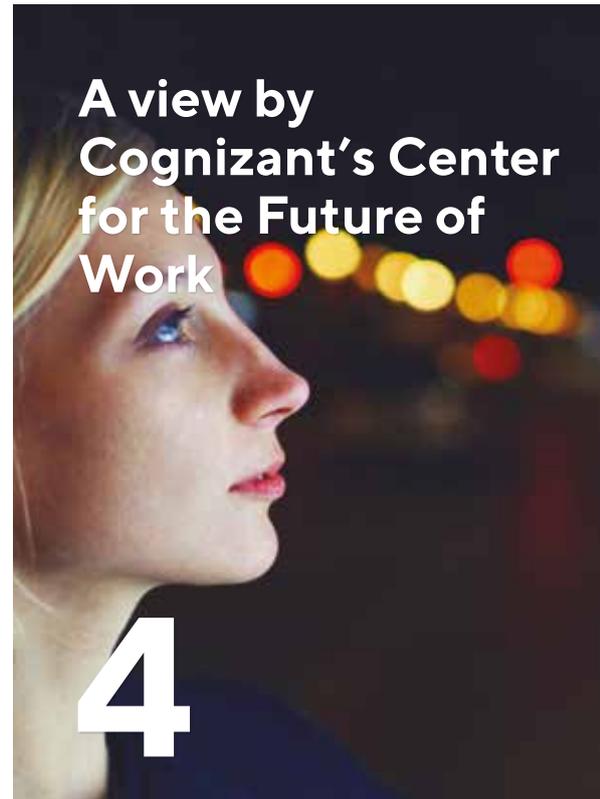


A young child with blonde hair, wearing a black VR headset, is sitting at a wooden table. The child's right arm is raised, with the hand open as if reaching out. The child is wearing a blue denim shirt. The background is a bright, indoor setting with a window and several green plants. The overall scene suggests a child engaged in virtual reality entertainment.

Cognizant

**The Future of
Media &
Entertainment**

The future of media & entertainment will offer a world of opportunities, but the transformation will require substantial steps and boldness. The industry needs to be open to new insights instead of being mentally closed by existing ones.



Each industry has its own challenges, and digital disruption is everywhere. Organizations must be agile and build new momentum that respects the new reality of their industry. To remain relevant, organizations need to adapt to changes not only today, but also tomorrow. Change is the only constant. Constant change requires scenario-based thinking, exploring several paths and crafting a digital strategy based on preparing for the future. For businesses to stay relevant, they need to explore the future and look at next generations.

No one can predict the future; organizations must actively explore various possible futures to anticipate what disruptions are coming. We believe that future winners in the digital economy will be those that can deliver on one key insight: put technology in the background, and focus on people first. Putting customers first does not diminish technology's importance; rather, a deep customer understanding should help guide the choice of which technologies to incorporate in your business.

Cognizant can bring together digital strategy, deep industry knowledge, human sciences, experience design and technology expertise to help companies design, build and scale digital business solutions. Cognizant has both the expertise and experience with digital transformation. Together with clients we can explore tomorrow's opportunities.





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Center for
The Future of Work

A view by Cognizant's Center for the Future of Work

Meet the customer of the future

Euan Davis leads Cognizant's Center for the Future of Work in EMEA. A respected speaker and thinker, Euan has guided many Fortune 500 companies into the future of work with his thought provoking research and advisory skills.

Within Cognizant's Center for the Future of Work, he helps ensure that the unit's original research and analysis jibes with emerging business-technology trends and dynamics in Europe, and collaborates with a wide range of leading thinkers to understand how the future of work will look. Previously, Euan held senior analyst, advisory and leadership positions at Forrester Research, IDC and CEB. Euan can be reached at: Euan.Davis@cognizant.com

Quinn really enjoyed that movie – that is, after he developed the alternative ending. He can't believe those Hollywood producers chose a "happily ever after" scenario when the movie is so much better when everything goes wrong. He walks into the bedroom to change into his workout clothes. Later tonight, he's going to practice the moves from Cristiano Ronaldo's game-winning goal last night, using Ronaldo's own physical data and biofeedback as his guide. At that moment, YouTube announces that Quinn's favorite band has released a new video, and he starts playing it. Quinn watches on his phone as he walks back to the living room. The video automatically starts playing on his TV instead. The song is great, but he's not crazy about that guitar solo. He opens an app and starts to change the chords.



Quick take

Post COVID-19 impact

The media & entertainment industry has been a saving grace for many of us during our weeks of COVID-induced lockdown. At no time in history has society consumed as much media as we currently are.

However, the post-COVID media consumer will be an acutely more discerning individual following this vastly increased consumption. Media providers with sub-standard or minimal content will be judged harshly, while those that can provide numerous, timely, high-quality content will flourish. Also, the post-COVID media consumer will be all too aware of the television trance induced by hours of Netflix binging and, therefore, will seek adaptable and engaging content that they can influence (think of the Black Mirror Bandersnatch episode).

In a post-COVID world, media providers will face ever-increasing pressure to up their game for their most discerning customers yet.

From on-demand to on-command

There's no denying how on-demand services have already changed the media landscape. From DVR to binge-watching, consumers clearly want control over when, how, and in what quantities they consume content. Long-term contracts are becoming a thing of the past, in favor of subscription-based systems that give consumers control over their preferred media sources. And the fewer irrelevant ads, the better.

Media outlets today walk a fine line between being present in consumers' lives and being a nuisance. Gathering as much data as they can about consumer preferences, outlets curate content that is most likely to keep customers clicking, and send push notifications to pique their interest. Soon, AI will help media companies get closer than ever to the consumers they target.

Time to think ahead

With robust consumer data and advanced, AI-based analytics, media companies will be able to predict consumer preferences with more accuracy than ever before. They will be able to preemptively lead consumers to the content they want and need.

At the same time, the lines are blurring between traditional media organizations and tech companies like Google, YouTube and Facebook. YouTube is already selling its viewing trends to traditional media channels to help enhance understanding of what consumers really want to see and hear. This trend will only grow as technology enables companies to transform this data into personalized insight into consumer preferences.

**Sound like science fiction?
Far from it. In fact, this is
what media will look like by
2025. At least, for media
outlets that want to stay
relevant.**

As media becomes more personal and adaptable, trust is becoming a serious issue.

Blending the real with the virtual

From there, it's just another step further to interactive, fully immersive media experiences. Quinn's altering of movies and music is already starting to become a reality. For example, in the UK, AI Music is building modular and proprietary AI engines that enable real-time alteration of music tracks.

As media becomes more personal and adaptable, trust is becoming a serious issue. Deep fakes, hoaxes, misinformation and propaganda are increasingly impacting people's perception of media and the messages shared. Technology may provide the best cures for these kinds of ailments, too. Ujo is an open platform that uses blockchain to create a transparent and decentralized database of media rights and ownership. It automates royalty payments using smart contracts and cryptocurrency. Fakespot uses smart algorithms to analyze online reviews to ensure fake reviews are eliminated and consumers make better purchasing decisions.

The future of media is human

The media landscape of 2025 is likely to be dominated by human-centered design, with systems seamlessly integrating within individual consumers' tech ecosystems – mobile, voice and augmented/virtual reality. Application programming interfaces (APIs) and the platform economy will grow increasingly important as adjacent companies collaborate to anticipate and exceed customer expectations. The use of AI will become commonplace, and will be used to improve customer interaction and manage resources for a seamless and self-service system completely in tune with each individual user.

Smart clothing will allow top athletes and performers to share their secret formulas with fans all over the world. Soon, musicians, performers and athletes will get closer to their fans with new media concepts that cross the divide between the consumer and what is being consumed. For example, fans will perhaps be able to invite a holographic version of their favorite musician to their birthday party. Or use VR to stand on stage next to their favorite performer and take part in the show.

But the future is even closer than you think. Companies like Endel have already scratched the surface with platforms that adapt and respond to human emotion and biofeedback. Their cross-platform audio ecosystem creates personalized, sound-based adaptive environments that help people focus and relax. Endel's mood-based albums turn the power of the algorithm into personal experiences.

Think, also, of getting closer to customers with personalized advertising that appeals to all the senses. Valkyrie is adding sensory technology (haptics) to virtual simulations so that customers can actually feel the texture of those bed sheets before they order. Rather than simply believing company claims about its sheets being the softest, customers can know for sure.

Filtering out the fluff

In the very near future, mass targeting will become a thing of the past. As media and entertainment become contextual, fully personalized, adaptable and predictable, fluff content will be easily cast aside, and replaced with completely relevant, targeted media that matters to each individual consumer. And AI will become part of nearly all media that is produced.



“the future of media is human”

Consumers will no longer tolerate an intrusion into their lives. They'll expect personalized content on every device, at every moment of the day. And when they want a little thrill, they'll switch on "surprise mode," and their devices will instantly forget all their historical data and preferences, and offer something entirely new and unexpected. But whether highly personalized or endlessly surprising, the consumer will completely control media content.

The result?

An interconnected media experience that combines data, AI and human-centered design to create a fully immersive and personalized media offering. So Quinn can score like Ronaldo, play lead guitar in his favorite band, and create an Oscar-worthy movie ending, all on a lazy Saturday afternoon.



An external perspective by futurist & trendwatcher Tony Bosma

Media & Entertainment reinvented

Tony Bosma (1973) is a futurist and trendwatcher. He is the founder of futuring and consultancy organization Extend Limits (www.extendlimits.nl). Extend Limits does not predict the future but helps organizations anticipate it. Do not ask yourself why things are happening. Ask yourself why hasn't it happened yet? This is the mindset companies need to adopt in this era of change.

Tony Bosma is an authority in future thinking and trendwatching and was nominated in The Netherlands several times for trendwatcher of the year. He is an internationally renowned keynote speaker. He is known for his confronting, inspiring, visually attractive and surprising sessions about a wide variety of topics. He also works for a variety of companies and governments, helping them anticipate the future and, more important, challenge and question today's world and mindset.

In collaboration with Cognizant, Tony Bosma did extensive research into near future trends across industries. Together with Cognizant, he made abstracts of the most dominant developments – not far fetched futuristic worldviews – but realistic developments which are seen right now. These are not only plausible future developments but also the challenges of technological developments.

The media industry has a long history of relying on mass channels and traditional thinking about value creation for consumers. Industry business models have focused on mass advertising and command-and-control instead of fundamentally connecting to people. When media businesses did focus on innovation, it was within the boundaries of past success. New technology advances, however, have changed this mindset. Just as the entertainment industry has become driven by technological possibilities, media has come into the hands of consumers. This democratized landscape has redefined the media industry. Power has shifted toward the consumer while new entrants grow more powerful than traditional players.



The perfect storm heading for the media and entertainment industry isn't just about technological change and opportunities; it's also about trust and ethics. Consumers are more aware of the media industry's traditional business models and want to protect themselves from meaningless content. For media and entertainment businesses, remaining relevant in the age of uncertainty means being open to other insights instead of being mentally closed by existing ones. It's about anticipating the right trends instead of mindlessly adopting the speed of change. The media and entertainment industries have to be resilient and more creative than ever.

The digitization apocalypse has completely changed the way we consume, connect and communicate. It has given the entertainment world unprecedented opportunities to enhance its goods and services. Media has changed from a single-channel message to a multi-channel experience, where content delivery is no longer linear but consists of simultaneously shared opinions and comments. Where companies once needed to advertise to the general public to get attention, the biggest players today excel at curating content and facilitating dialog.

And this is just the beginning. Many companies still haven't redefined the relationship with their customers by using new media and entertainment. In the digital world, people are even more bombarded with ads and content they don't care about. According to a report from GlobalWebIndex on ad-blocking, people search for a human connection and not ads, which intrude on their valuable time. Ad-blockers remain popular as people look for honest and meaningful content.

New technologies will not change these needs, so the biggest challenge of organizations is to become more human. The future will not be about using smart technology to intrude on people's lives; it will be about inserting themselves into people's lives with respect to their time and needs, and putting people in control of their own attention and helping them get the most out of the interaction.

Either the future of media and entertainment will become more human, or there will be no future. Which technologies will radically change our media landscape, and what will be the biggest challenges?

“ Data traffic levels will reach 397.8 trillion megabytes in 2022. ”

PWC

Immersive, interactive, blended world

The digital world is merging with the physical world. The best of both is now being combined into a merged reality. This will make the future of media and content interactive and immersive. While the internet gave us access to unlimited information, the merging of the physical and virtual will make it possible to experience everything, anywhere, anytime and anyplace. This trend will give rise to people engaging with personalized content and media. Entertainment will be unlimited and truly immersive as people become part of the experience instead of passively consuming it.

This blended world will stimulate all of our senses. We'll experience a shift from the information age toward an immersive, experimental age. In this new blended future of the virtual and physical worlds, our attention will turn to experiencing human emotions instead of consuming streams of human-written content. On a personal level, we'll be able to augment our lives.

Smart world of media and entertainment

Artificial intelligence will also affect the media and entertainment industry. A challenge today is getting a better understanding of the audience in a non-intrusive way, with the goal of meeting the personal needs and wishes of consumers. But access to data often lies with other companies, like streaming companies. To get access to personal data, direct-to-consumer offerings are becoming more popular in the world of media. While this isn't entirely new, with the combined power of AI and deep analytics, these offerings will become more intelligent. This will help advertising become less intrusive and adaptable to individuals' needs. Content will reach individuals where and when they want it and adapt to their context. Even further, technology will make and remake content as AI enhances the creative process of humans. Writing stories, adjusting movies, making trailers or music, the future of media and artificial intelligence will be fully interconnected.

Interconnected world

Our world is becoming interconnected at a tremendous speed. In this new world, we will tell stories with our bodies and seamlessly interact with our surroundings. In the near future, fans will not

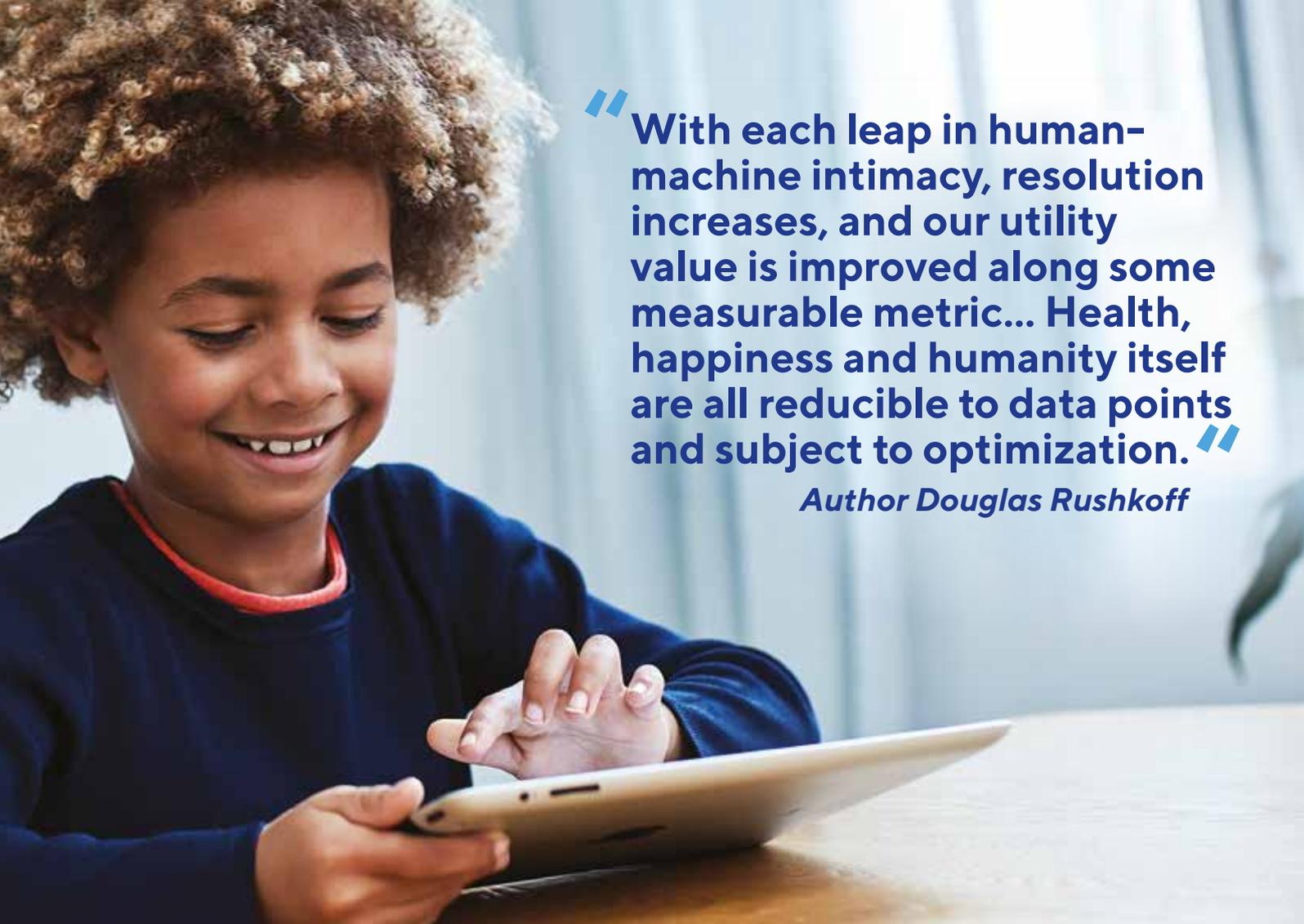
only watch games and entertainment; games and shows will watch them back. Athletes will wear sensor-embedded equipment and clothes that stream data to fans. As consumers react and respond to the world around them, it will provide the media and entertainment industry with valuable and actionable insights. Content providers will adapt their content to devices and smart objects surrounding the consumer.

The world around us will become a part of our media experiences and content channels. It will be an extension of the media and entertainment ecosystem, shifting from owned devices to sensors and external screens. Bundled technologies will also create new platforms based on interfaces like gesture and voice. The interconnected world will introduce enormous opportunities for storytelling and marketing. It will enhance entertainment in nearly unimaginable ways and extend the boundaries of the physical world.

Advertising could become increasingly customer-centric when sensors provide the data needed to react to conscious and unconscious emotions about brands, products and services. But even as this leads to better usage of media and technology, it could also result in a world where free will is threatened.

Digital trust

With the rise of subscription-based services and the changing field of content creation and distribution, the world of media is ready to be disrupted. As consumers use a wider array of channels, additional models will be needed to control content and improve transparency. Today, platforms make it easier to create and distribute content without the need for intermediaries. But this has given rise to unfair compensation for content creators. Technologies like blockchain will make direct interaction between artists and audiences possible. When this happens, artists could bypass distribution channels, which could improve payback for content creators. An example of this business model is Imogen Heap, which teamed with Ujo Music to release music using blockchain technology. Blockchain could also redefine the advertising industry by enabling companies to become more



“With each leap in human-machine intimacy, resolution increases, and our utility value is improved along some measurable metric... Health, happiness and humanity itself are all reducible to data points and subject to optimization.”

Author Douglas Rushkoff

transparent and disclose honest and reliable information about their business.

With the rise of deep fakes, hoaxes, alternative facts and propaganda, trust in the digital world is under pressure. The internet has made it possible for anyone or anything to be heard. No longer is there a centralized entity that controls what is being said and distributed or an authority that checks the facts. This is the power of the internet but also its weakness. The breakdown of the world's most trusted sources of information is one of the biggest challenges we face.

While we're seeing a rise of algorithms that prove the authenticity of news sources, the biggest solution is to connect humans with humans and to teach people to be open to each other and new insights. People need to be educated on how to deal with all these sources of media and become aware of the importance of fact checking in the digital world. In media, we already see projects where people get connected to people (by software) with different worldviews and opinions, with the goal of encouraging people to think outside their filter bubbles and hear opinions that are different from their own. But even with these initiatives and the rise of automated fact-checking, technology alone will not solve this trend. People and education will. Debates between humans enrich fact-checking and will be necessary to

fight the exaggerated echo chambers of the internet.

The instant world

We live in a curated world, in which everything we watch and see is suggested to us. Shows we see are based on past viewing behavior, and products we buy are based on algorithms learning our needs from past behaviors. We're even moving to a world where artists, movies and other content or entertainment are being adjusted to our personal metrics. We find ourselves in a feedback loop between us and the companies we allow to follow and monitor us. It is the ultimate personalized and instant world.

In this curated world, the flow of low-value, high-volume content will slow to a halt. More than ever, consumers will reject content they believe doesn't fit their needs. We'll move from one-size-fits-some to one-size-fits-none. This will drive the need for exclusive, unique and original content driven by personal data and even emotion.



“ Having a large number of people in a society who are misinformed is absolutely devastating and extremely difficult to cope with. ”

Stephan Lewandowsky, University of Bristol

Imagine, one day...

By letting go of our mental barriers, we can think freely about a possible future of media and entertainment. Imagine it's 2050, and there's no longer a distinction between the virtual and physical worlds. Our human body is connected to the web, and we're represented by virtual entities that make decisions for us and provide us with guidance through our daily interactions and transactions. We are continuously analyzed. Our emotions and body functions can be measured and acted upon. In this environment, we interact with our surroundings and the world of media. Everything we do and see is curated. We also have an optional "surprise mode," in which we can purposely have experiences that aren't informed by algorithms. The system forgets who we are and delivers us unpersonalized content. But the normal mode is predictive and analyzed – this is how we're entertained.

In the new world of media, all our senses are stimulated. We can be anywhere and experience anything through taste, smell, sight, sound and touch. Software is the new artist. Adaptive self-learning algorithms make all music, paintings, books and movies. This machine-made content is free, while content made by humans is more expensive and the new unique. Live events are still popular and can be experienced as if you are part of the event. News is tailored to our context and is fully neutral. Left or right influences are a thing of the past. Advertising no longer exists. Algorithms determine which company fits each individual's needs best. If desired, individuals can decide to search for new services themselves, shifting from automated consumption to free consumption. But if the world of media is high-tech, is it also human-driven?

What does this future mean for the relationship between companies and consumers, privacy and human values? Can technology create real progress by fundamentally changing the media industry? It's up to us to ponder and imagine.

Media & Entertainment reinvented

New challenges and questions

On a daily basis, we see the rise of new start-ups and services in the media and entertainment landscape, as well as new relationships between companies and consumers. The biggest question is: Are we addressing the right challenges with all these new technological possibilities? Real progress for the media and entertainment industry is about changing the current models, not digitizing existing ones.

We've created a world where people have to protect themselves from ever-growing amounts of content as they're surrounded by meaningless noise and entertainment. We live in a world of accelerated addictiveness to our devices. We spend more time than ever looking at our screens continuously and exchanging personal data with unknown organizations. In most cases, we aren't even aware of what data we share. Free digital services are everywhere and have become persuasive. Media gave organizations the tools to connect with consumers and markets, but future technologies will go beyond this.

We need to question whether what we can do with technology equates to what we actually want to do. The goal should be to enable the next step in human evolution by using new technologies to move toward purpose-driven living. We should embrace the possibilities of new media and entertainment to connect with each other and share and create a new mindset about society, economy and technology. The tools are there to create awareness for a better world, and to evolve toward "conscious capitalism" instead of encouraging the sinister side of technological possibilities that drive and control societies. Media technologies need to focus on empowering people, fighting inequality and improving transparency.

“Within a decade, we will need to **ask questions** like, who is **responsible** for the content made by **smart machines**?”

While technologies like smart and connected sensors and artificial intelligence make our lives easier, there's another side to these advances. What is the impact of these technologies on free will, privacy, ethics and human morale? Is high-tech slavery on the horizon? We already see a power imbalance, where the new powerful have access to data and technology and the powerless miss out.

Misinformation, filter bubbles and privacy conflicts are the new normal in this digitally driven society. Digital ethics are under pressure and human morals being reinvented. Organizations that put digital ethics and human morality at the center of their business will be the winners of tomorrow.

But technology will continue to evolve. Within a decade, we will need to ask questions like, who is responsible for the content made by smart machines? Can our future role models and influencers be artificial? How are we able to distinguish the difference between artificial and human? Who makes the decisions, and how intrusive will we allow media to be? How addictive can we make future entertainment? In an ever more connected media and entertainment landscape, the answers to these questions are essential.

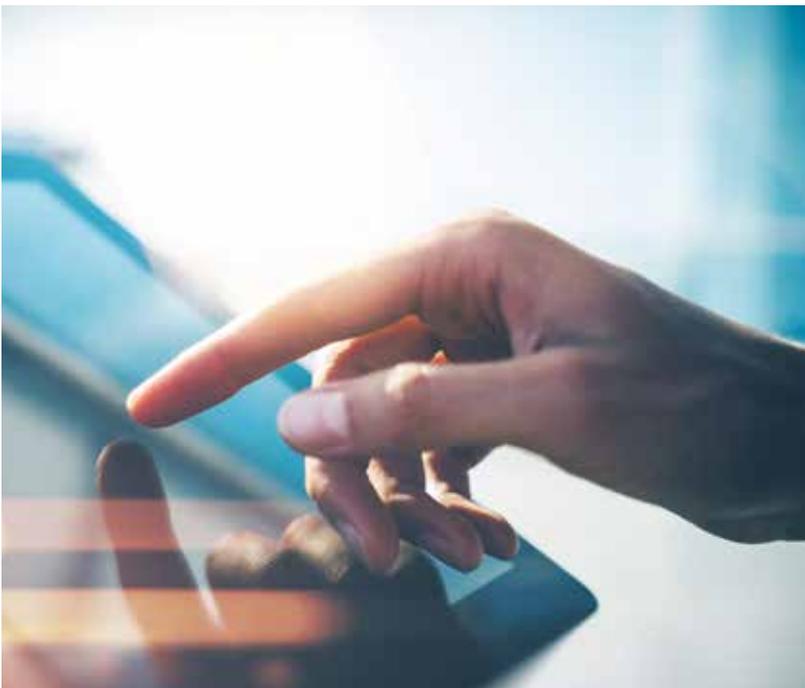
In an ever-connected world where our emotions, needs and wishes are being monitored and transformed into products, what is free will and privacy? Algorithms that decide what we need are part of our futuristic worldviews of media and entertainment. Are our personal choices really free choices, or are they being

influenced and driven by smart technology and algorithms for the sake of profit? What are the enabling technologies really enabling? These questions will become more important for the media and entertainment industries. At the same time, countertrends will emerge in our digitally focused and instant gratification world. The demand for non-personalized experiences and “offline astonishment” will grow, fueling the desire for offline and group experiences. In a world where digital is the new normal, physical experiences will become the next unique. Human contact will become the new luxury good and even a status symbol.

As businesses strive to keep up with all these technological innovations, they need to put digital ethics at the center of everything. Technology companies already claim that they put ethics at the center of their developments, but it's important to question whether these companies are able to make decisions about the ethics and morality of their technologically driven advancements. As even governments start focusing on digital ethics, digital ethics will become a unique selling point.



“ Human contact will become the new luxury good and even a status symbol.”



The future is already here

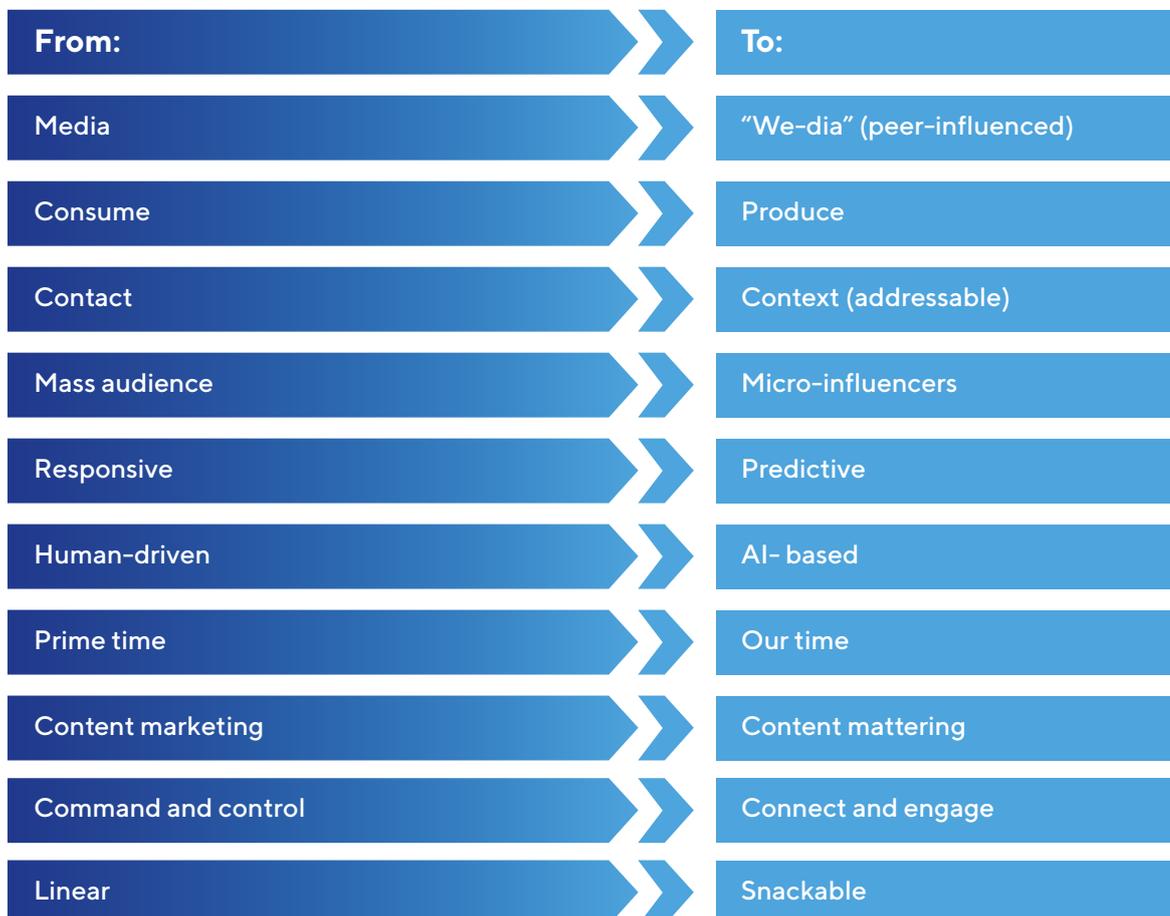
Media and entertainment will be transformed by technology and human behavior. The industry will shift from a hierarchical system to a more democratized model in which everyone can be a producer and consumer, and anyone can become a superstar.

Mass targeting will be replaced by contextual content that is driven by, and adaptive to, our personal desires and needs. As humans become more connected to the web and our surroundings, media and entertainment will become fully predictive and personalized, ushering in the end of fluff content and the rise of meaningful content.

The future is all about entertainment and content that really matters at an individual level. Technology will know our preferences

and act on them. Subscription services, driven by technology, will continue stirring chaos within existing media conglomerates.

Artificial intelligence will become the new content and entertainment producer. Our new pop and movie stars will be digital, and we'll listen to their music, watch their movies and attend their concerts virtually. With more focus on sharing and connecting, there will be many opportunities for organizations that really want and need to connect with consumers.



A hand holding a white stylus over a tablet screen with a blue circle.

Real-life cases

The cases below are inspirational and show how media and entertainment are changing. Startups and new innovative ideas can grow but also fail fast – that’s how innovation works at the frontiers of an industry. There is no business relationship between the following cases and Cognizant.

Ujo

Ujo offers an open platform that uses Ethereum to create a transparent and decentralized database of rights and rights owners, automating royalty payments using smart contracts and cryptocurrency.

www.ujomusic.com

AI.music

AI Music is striving to change how music is consumed. We currently interact with music in a static, unidirectional, passive way. AI Music wants to make that experience more dynamic, based on co-creativity and engagement. The startup has built AI engines that enable real-time shape-shifting of existing tracks, processing and remastering of music and voice, dynamic synchronization and contextual AI.

www.aimusic.co.uk

Valkyrie

Valkyrie is adding touch to the virtual world by developing universal haptics technology for virtual simulations. Its wearable tool enables developers to create rich content experiences, such as simulating virtual “touch” of a product before you buy it.

www.valkyrie-vr.com

Endel

Endel is a cross-platform audio ecosystem. It creates personalized, sound-based, adaptive environments that help people focus and relax. Endel works with an algorithm to create its mood-based albums.

www.endel.io



“Technology
changes
all the time,
human nature
hardly ever.”

Evgeny Morozov

Fakespot

It's not always clear which online reviews are real vs. fake. Fakespot analyzes reviews to help consumers make better purchasing decisions through smart algorithms.

www.fakespot.com

The future is human

Humans excel at being creative, at seeing, identifying and investing in opportunities and solving problems. Human experiences and emotions – anger, sadness, love – will drive the future of media and entertainment. As technology becomes more intelligence and efficient, data will give the media and entertainment industry highly individualized information about consumers. However, technology will not replace the human need to experience unique human feelings.

The media and entertainment industry is challenged to create real human value out of technological progress – to use technology to attract people through emotion and enhance and experience real life. The industry has the opportunity to connect people and, in the near future, machines, using technology to emphasize our humanness. Let us be curious about the future, not fearful. Let us, as a society, create and discover the future of media and entertainment and rebuild the outdated media industry.

Key take-aways

1. Put customers in control of their own data, and enable them to utilize it their way.
2. Understand individual consumers to allow them to navigate the overcrowded content landscape.
3. In addition to predicting consumer preferences, focus on using data to surprise consumers.
4. Be aware of intrusion; people want personalization of content but do not want to be interrupted.
5. In the age of disruption, attention becomes essential.
6. Simplicity, freedom of choice, transparency and privacy become unique selling points.
7. Decrease content overload. In the near future, less (but more relevant) will be more.

Cognizant[®]

ABOUT COGNIZANT

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world.

Driven by a passion to help our clients build stronger, more agile and more innovative businesses, we enable global enterprises to address a dual mandate: to make their current operations as efficient and cost-effective as possible and to invest in innovation to unleash new potential across their organizations. What makes Cognizant unique is our ability to help clients meet both challenges. We help them enhance productivity by ensuring that vital business functions work faster, cheaper and better. And, our ability to conceptualize, architect and implement new and expanded capabilities allows clients to transform legacy models to take their business to the next level.

Learn how Cognizant helps clients lead with digital at

www.cognizant.com

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