, where there are available parking spots, how to get to their seats, the fastest line to buy food, and the best deal on merchandise. You can recognise Uber Fans because they smile bigger than the rest of us—a smile that is driven by the ultimate user experience. An experience that receives a better level of service than everyone else at the venue.

The key to the Uber Fan is mobile engagement. Indoor bluetooth navigation uses beacon technology to give step-by-step directions throughout the venue to find your seat or find a museum piece quickly and easily. This same technology enables you to find your friends at any venue or event with exciting new location-sharing services.

Through a mobile app, we can order food and beverages directly from our seat and make payments using our mobile devices when our order arrives. We can view instant replays just seconds after the play occurs, and we can view live theatre with subtitles in our preferred languages. Using the latest in digital technology, we can completely transform the fan and patron engagement experience.

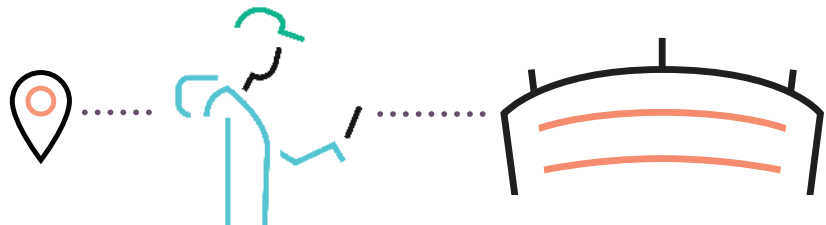


Figure 6: Redefining the fan and patron engagement experience

Hewlett Packard Enterprise is your digital transformation partner of choice for a true partnership where collaborative people, empowering technology, and transformative ideas will accelerate change.

In conclusion

In the Idea Economy, the consumer is in charge and will define your next move. In this era of disruption, entry barriers are falling across every industry. Enterprises that will succeed are those that will turn ideas into realisation and into businesses in a matter of days, not years.

Asymmetric competition will be the norm. The sheer nature of the technologies that are being spawned will radically transform the world as we know it. Competition is coming from unexpected sources that are disrupting entire industries and ecosystems.

Winners will maintain control and visibility without owning assets. Newer-generation enterprises will have business models that are radically different or will have built upon the transformation drivers with no real or a very light asset base.

Transform or become digitally obsolete. Companies have not realised the potential value of digital transformation and innovation, and have only leveraged it in bursts. Such incremental effort will not result in breakthrough results. If they do not adapt and leverage the true power of digital transformation and innovation and apply it to the core of their business, they will become irrelevant.

Thriving in this idea economy requires a unique blend of industry domain knowledge and a new model for IT, where it is transformed from a cost centre to an engine of continuous value creation.

Successful companies will use IT to propel their business further and faster with the next generation of personalised, contextually aware, digital user experiences. But companies need help. You need a true partnership where collaborative people, empowering technology, and transformative ideas will accelerate change for your business.

Your digital transformation partner of choice

Hewlett Packard Enterprise (HPE) can provide a differentiated set of services through a curated ecosystem of partners and solutions to enable your enterprise's digital transformation journey. Our industry domain expertise and a superior digital customer experience will drive our solution set and thinking as we help you define your digital transformation strategy and execute your digital transformation initiatives.

Learn more at
hpe.com/us/en/digital-transformation.html

About the authors

Sudeep Gautam, Vice President and General Manager, Global Enterprise Mobility Services, Advisory and Transformation

Gautam drives thought leadership and customer engagement to help clients along their transformation journey from traditional workplace to a mobile computing environment. He leads the Mobility practice by setting the strategy, defining differentiated offerings, coordinating with the regional HPE sales and account teams on go-to-market initiatives, and building the practice infrastructure.

He has deep experience managing large, highly effective, cross-functional teams and a strong track record of managing end-to-end P&L for independent business units. He has helped start businesses from the ground up, including IT strategy, building high-impact teams, and consistently delivering operational excellence.

Prior to working with HPE, Gautam was the global head of the Enterprise Mobility practice at Infosys and also headed the Cognizant, Consumer Goods Industry business unit. He has spent 17 years in the United States in senior executive leadership roles, always managing large global teams with a full P&L responsibility, overseeing sales, account management, delivery, and consulting teams.

Gautam earned an engineering degree in computer science from Bangalore University, an MBA from the University of Texas, and is a graduate of the Executive Management Program from the Wharton School.

Paul Ashwood, Worldwide Portfolio Marketing, Digital User Experience

Ashwood started his career with HPE (formerly HP and EDS) in Australia in 1985 in the Systems Engineering Development Program. He has been involved in applications design, development, testing, and integration throughout his 30-year career.

Ashwood has helped deliver large, complex shop floor systems and enterprise business systems for some of HPE's largest clients in Australia and the United States.

He currently provides thought leadership and portfolio marketing for HPE customer experience and employee empowerment solutions. These solutions enterprises redefine customer engagement, turning interactions into revenue opportunities and enable employee productivity that drives an increased level of operational performance and cost savings.

Ashwood holds a bachelor's degree in computing from Monash University in Australia.



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