



TrendSights Overview: Smart & Connected

Engaging with consumers in a hyper-connected, technology-enabled society

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About GlobalData's Research

Content to help you learn from the past, understand the present, and decode the future

TrendSights

Interpreting how the 63 trends guiding the consumer and innovation landscape are influencing your markets, and what this means for future opportunities.

Insight Analysis

Understanding the top trends and consumer behaviors affecting each FMCG market, as well as providing a microscopic focus on the most pertinent strategic issues.

Case Studies

Successes & Failures: The driving factors behind stand-out innovation winners and losers.

ForeSights: Hypothesizing novel concepts to stimulate successful NPD thinking.

Packaging: Learning from novel pack concepts and routes to claiming price premiums.

Innovation Intelligence

Leveraging the power of GlobalData's Product Launch Analytics and Pack-Track tools to explore the strongest new trends in claims, ingredients, and packaging, within our core sectors each quarter.

GlobalData's research explores all aspects of innovation and behavior

We constantly monitor developments in categories across the FMCG landscape, as well as the evolving habits of consumers, ingredients and flavor trends, and more. In recognition of this, our insight is underpinned by our proprietary trend framework TrendSights, which captures and maps all elements of consumer attitude and behavior. Our coverage spans the past, present and future, to understand the realities of today, and the opportunities of tomorrow – meaning you can gain the early-mover advantages necessary for growth.

This research explores Smart & Connected in the context of GlobalData's TrendSights framework

Smart & Connected is one of the eight mega-trends that GlobalData covers as part of our TrendSights series of consumer insight studies. The analysis covers what the mega-trend is, why it is important, who is most influenced by it, and how brands and manufacturers can capitalize. The research concludes by identifying where the trend is heading next and how long it will last.

Executive Summary

Engaging with consumers in a hyper-connected, technology-enabled society

Executive summary

What? Defining Smart & Connected

- Today's consumers live in a rapidly digitizing world that is becoming seamlessly integrated into everyday life. The consumer desire for convenience, as well as immersive consumption experiences, has driven rapid technological change across the FMCG, retail, and foodservice landscapes. In turn, consumer needs and expectations are evolving, and brands are now embracing the latest digital technology to cater to these newfound behaviors and expectations.

Why? Mega-trend drivers

- The desire for immersive, interactive, and engaging consumption experience that go beyond the product or service itself.
- The consumer demand for a heightened level of convenience, and solutions that seamlessly integrate with their increasingly digital lifestyles.

Who? Consumer targets

- Millennials are most engaged with the Smart & Connected mega-trend, and its influence over the purchases of this generation increased during the 2016–18 period². This highlights digital native Millennials as a key audience for manufacturers to target with their Smart & Connected offerings.

How? Innovation implications

- Leverage smart labeling technology to administer additional product information or interactive features when scanned on consumers' smartphones.
- Continue to leverage digital marketing tools and the internet to crowdsource innovation ideas.
- Explore the development of smart tools and devices that cater to the consumer desire for personalized and convenient solutions.
- Explore virtual reality technology, self-serve kiosks, and the use of autonomous delivery bots.

Evidence

75%

of consumers globally somewhat or completely agree that technology has made their life simpler¹.

64%

of consumers globally somewhat or completely agree that the internet has had a positive impact on their social life².

75%

of consumers globally believe that technology or improved access to information has had a positive or very positive effect in their country³.

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Introduction

Engaging with consumers in a hyper-connected, technology-enabled society

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The dynamics giving shape to the global consumer marketplace can be found in these eight mega-trends

GlobalData's TrendSights framework recognizes that consumer behavior is best interpreted via an organized "trend hierarchy," whereby each overarching mega-trend is comprised of a number of trends. This is conveyed by the visualization presented on the following slide. Below is a synopsis of the eight mega-trends that are the driving force of change across the FMCG industry.



Health & Wellness

People of all ages are more proactively addressing their health in a more holistic and personalized manner.



Sensory & Indulgence

The driving force behind continually higher expectations of quality, variety, and immersive "consumption experiences."



Comfort & Uncertainty

Consumers value safety, tradition, simplicity, and reassurance due to rising stress and uncertainty in their lives and the world around them.



Sustainability & Ethics

Mounting awareness and concern surround the scale, complexity, and interdependence of shared social and environmental challenges globally.



Individualism & Expression

Values emphasizing individuality and self-expression guide confident and empowered modern consumers.



Evolving Landscapes

The underlying and mostly dependable socio-demographic and -economic trends impacting consumer societies.



Smart & Connected

In a hyper-connected, technology-enabled society, consumers seamlessly integrate the use of multiple technologies into their lives and buying behavior.

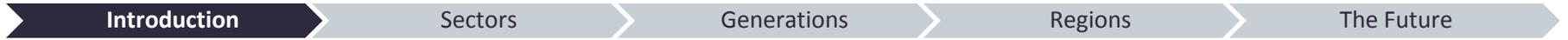


Easy & Affordable

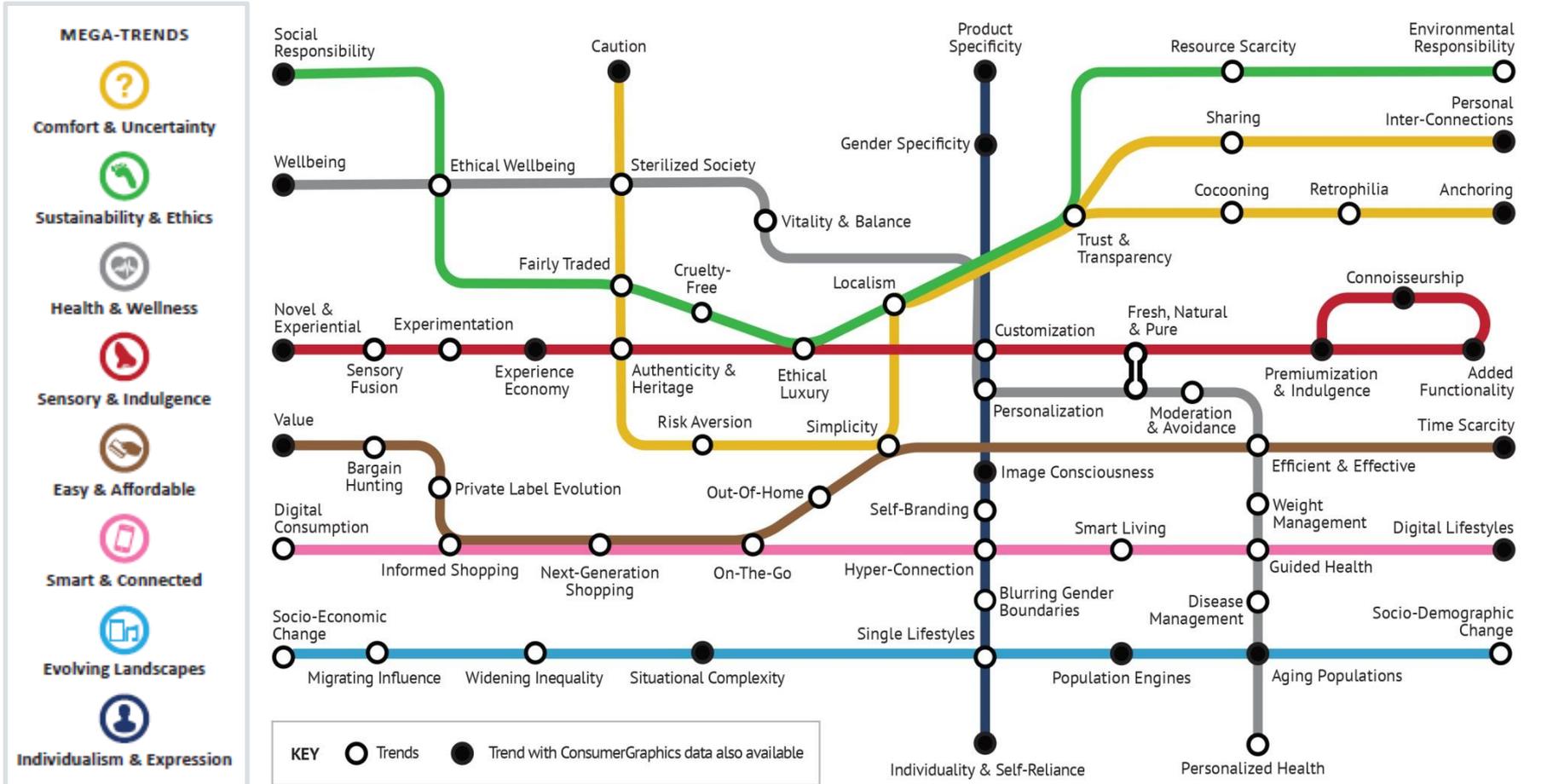
Time and money are perceived to be the great scarcities of modern life, and consumers are searching for ways to maximize these limited personal resources.

Introduction

Smart & Connected is one of the eight mega-trends in GlobalData's TrendSights framework



Innovation trends: GlobalData's TrendSights framework



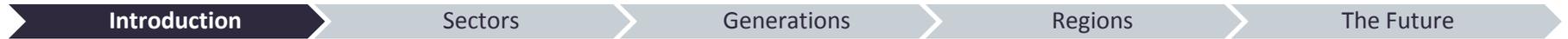
Introduction

Definition of trends within the Smart & Connected mega-trend

Introduction		Sectors	Generations	Regions	The Future
Trend	Trend description				
 Digital Consumption	Digital Consumption consists of the use of digital tools (computer, mobile, tablet) to buy products and services that are usually available at traditional retail stores, to manage/monitor daily routines (physical exercise, food/drinks consumption, expenditure), and to access information in real time (social media, prices, promotions, product availability).				
 Informed Shopping	The availability of information through novel technologies has raised consumer awareness around the social impacts of shopping decisions. In a circular process, consumer awareness drives the creation of new platforms and increasingly granular sources of information. Consumers now have instant access to comparisons of price, product quality, and brand ethics.				
 Next-Generation Shopping	The consumer desire for convenience has driven rapid technological change in the FMCG retail space, where self-service checkout systems and contactless payment technology provide consumers with a "seamless" shopping experience. The search for immersive consumption experiences, however, threatens to disrupt the primacy of convenience by challenging bricks-and-mortar retailers to create tangible in-store experiences for consumers to enjoy. Convenience is a basic expectation, and retailers must embrace the latest digital technology in an overhaul of existing store formats, thereby ensuring the continued relevance of bricks-and-mortar retailers in the digital age.				
 On-The-Go	Many consumers feel time-poor because of long working hours, long commuting times, family responsibilities, and active social lives. As a result of this perceived time scarcity consumers are demanding more mobile, convenient, and easy-to-consume products to suit their busy, on-the-go lifestyles in which traditional consumption occasions and environments are becoming less common.				

Introduction

Definition of trends within the Smart & Connected mega-trend



Trend	Trend description
 Hyper-Connection	In an environment that is rapidly digitizing, consumers no longer passively interact with brands and peers. Internet utilization has facilitated new and novel ways of connecting with brands and communicating with fellow consumers online, and hence the onus is on them to enhance their online presence and connect with the digital consumer.
 Smart Living	Consumers today are living in a digitizing world where technology, including smartphones and smart devices, have become ingrained into their everyday lives. These consumers are becoming more reliant on the efficiency and effectiveness of digital solutions in managing their lifestyles and dealing with household chores and shopping experiences.
 Guided Health	In the "information economy," health-conscious consumers now more confidently embrace an abundance of new information tools, enabling more informed health-driven choices. Consumers are seeking conveniences that make it easier to reach their health goals, including using the internet and mobile applications. They also want functional health products and more transparent nutrition labeling to help to guide them towards their personal health and wellbeing targets.
 Digital Lifestyles	Today's consumers are living in a rapidly digitizing world that is becoming seamlessly integrated into everyday life. People are becoming increasingly dependent on digital solutions to assist with and enhance day-to-day life and personal management. Similarly, the explosion in smartphone, internet, and social media usage has resulted in evolving behaviors and interactions, in turn reshaping the needs and attitudes of consumers.

Introduction

Key factors driving the mega-trend

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Drivers

The digital economy – The global economy is undergoing a digital transformation, fueled by the economic activity that results from billions of online connections between people, businesses, devices, data, and processes. People, organizations, and technology are becoming increasingly interconnected due to the internet and mobile technology.

Need for efficiency – The efficiency that smart technologies and solutions offer resonates with consumers, particularly those who are time-pressed and/or efficacy-driven. The omnipresence of smartphone technology has facilitated this in that consumers are able to digitally track and manage various aspects of their lifestyles quickly and conveniently.

Experience economy – Consumers no longer passively interact with brands, and are demanding more meaningful and engaging brand experiences that can be facilitated with technology.

Information seekers – Online shopping allows for quick comparisons to be made between different products, mainly regarding prices, product performance, ingredients, as well as product claims. Product reviews by bloggers and peers are also available on various websites, which caters directly to discerning consumers and is driving a preference for online shopping and digital devices and wearable technology that administers additional product information.

Personalization – Individualistic consumers are seeking increasingly personalized products and services. Technology is being leveraged by brands to provide more personalized and relevant offerings to consumers, e.g. in the form of smartphone applications, digital wearable, and smart appliances.

Social media – Consumers regularly share their experiences and opinions online across multiple social media platforms. This hyper-connectivity allows consumers to share their experiences, and to easily ask the opinions of their peers before purchasing a product. Social media has also led to the rise of the digital influencer, while it has also driven the desire for products and services with "shareable" appeal online.

75%

of consumers globally somewhat or completely agree that technology has made their life simpler¹.

64%

of consumers globally somewhat or completely agree that the internet has had a positive impact on their social life².

75%

of consumers globally believe that technology/improved access to information has had a positive or very positive effect in their country³.

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Key factors inhibiting the mega-trend

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43%

of consumers globally somewhat or completely agree that they are actively trying to limit the amount of time they spend online or on their smartphones¹.

10%

of consumers globally somewhat or completely disagree that the internet has had a positive impact on their social life².

7%

of consumers globally believe that technology and/or improved access to information has had a negative or very negative effect in their country³.

Privacy and data collection concerns – The rising sophistication of technology and the emergence of big data technology is causing consumers to question the privacy and security of their personal information and the digital footprint that they leave online.

Digital detox – While it is accepted that technology plays an essential role in the daily lives of many consumers, certain consumers are seeking refuge from the stress of a life online and instead are choosing to "switch off" from technology and take a step back from digital exposure.

Price sensitivity – Smart technologies are very expensive, and many consumers, particularly those earning lower incomes, could be deterred by the high price tags of many smart appliances and digital wearable devices.

Choice paralysis – For consumers who are trying to make informed decisions, the internet can be a complex platform to navigate. Being faced with innumerable choices online can therefore diminish the ability of consumers to be discerning. The result is that consumers will therefore opt to purchase trusted brands that they have previously tried and tested rather than to experiment with new products.

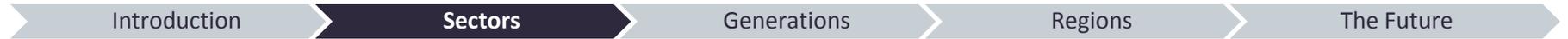
Going viral – The viral nature of social media means that brands that conduct digital marketing campaigns must ensure that their messages are succinct and impactful, while bearing in mind the possibility of being taken out of context. The pace at which a post can go viral online can be favorable for a marketing campaign, but risks being detrimental when this publicity is for the wrong reasons.

Back to basics – Some consumers may be deterred by the idea of controlling their homes with smart appliances, or managing certain aspects of their lifestyle with smart devices and applications. Likewise, they may have an aversion toward using online shopping and the internet in favor of physically visiting brick-and-mortar retailers and social interaction in "real life."

Inhibitors

Sectors

The impact of the Smart & Connected mega-trend on purchasing decisions across different sectors

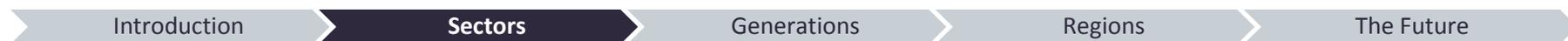


Global: consumers who are often/always influenced by how digitally advanced/smart a product is in the following sectors, by region, 2016 and 2018

Sector	2016 ¹	2018 ²	Key changes
Food 	31%	→ 30%	<ul style="list-style-type: none"> During the 2016–18 period, the influence of the Smart & Connected mega-trend on consumer purchases decreased across all sectors surveyed except household care, which marginally increased. There is an opportunity for household care brands to capitalize upon this influence by investing in technological innovation and capabilities. In 2018, over a third (37%) of consumers were influenced by the mega-trend in the personal care sector. Evolutions in virtual reality technology and smart personal care tools are catalysing this influence and appreciation, creating opportunities for personal care manufacturers to tap into in future. The mega-trend has had a similar level of influence on purchases in the food and non-alcoholic beverages sectors in both 2016 and 2018, creating a similar opportunity size for brands operating in both sectors to innovate in line with the mega-trend. The mega-trend has the lowest level of influence over the purchases of alcoholic drinks, demonstrating limited scope for brands operating in this scope to innovate in line with the mega-trend.
Non-alcoholic drinks 	30%	→ 29%	
Alcoholic drinks 	27%	→ 25%	
Personal care 	41%	→ 37%	
Household care 	38%	→ 40%	

Sectors

The impact of the Smart & Connected mega-trend on purchasing decisions across different sectors

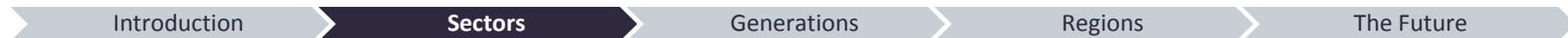


Global: consumers who are often/always influenced by how digitally advanced/smart a product is in the following sectors, by region, 2018

Sector	2018 ¹	Key changes
Pet care 	37%	<ul style="list-style-type: none"> In 2018, the influence of the Smart & Connected mega-trend held most prominent for baby and child care purchases in comparison with other sectors. This is partially driven by the evolving level of assistance that technology can provide to parents in the form of smart tools and gadgets, for example.
Baby and child care 	65%	<ul style="list-style-type: none"> In 2018, the mega-trend had the same level of influence on purchases in the pet care sector as the personal care sector. This can be rationalized by the trend toward pet humanization, which encompasses purchasing similar products for a person's pets as they would for themselves, including smart tools and gadgets.
Tobacco 	34%	<ul style="list-style-type: none"> In 2018, 34% of consumers were influenced by the mega-trend in the tobacco sector. The growing popularity of electronic cigarettes including "heat not burn" devices, as well as smartphone applications and gadgets that aid consumers in their journey toward cutting down or quitting smoking are contributing toward this statistic.

Focus on Food

Smart & Connected consumers seek highly portable, trustworthy food products featuring smart features such as interactive label designs; online grocery shopping will continue to grow in future



Overall impact on the food sector



Evolutions in digital technology has resulted in consumers expecting instant gratification, and so "on-the-go" style products reign supreme in this sector. Smart packaging concepts are emerging in the sector as a way to address the informed shopper's desire for additional information, as well as the wider consumer desire for interactive and engaging packaging designs. Online grocery shopping is growing, while the on-demand economy is paving the way for innovative start-ups to deliver food through either smartphone applications or subscription services. Aligned with the consumer shift toward digital lifestyles, consumers are making use of smart tools, devices, and applications to decipher products' nutritional content, meaning that brands today must stand up to greater scrutiny.

49%

of consumers globally would be encouraged by "convenience of delivery" to use an online subscription service for buying products¹.

19%

of consumers globally turn to internet search engines first for health or medical advice².

16%

of consumers globally find on-pack marketing or health claims made by brands somewhat untrustworthy or not at all trustworthy².

Trend relevancy for sector



Top five Smart & Connected trends

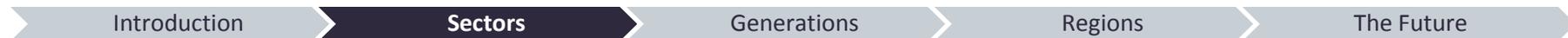
- On-The-Go
- Informed Shopping
- Guided Health
- Digital Lifestyles
- Digital Consumption

Take-outs

- Consumers expect instant gratification, making on-the-go products highly desirable.
- FMCG brands should leverage smart packaging to provide additional information to the risk-averse, highly cautious consumer.
- Brands can provide digital devices or applications that add convenience to consumers' lives. Online food subscription services can also be explored to aid experimentation among digitally adept consumers.

Focus on Food

The Smart & Connected mega-trend is most relevant to the dairy products and fresh foods categories at present, though it will grow in prominence across all categories in future



Trend relevancy by category:



The Smart & Connected mega-trend is most relevant to the fresh foods and dairy categories

At present, it can be deduced that the fresh foods and dairy categories are most overtly impacted by the Smart & Connected mega-trend. In particular, it has become more desirable for perishable fresh foods to feature smart packaging designs that can signal freshness, administer additional product information, and guarantee authenticity. In the remaining food categories, it has been less important for brands to engage with the mega-trend, although some innovations aligned with Smart & Connected technology are evident. For example, digital marketing campaigns offer an opportunity for consumer engagement, while smart packaging concepts that exist purely to entertain or amuse consumers, such as through the use of virtual reality, are evident as well.

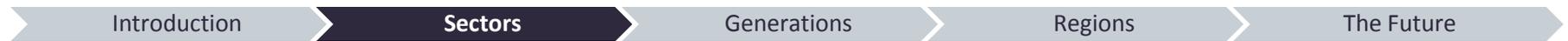


Demanding consumers will make the trend increasingly relevant across all sectors

As the information economy continues to evolve, consumers will become more demanding and it will become an expectation that manufacturers provide complete information about a product at the point of sale. This will increase the relevance of smart packaging concepts across all sectors. Furthermore, the ongoing usage of social media will also mean that brands must connect with consumers online and create effective marketing campaigns to promote awareness about their products. Brands can also run incentivized digital marketing campaigns to promote engagement, and consider the creation of smartphone applications, digital tools, or wearable devices to accompany products.

Focus on Food

Timeline of food product innovations



Timeline of product innovations in the food sector

Five years ago

Present

Future: five years or later



Birds eye Mas#tags, Ireland¹

These frozen potato shapes capitalized upon the growing popularity of the social networking platform Twitter at the time of launch. While the product was not accompanied by an elaborate online marketing campaign, it recognized consumers' digital lifestyles, and aligned its product innovation to this.



Insignia Technologies, UK²

Insignia Technologies produces labels that help consumers better understand how fresh their food is. The labels react to heat and CO2 exposure and begins to change color once the packaging is opened. Consumers can then determine how long the packet has been open so they can eat the food while it is still fresh and safe to consume.



Kroger autonomous delivery, US³

Kroger, a US supermarket chain, recently partnered with autonomous vehicle manufacturer Nuro to trial its autonomous grocery delivery service in the US. The trial is expected to begin in late 2018, allowing consumers to order groceries for same-day delivery through Kroger's ordering system or through the Nuro application.

So what?

- Five years ago, product launches in relation to the growth in technology and social media usage could be considered unsophisticated in comparison to today's innovations. While social media is still a useful tool to promote product sales, brands should now leverage technology to elevate their packaging and delivery concepts. For example, FMCG, foodservice, and retail players can explore the autonomous delivery concept in future.

Focus on Non-Alcoholic Drinks

Smart labeling and tools can be leveraged in this sector to satisfy consumers seeking additional production information; digital marketing will continue to be important for players in the sector

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Overall impact on the non-alcoholic drinks sector



The sugar backlash in the non-alcoholic beverage sector is driving consumers to seek additional nutritional information when making purchases, which can be aided with smart labeling and smart tools. Such technologies are evolving to help consumers view more detailed information about a product's nutritional value and ingredients, especially as consumers shift away from sugary carbonates and toward more health-promoting beverages. The marketing initiatives of brands in this sector are being enhanced by the omnipresence of the internet and social media, which can aid the development of engaging and interactive digital marketing campaigns. In the same way, smart labels and packaging concepts can also be leveraged to create a more interactive, exciting product experience. The use of smart tools to create customizable beverages is also an opportunity.

23%

of non-alcoholic beverage shoppers* globally find interactive packaging e.g. using smartphone "exciting"¹.

56%

of non-alcoholic beverage shoppers globally pay a high or very high amount of attention to the ingredients used in the food and drinks they consume¹.

60%

of non-alcoholic beverage shoppers globally prefer trying new experiences over trying new products².

Trend relevancy for sector



Top five Smart & Connected trends

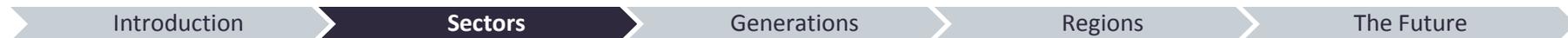
- Informed Shopping
- Guided Health
- Digital Lifestyles
- Hyper-Connection
- Digital Consumption

Take-outs

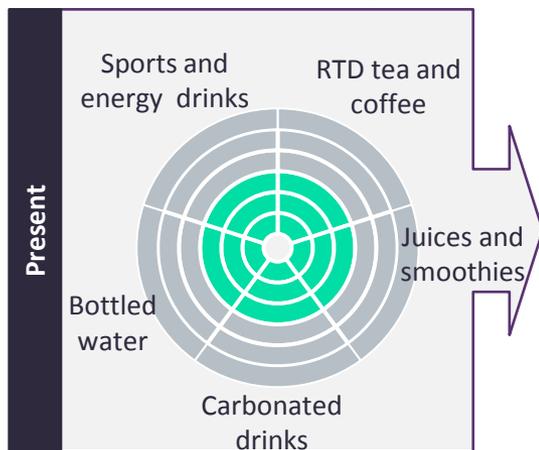
- Brands can target consumers wanting to make healthier decisions with smart labels that provide additional product information when scanned.
- Brands should continue to create engaging digital marketing campaigns, and use the internet to crowdsource innovation ideas.
- Smart tools (e.g. those that allow beverage customization by using a smartphone device) should be explored, but price could be a barrier here.

Focus on Non-Alcoholic Drinks

The Smart & Connected mega-trend is currently being leveraged by consumers, albeit not to its full potential, by all categories; in future, brands can be expected to invest more into the mega-trend



Trend relevancy by category*:



The relevance of the mega-trend is emerging in all categories in equal measure

It can be deduced that the Smart & Connected mega-trend is currently emerging in the non-alcoholic drinks space, with no variation between categories. At present, most brands are embracing digital technology to enhance their operational efficiency, to more accurately predict sales, and to create detailed customer segmentations to target with marketing messages. It is also commonplace that brands operating within this space leverage the internet and social media to create engaging marketing campaigns to promote their products. Additionally, as consumers shift away from carbonated drinks toward bottled water, brands have recognized the opportunity to crowdsource ideas for flavor innovation online.



In future, brands in the sector will embrace the Smart & Connected mega-trend more intensely

In future, the desire for brands to be more digitally engaging means that manufacturers across all categories will more prominently embrace the mega-trend. Brands will use social media to create engaging digital marketing campaigns, as well as to crowdsource innovation ideas. Brands can also be expected to create more exciting consumption experiences using technologies such as augmented and virtual reality to cater to consumers who wish to limit their consumption of alcohol, but who still want to experience heightened levels of enjoyment. Furthermore, brands in the future can be expected to embrace technologies such as 3D printing in the manufacturing process as this technology becomes more ubiquitous.

Focus on Non-Alcoholic Drinks

Timeline of non- alcoholic drinks product innovations

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Timeline of product innovations in the non-alcoholic drinks sector

Five years ago

Present

Future: five years or later



Slice, India¹

At the time of its launch, this mango drink was endorsed by Bollywood celebrity Katrina Kaif, and was supported by a digital marketing campaign. To encourage engagement, consumers were asked to vote online for their favorite new flavor out of the brand's range for a chance to meet Kaif.



Fanta, UK²

Fanta launched a limited-edition range of cans featuring a QR code. When scanned on the Snapchat app, users had access to branded filters. These made the user appear to be dressed up in a Halloween-theme costumes. Here, the brand leveraged smart packaging to raise awareness of the product and brand in an exciting way.



Beverage subscription, Global

The popularity of FMCG mail subscription services will extend to soft drinks in future as consumers crave convenience. Beverage brands can take inspiration from Garcon Wines³ in the UK, which has developed a thin wine bottle, made from plastic, that can fit through mail boxes and does not break during transit.

So what?

- Five years ago, non-alcoholic beverage brands were launching social media digital marketing campaigns. While this form of marketing is still popular today, brands are now using technology such as QR codes to add an element of consumer interaction to campaigns. In future, brands should capitalize upon the perceived convenience of online shopping, as well as the desire to experiment, to provide beverage subscription boxes to consumers.

Focus on Alcoholic Drinks

Social media marketing and smart labeling are essential tools to engage with the Smart & Connected consumer in this sector; the "smart home" will welcome at-home draft brewery systems



Overall impact on the alcoholic drinks sector



Innovation aligned with the Smart & Connected mega-trend in this space can most prominently be linked to the Hyper-Connection trend. Social media marketing is proving a popular approach with brands in the sector. Alcoholic drinks brands have also begun to embrace digital marketing in the form of smart labeling, which can administer additional information about a product as well as serving as a way for brands to engage with their consumers in a fun and interactive way. The boom in craft beer is also driving the emergence of innovative at-home draft brewery systems, which aligns closely with the home becoming "smarter" and filled with digital devices that can enhance the efficiency of everyday tasks. To cater to information-seeking consumers' demand for increased transparency, certain brands are also incorporating more extensive nutritional information on-pack.

23%

of alcoholic beverage shoppers* globally find interactive packaging (e.g. using smartphone) "exciting"¹.

55%

of global alcoholic beverage shoppers pay a high or very high amount of attention to the ingredients used in the food and drinks they consume¹.

60%

of global alcoholic beverage shoppers prefer trying new experiences over trying new products².

Trend relevancy for sector



Top five Smart & Connected trends

- Hyper-Connection
- Digital Lifestyles
- Smart Living
- Informed Shopping
- Guided Health

Take-outs

- Brands in this sector make use of social media marketing and interactive campaigns to attract the digitally adept consumer.
- Smart labels have been utilized by brands not only to provide additional product information, but also to create interactive, engaging labels.
- DIY draft brewery systems should be explored by both FMCG and foodservice players, capitalizing upon the popularity of craft beer.

Focus on Alcoholic Drinks

Brands operating within the alcoholic drinks categories are capitalizing upon the Smart & Connected mega-trend; growth in the experience economy will only encourage further investment in the trend.



Trend relevancy by category:



The Smart & Connected mega-trend is currently impacting alcohol categories in equal measure

Despite the difficulty that manufacturers in the sector face when attempting to advertise their products, the internet has lent a hand to brands operating in the sector. Social media in particular is being used to legally advertise online in an innovative manner. By creating engaging digital marketing campaigns as well as advertisements that can be displayed ahead of video content online, alcohol brands have been able to leverage technology to reach consumers in a way that was previously impossible. Furthermore, smart labeling concepts that provide additional information are often leveraged, as is virtual reality technology to create labels that come to life when scanned on a relevant branded smartphone application.

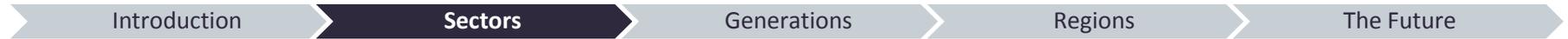


The mega-trend will grow in relevance to all alcohol categories in future

In future, social media marketing will continue to be an important way for alcohol brands to leverage digital technologies in the future. However, brands must be cautious, and develop contingency plans for any potential regulation of this. As the "experience economy" grows in importance, brands will leverage technology to create self-service bar concepts, innovative smart labeling designs, and virtual reality technologies. The latter can even be used to virtually guide consumers through the manufacturing process for added transparency and authenticity. As consumers retreat back into the home, more brands will also develop at-home, self-serve alcohol systems that can be controlled with smartphones to re-create the bar or pub experience.

Focus on Alcoholic Drinks

Timeline of alcoholic drinks product innovations



Timeline of product innovations in the alcoholic drinks sector

Five years ago

Present

Future: five years or later



Heineken, Netherlands¹

In September 2014, Heineken unveiled a nightlife lounge experience, the Pop-up City Lounge, in London. Heineken asked its fans to submit concepts and ideas for what lounge bars may be like in 2020. According to Heineken, "tens of thousands of crowdsourced Instagram images were submitted from across the globe."



Yeastie Boys, Australia²

This craft beer features QR codes on its labeling that connect consumers with information about the brand and product. The codes link to a site containing information about the company, the beer recipe for those willing to re-create the beer at home, as well as its social media profiles. This can enhance consumer trust.



Bartesian, Canada³

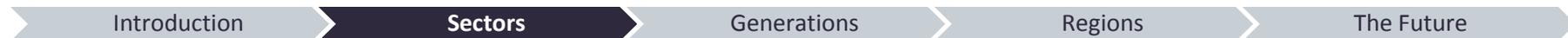
It has become apparent that consumers want to have professional-style drinking experiences in the comfort of their homes. In the future, we will see machines such as Bartesian creating bar-quality drinks at home – with the possibility of smart home connectivity. This will satisfy the desire for both convenience and high-quality products.

So what?

- In this sector, consistent and improved innovation related to the Smart & Connected mega-trend has been evident. The evolution from crowd-sourced marketing campaigns, through QR codes on labels, to at-home professional drink makers, demonstrates the use of technology to elevate the overall consumption experience. As drinking alcohol is associated with either relaxation or excitement³, it can be expected that brands will continue to use technology to cater to the growing experience economy in the future.

Focus on Personal Care

Consumer demand for personalized products is driving innovation in smartphone apps, wearable devices, and smart tools; augmented reality and social media are driving consumer engagement

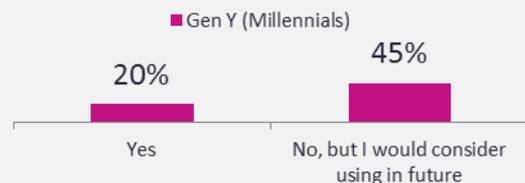


Overall impact on the personal care sector



Innovative products aligned with the Smart & Connected mega-trend are consistently being launched in the space, as consumers begin to demand more personalized product offerings. Brands are leveraging technology to provide consumers with smartphone applications, wearable devices, and even smart tools that can analyze factors such as skin health and oral hygiene, to recommend appropriate products to consumers. Most recently, brands such as L'Oréal and Estee Lauder are experimenting with the creation of augmented reality applications, which can allow consumers to virtually try on and purchase beauty products, eliminating trial-and-error. Meanwhile, social media provides trend inspiration for personal care brands, while it has allowed several "indie" beauty players who operate as online pure players to rise in popularity.

Global: "Do you use digital tools (e.g. smartphone apps, wearable devices) to monitor/manage skin conditions?", 2017¹



22%

of global consumers are interested in, and actively buying beauty and grooming products that follow trends shown on social media¹.

Trend relevancy for sector



Top five Smart & Connected trends

- Digital Lifestyles
- Smart Living
- Hyper-Connection
- Next-Generation Shopping
- Digital Consumption

Take-outs

- The demand for personalized solutions is popularizing smart devices, applications, and tools that can provide functions such as skin analysis.
- Augmented reality is being leveraged by both FMCG and retail players to enhance the shopping experience and add convenience.
- Social media is serving as a breeding ground for new trends that all brands should pay attention to, while it is also launching "indie" beauty players into popularity.

Focus on Personal Care

The Smart & Connected mega-trend is being leveraged most by players operating in the skincare and oral hygiene spaces; make-up and haircare categories will invest more into the mega-trend in future

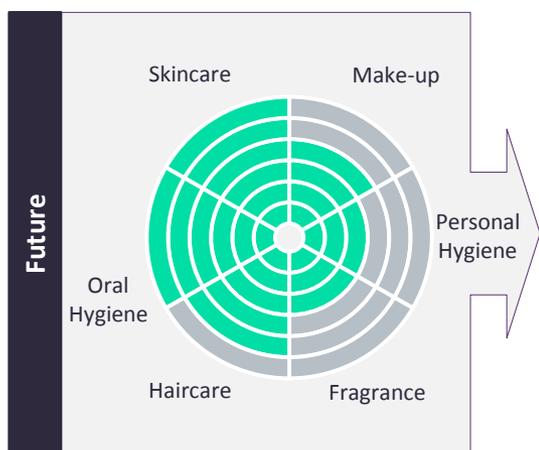


Trend relevancy by category:



The Smart & Connected mega-trend is most relevant to oral hygiene and skincare

Demand for more personalized, targeted personal care products is driving personal care brands to innovate using technology. In particular, skincare brands have been developing smart tools with diagnostic technology to more accurately analyze skin health and suggest personalized skincare products. Brands operating in the oral hygiene space are also embracing digital technology (e.g. with electric toothbrushes) through developing compatible smartphone applications for added functionality. Furthermore, brands in the make-up and haircare categories are experimenting with virtual reality applications to allow users to try on beauty looks/hairstyles, while fragrance and personal hygiene manufacturers are yet to significantly embrace the mega-trend.

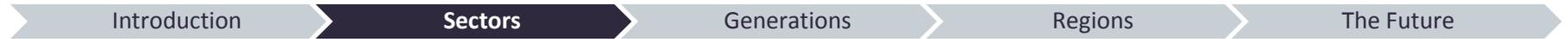


The make-up and haircare categories will more intensely embrace the mega-trend in future

Personalized products will become an expectation, rather than a desirable feature, in future, which will fuel the make-up and haircare categories to more intensely embrace technology to provide this. Smart tools (e.g. smart hairbrushes) will become mainstream, as will smartphone applications that consumers can use to determine the correct shade to use for their make-up products. Across all categories, subscription services will grow in conjunction with the growth of online shopping, which will cater to the time-scarce, experimental consumer. It can also be expected that skincare brands will develop wearable devices that can track both physical health and skin health, creating a more holistic approach to beauty in this space.

Focus on Personal Care

Timeline of personal care product innovations



Timeline of product innovations in the personal care sector

Five years ago



Bond No.9, US¹

This fragrance is named "HTTP://WWW.BONDNO9.COM," which echoes the brand's website. The brand decided to embrace the digital age in 2013 with the launch of this product, which was sold exclusively online. Its distinctive bottle also features a QR code, which when scanned links to the company website.

Present



Neutrogena Skin 360, US²

Combining a smartphone app and a compatible camera device, this product claims to feature dermatologist-grade technology to measure skin moisture, pores, lines and wrinkles using a skin sensor that users can track over time. The app also delivers personalized advice assisting users on how to improve their skin.

Future: five years or later



Complete wearables, global

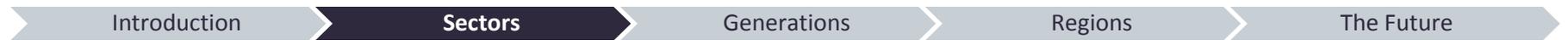
As wearables become essential health tracking accessories, the addition of the ability to track appearance factors (e.g. skin hydration) will emerge. This will offer consumers a complete health and appearance tracking and diagnostic solution, and create opportunities for skincare brands to partner with players in the industry (e.g. Fitbit).

So what?

- The consumer demand for personalized solutions has allowed innovation in this sector to evolve from the use of QR codes, to smart devices that help users monitor and manage skin health. As consumers become more individualistic and recognize that their unique skincare needs must be addressed, technology will be used in the sector to bridge the gap between brand and consumer. Inspired by holistic health, personal care needs will no longer be separated from overall health needs in the future, and technology will be able to track both factors.

Focus on Household Care

The "smart home" revolution is driving the popularity of smart home appliances including smart home assistants; cautious consumers are using the internet to research potentially harmful ingredients



Overall impact on the household care sector



Aligned with the consumer desire for both convenience and efficiency, household appliances are some of the latest products to be transformed by technology. Smart appliances are emerging that range from washing machines, cookers, and fridges, and can allow consumers to seamlessly connect and control their home appliances through smartphone applications. Informed consumers are making use of the internet to search for products with ingredients perceived as safe and "natural," which is driving brands to be transparent in this area as a result. Meanwhile, the shift toward next-generation shopping, whereby home assistants such as Amazon's Alexa and even Amazon's Dash buttons are making it easier than ever to order household care and laundry items, is transforming the way consumers interact with brands in this space.

64%

of consumers globally find being able to control their home appliances (e.g. central heating, air conditioning, kitchen gadgets) using their smartphone somewhat or very appealing, ¹.

37%

of consumers globally pay a high or very high amount of attention to the ingredients used in the household care and laundry products they buy².

Trend relevancy for sector



Top five Smart & Connected trends

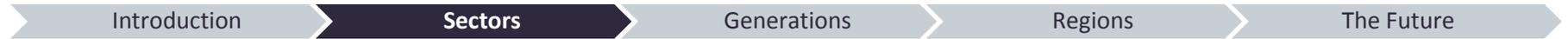
- Smart Living
- Informed Shopping
- Next-Generation Shopping
- On-The-Go
- Digital Lifestyles

Take-outs

- The rise of the "smart home" is creating ample opportunities for brands to make smart household devices that can be controlled via smartphones.
- Risk-averse consumers search online for natural formulations, driving the need for transparency and highlighting the potential for QR codes to be used to provide additional information on products.
- Voice activated shopping and Amazon's Dash buttons are changing the way consumers shop in this category, prioritizing convenience.

Focus on Household Care

The Smart & Connected mega-trend has most relevancy to the laundry and air freshener categories, and this relevancy will grow in future



Trend relevancy by category:



Laundry and air freshener brands are most influenced by the mega-trend

The demand for convenience and efficiency is driving household care brands to leverage technology to provide this to consumers. For example, Amazon's Dash buttons have been widely embraced by brands across many of the categories in the sector, which in turn proved extremely popular, as evidenced by the fact that household care brands are the best selling Dash buttons that are sold on Amazon.¹ Brands operating in the laundry products space are also embracing the on-demand economy by developing smartphone applications where users can get their dry cleaning picked up, cleaned, and delivered to their doors. Meanwhile, some brands are launching smart air freshener devices that allow their scent to be adjusted via smartphone.

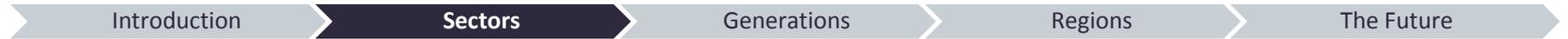


Brands will embrace digital devices and technology more prominently in future

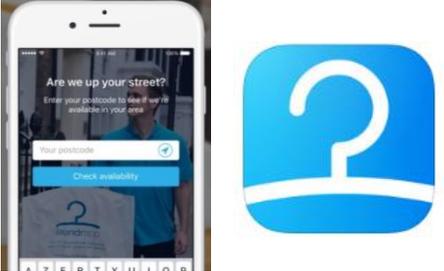
The future of this sector and how it is impacted by the Smart & Connected mega-trend will be largely influenced by the smart home revolution. It will become more important that brands develop smart devices, similar to the Amazon Dash button, that provide convenience and efficacy. Smart devices that use augmented reality to aid the cleaning process by showing the user areas that have not been adequately cleaned, for example, can be explored by laundry, household cleaner, and dishwashing product brands. As consumers continue to lead digital lifestyles, it will also become more important for brands to develop smartphone applications that can control household appliances away from the home.

Focus on Household Care

Timeline of household care product innovations



Timeline of product innovations in the household care sector

Five years ago	Present	Future: five years or later
 <p>Oxi Clean, US¹ Oxi Clean teamed up with the blogger Clean Mama to endorse the launch of its laundry detergent. This move highlighted how brands can harness online influencers to endorse a new product launch, while also benefiting from their wide-ranging reach, and the unique connection that is had with their audiences.</p>	 <p>Laundrapp, UK² Consumers who desire on-demand laundry services can now get their dry cleaning and laundry delivered to their door through the use of this simple mobile application. Laundrapp does not completely replace household washing machines, but appeals to time-poor consumers with disposable income available.</p>	 <p>Smart lenses, global Smart glasses that allow users to clean and continually monitor cleanliness of their homes in real time will minimize both time and labor efforts. Available feedback will include how thorough the clean was, stains still prominent though invisible to the naked eye, and the correct tools and methods to be used in specific environments and on specific surfaces.</p>

So what?

- Five years ago, brands were engaging with the online community by collaborating with bloggers active in the household care space. While this is still a viable digital marketing method, brands can now leverage the growing on-demand economy to create convenient services using a smartphone application as a platform. In future, it can be expected that consumers will continue to crave convenience and efficacy in this sector, and so it will become more common for brands to use augmented reality to provide this.

Source: [1] Clean Mama, 2014; [2] Laundrapp, 2018

Focus on Pet Care

Tech-savvy pet owners utilize smart products and digital tools to ease the burden of pet care; pet "humanization" is driving demand for healthy pet food, which smart labeling can help to convey

Introduction

Sectors

Generations

Regions

The Future

Overall impact on the pet care sector

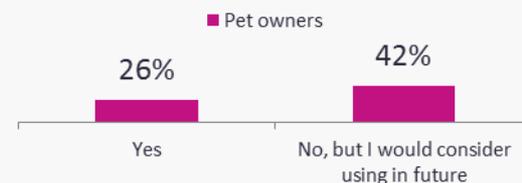


Brands operating in the pet care sector are slowly but surely aligning their innovation with the Smart & Connected mega-trend. In particular, brands recognize that today's tech-savvy pet owners are likely to be highly receptive to pet products that incorporate technology that can offer time-saving and convenience benefits. Subsequently, "smart" products and digital tools such as wearable technology are no longer just for humans, but are also being used for pets to provide fun, healthy, and convenient pet care. Furthermore, as consumers increasingly treat their pets as members of their family and want them to enjoy similar lifestyles, the demand for healthy pet food products is evident. It is here that brands can leverage smart labeling and packaging concepts to communicate additional product information to the consumer such as origin, and exact manufacturing processes.

68%

of global pet owners find being able to control home appliances (e.g. central heating, air conditioning, kitchen gadgets) using a smartphone¹.

Global: "Do you use digital tools (e.g. smartphone apps, wearable devices) to monitor/manage pet health?", 2017²



Trend relevancy for sector



Top five Smart & Connected trends

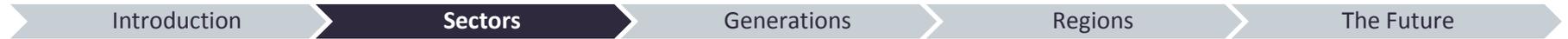
- Digital Lifestyles
- Smart Living
- Guided Health
- Informed Shopping
- On-The-Go

Take-outs

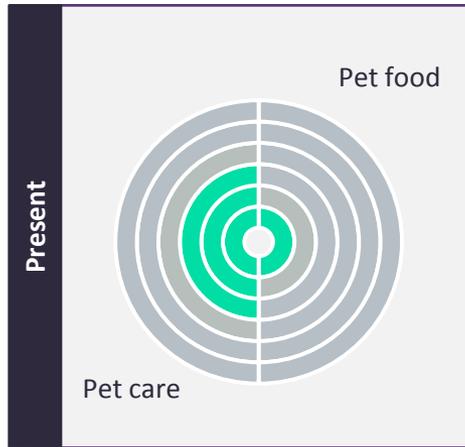
- Tech-savvy pet owners are receptive toward smart concepts that can enhance the convenience or efficacy of pet-related tasks, such as feeding and walking. Wearable technology is also emerging in the sector to monitor and manage factors such as health.
- In the same regard, QR labeling can be used in the sector to provide pet owners with the additional product information needed to make healthy purchasing decisions for their pets.

Focus on Pet Care

The Smart & Connected mega-trend is more relevant to the pet care category, whereby innovation in smart tools and devices is occurring; relevancy will grow in the pet food sector in future



Trend relevancy by category:



The Smart & Connected mega-trend is most relevant to the pet care category

The pet care category, which includes sub-categories such as cat litter, toys, treats, and other pet care tools, is most relevant to the Smart & Connected trend at present. As managing different facets of pets' lifestyle is becoming popular, pet owners are using different tools to monitor their pets lifestyles as well. In particular, the risks associated with pet obesity has made Fitbit-style devices popular among pet owners. In contrast, the pet food category is currently only being slightly impacted by the Smart & Connected mega-trend. Certain pet food manufacturers are using digital marketing campaigns to engage with consumers, as well as digital labels on pet food packaging, though this is not widely used at present.

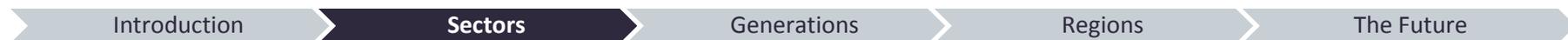


Information-hungry pet owners will boost the relevancy of the trend to the pet food category

In future, it will become more apparent that certain pet owners are extending their own personal dietary preferences and lifestyle habits to their pets. The opportunity for pet food manufacturers here is to continually innovate not just pet food offerings, but pet food packaging. Incorporating QR codes that, when scanned on a smartphone, can display additional information about ingredients, manufacturing processes, and origin will become more popular to satisfy risk-averse and health-oriented pet owners. Furthermore, it will become increasingly important that pet care brands innovate in the smart tools space to provide pet owners with smart, yet affordable, methods of tracking factors such as pet health, allergies, and even mood.

Focus on Pet Care

Timeline of pet care product innovations



Timeline of product innovations in the pet care sector

Five years ago

Present

Future: five years or later



Pet Hub, US¹

Pet Hub is an interactive hub that organizes and displays user-generated content, posted on a number of social media platforms, in a creative way. Brands can use install this tool on their own website, which can encourage consumer interaction and engagement online. It can also drive high volumes of traffic to a website.



Inupathy harness, Japan

This harness has sensors to detect heart rate and heat. It features colored LEDs on the back, which claim to signal the dog's emotional state based on the analysis. Currently, the company says that it can detect relaxed, excited, happy, interested, and stressed emotional states. An associated app records the heart rate to monitor the dog's mental health.



Scollar Mini, US

This is a multifunctional smart collar for cats and small dogs. The collar works with an app, and features GPS tracking and identification and can make doors open with radio frequency technology. While this is currently available on the market, wearable devices of this sort will become more popular in future, and for a wider range of pets.

So what?

- In the past, products launched in the pet care sector were taking advantage of engaging, crowd-sourced digital marketing campaigns. At present, wearable technologies that can monitor and manage pets health are being used, and it can be expected that these products will be used more in the future as product prices decrease. Brands should recognize the consumer desire to keep their pets happy and healthy, and leverage technology to innovate accordingly.

Focus on Baby and Child Care

Tech-savvy parents utilize smart tools to ease the burden of child care; online subscription boxes and smart labeling can cater to demands for convenience and transparency respectively



Overall impact on the baby and child care sector



Empowered by technology, digitally savvy parents are using the internet to facilitate learning and to save time, while smart tools and devices are being used to enhance the efficiency of their parenting practices. Additionally, parents are increasingly turning to the internet to guide their consumption through information-gathering and product comparisons, or to order items online to save time. Similarly, brands that offer subscription boxes are becoming popular in this sector, especially those that aim to provide parents with nutritional meals or personal care products to time-scarce parents on the go. Smart labeling and packaging concepts can also be leveraged by brands operating in this sector, to provide additional product information regarding ingredients and manufacturing processes to cautious, risk-averse parents.

68%

of global parents find the concept of an internet connected home or kitchen somewhat or very appealing¹.

74%

of global parents pay a high or very high amount of attention to the ingredients used in the products they buy for their children².

Trend relevancy for sector



Top five Smart & Connected trends

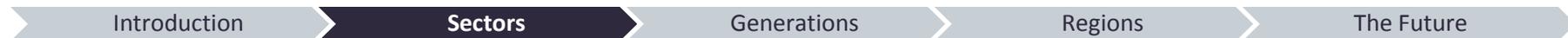
- Informed Shopping
- Guided Health
- Smart Living
- Digital Consumption
- On-The-Go

Take-outs

- Brands can target digitally savvy parents who use the internet with subscription box services that add convenience and aid experimentation.
- Parents find the concept of a smart home appealing, highlighting an opportunity to develop smart tools and applications targeted toward them.
- Smart labeling and packaging concepts will reassure highly cautious, risk-averse parents of product quality and freshness.

Focus on Baby and Child Care

The Smart & Connected mega-trend is most relevant to the baby food and drinks category, though it will grow in relevancy in the baby toiletries category in future



Trend relevancy by category:



Baby food and drinks manufacturers are slightly more engaged with the mega-trend

Baby food and drink brands are already aligning innovation with the Smart & Connected mega-trend and are leveraging online shopping with the development of monthly subscription services. Digital devices are also consistently used in relation to this space, such as for bottle sterilization, while baby nutrition tracking tools and apps are being launched. Parents, particularly Millennial ones, are also looking to the internet for guidance, which means that it has been important for brands, both in the food, drink, and toiletries space, to engage with them online through digital marketing, and also the use of social media influencers (e.g. "mommy bloggers").



The mega-trend will grow in relevance to both the food and drink and toiletries categories

In future, similarly to the adult food sector, it will become more common for baby food and drink manufacturers to use smart labeling to satisfy the concerns of hyper-cautious parents. Smart labeling that indicates how fresh a product is, and packaging that incorporates QR codes to provide additional information, will grow in importance. There is also room for baby food and drink and baby toiletries manufacturers to further engage with Millennial parents by improving digital marketing strategies, as well as hiring social media influencers to endorse products. Furthermore, there will continue to be a demand for smart tools as the concept of a "smart home" becomes more apparent in future.

Focus on Baby and Child Care

Timeline of baby and child care product innovations



Timeline of product innovations in the baby and child care sector

Five years ago

Present

Future: five years or later



iQ24 Avent, Spain¹

This baby bottle sterilizer can sanitize up to six bottles using vapor, and can eliminate bacteria in just six minutes. Although digital devices such as these continue to be essential to parents, products in the sector have evolved alongside technology, such as wearable devices, and smartphone-connected products are rising in popularity.



Nourish Baby, US²

Nourish Baby is an online baby food subscription service that provides organic, free-range, non-GMO ingredients to parents for their children. It leverages the convenience aspect of technology and aims to promote the physical and emotional wellness of parents by giving them a break in both the kitchen and grocery store.



Owlet, US³

This wearable device uses pulse oximetry, a method for monitoring a person's oxygen saturation, to track an infant's heart rate and oxygen levels as they sleep. In future, wearable devices of this sort can be expected to become more popular, as the price of wearables decreases and as parents incorporate such devices into their own lives.

So what?

- In the past, smart innovations in the sector were limited to electronic baby sterilizers, which are still crucial in the market today. However, technology can now facilitate product experimentation, for example through online subscription box services, and it can also track health through wearable devices. It is most important that brands in the sector leverage technology to provide convenience, and specific health monitoring for infants, as parents are increasingly time-scarce and risk-averse.

Focus on Tobacco

Smart technology is being leveraged to monitor and manage tobacco consumption for health reasons; electronic cigarettes are becoming more commonplace



Overall impact on the tobacco sector



The rise of technology is creating opportunities for consumers to better monitor and manage tobacco consumption. In particular, brands are leveraging technology to provide consumers with smart gadgets, smartphone applications, and digital tools that can encourage consumers to lead healthier lifestyles. In recent years technological advances have also meant that "heat not burn" and e-cigarette tobacco alternatives have become more commonplace, and have created a new standard for the tobacco sector. The rise of the e-cigarette has also prompted consumers to search online for e-liquids and related accessories, given the vaster selection of brands available on the internet. However, digital marketing is limited in this sector due to strict advertising laws across the world.

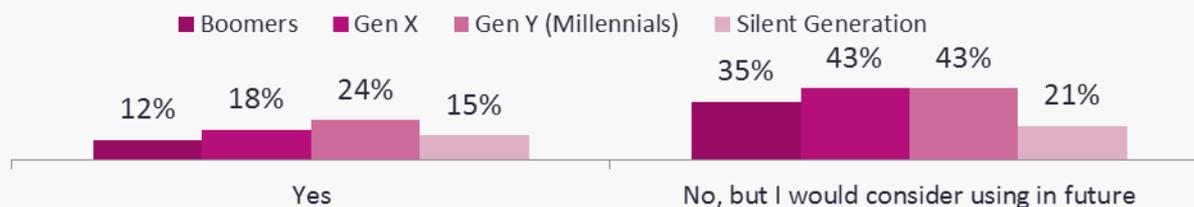
Trend relevancy for sector



Top five Smart & Connected trends

- Digital Lifestyles
- Guided Health
- On-The-Go
- Informed Shopping
- Digital Consumption

Global: "Do you use digital tools (e.g. smartphone apps, wearable devices) to monitor/manage tobacco consumption?", 2017¹

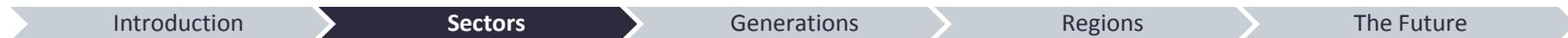


Take-outs

- Smokers concerned with their health are using applications and devices to monitor and manage nicotine consumption, while a large proportion are also willing to use such appliances to do so in the future.
- Advances in technology have allowed e-cigarettes and "heat not burn" e-cigarettes to emerge in the sector, and e-retail to be a common place of purchase for e-liquids used in such devices.

Focus on Tobacco

The Smart & Connected mega-trend is most relevant to the e-cigarette category at present, but will grow in relevance to both tobacco categories in future

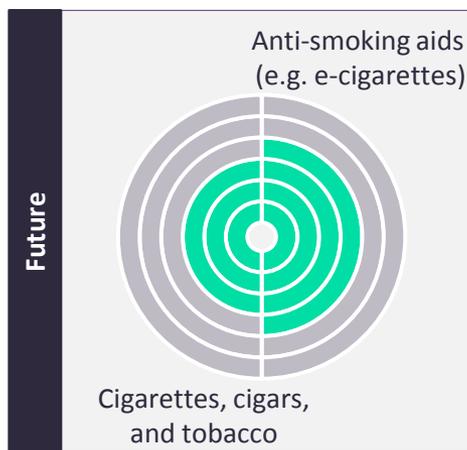


Trend relevancy by category:



The mega-trend is most relevant to the e-cigarette category, while this relevance is still low

Innovations in technology have allowed for the e-cigarette category to take off in recent years. Certain consumers view these as a way of limiting their tobacco consumption. Innovations in this space, including Phillip Morris's "heat not burn" e-cigarette, demonstrates that there is still room to leverage technology to innovate further in this category. Furthermore, the popularity of e-liquids, which are predominantly sold online, is growing. In contrast, the Smart & Connected mega-trend is less relevant to the cigarettes, cigars, and tobacco category. Here, brands can leverage technology to provide consumers with smart gadgets, wearable devices, and smartphone applications to help track tobacco consumption, though this is not very widespread.

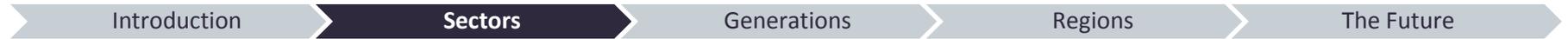


"Heat not burn" products and smart packaging will become more relevant in future

In future, alongside growing health concerns, it can be expected that electronic cigarettes will grow in relevance. In particular, innovations such as the "heat not burn" concept can be expected to take off in an increased number of developed markets, while other brands will also leverage technology to provide consumers with innovative e-cigarette concepts. Furthermore, the growing presence of e-cigarettes may encourage consumers to reconsider their habits and take a more informed stance on their smoking product choices. There is therefore small potential for smart packaging on cigarettes to become more relevant. Meanwhile, digital marketing has limited potential due to regulation restrictions.

Focus on Tobacco

Timeline of tobacco product innovations



Timeline of product innovations in the tobacco sector

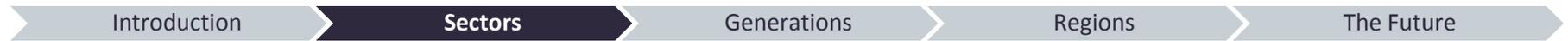
Past	Present	Future: five years or later
 <p>Yan'an 1935, China¹ Consumer confidence regarding products produced domestically is low. Recognizing this, this product has a digital lock placed on the outer box and consumers can only generate the passcode by calling the provider number on the box. This is a unique way of leveraging technology to tackle authenticity concerns of consumers.</p>	 <p>IQOS, Japan² "Heat not burn" products (e.g. IQOS) are fairly niche at present, but are rising in popularity alongside e-cigarettes as consumers perceive them to be either a way of cutting down on tobacco consumption, or as a less harmful form of smoking. While they are innovative, claims made about such products are often disputed.³</p>	 <p>E-liquid e-commerce, global E-liquids have exploded in popularity alongside e-cigarettes, which are commonly purchased online. This creates an opportunity for brands to create innovative subscription services in future, but there is little availability of e-liquids via this channel so far. The proliferation of social vaping will aid the growth of this channel.</p>

So what?

- While innovation in this category does not occur as quickly as in other categories, new ideas involving smart and technological features have been and still are evident in the sector. They have been employed to ensure product authenticity and to create a new tobacco experience, and can be used in the future to aid experimentation. However, it can be expected that e-cigarettes and particularly "heat not burn" products will continue to drive innovation in the sector, as they appeal to consumers for perceived health and even environmental reasons.

Focus on Retail

The desire for an enhanced shopping experience has driven rapid technological change in the retail space, where retailers are using technology to provide immersive yet convenient shopping experiences



Overall impact on retail



The consumer desire for convenience as well as an enhanced shopping experience has driven rapid technological change within the retail space, where self-service checkout systems and contactless payment technology provide consumers with a "seamless" shopping experience. Augmented reality technology is further allowing consumers to virtually try on clothing or beauty products, or visualize how furniture would look in their home. Meanwhile, smart labels and digital signage in stores also have potential to educate consumers on product origin, composition, and history. The quest for convenience is also driving the concept of autonomous delivery robots, while the omnipresence of the smartphone is driving retailers to introduce functional apps and mobile optimized websites to capture the mobile shopping experience across sectors.

Global: "Which of the following are most influential when deciding where to do your grocery shopping?", 2018¹



Trend relevancy for sector



Top five Smart & Connected trends

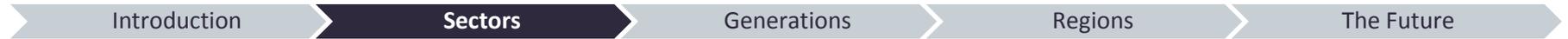
- Next-Generation Shopping
- Digital Consumption
- On-The-Go
- Informed Shopping
- Digital Lifestyles

Take-outs

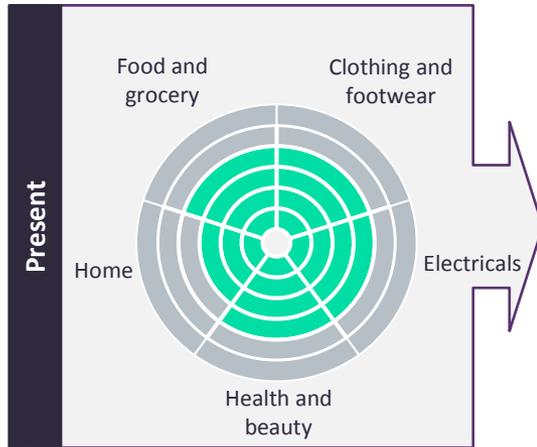
- Look beyond self-service checkouts to digital signage, facial recognition, and virtual reality technology to enhance the customer experience.
- Create seamless omnichannel experiences that will enhance the consumption experience and make it more convenient at every touchpoint.
- Explore the creation of autonomous delivery robots to transform and enhance the online delivery process.

Focus on Retail

The Smart & Connected mega-trend is uniquely impacting the strategies of all retailers, resulting in increased investment in the mega-trend in future



Trend relevancy by category:



The Smart & Connected mega-trend is uniquely impacting the strategies of all retailers

The Smart & Connected mega-trend strongly impacts all retail players, though the adoption of smart technology differs depending on retail type. Clothing and footwear, health and beauty, and home retailers, for example, are exploring the use of virtual reality technology to enable users to accurately visualize items prior to purchase. Players across the retail space are exploring the use of smart labels, digital signage, and digital pricing technology, the latter enabling retailers to adjust prices automatically and mark up or mark down weekly specials effectively. Similarly, retailers have been experimenting with the use of sensors on shop floors to gain insight on the paths consumers take throughout the store, which items grab consumers' attention.



Retailers of the future will invest more into the Smart & Connected mega-trend

In future, it can be expected that retailers will invest more to align their strategies with the Smart & Connected mega-trend. Investments into virtual reality technology, digital signage in stores, smart labeling, and big data will become ubiquitous. As consumers becoming more demanding of convenient, yet immersive shopping experiences, it can be expected that retailers invest in digital technology that can enhance the shopping experience. The concept of autonomous delivery robots, for example, poses an attractive option for online shoppers favoring online delivery. Sophisticated camera sensor technology also has potential to unlock the emotions of consumers throughout the shopping experience, aiding retailer marketing initiatives.

Focus on Retail

Timeline of retail product innovations

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Timeline of product innovations in retail

Five years ago

Present

Future: five years or later



Burberry, UK¹

In 2014, Burberry started using in-store technologies to improve its customer service. Employees at Burberry use devices such as iPads to help give customers a unique shopping experience. London's flagship store even featured screens that can be turned in to a mirror when required, (e.g. when trying on clothes).



Walmart, US²

Walmart has unveiled 3D virtual shopping on its website, enabling customers to browse products in a virtual apartment. The products in the model apartment are available for shoppers to buy. This function allows customers to simply click on a particular item to get the product description, facilitating ease of shopping.



Kroger, US³

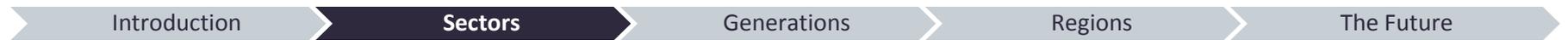
Kroger, a supermarket chain based in the US, unveiled its plans to deploy driver-less vehicles to fulfil online grocery order deliveries. The retailer has announced its plans to start a pilot program in collaboration with Nuro, a technology company based in Silicon Valley. This collaboration will fuel the concept of autonomous delivery in future.

So what?

- In future, retailers should explore the use of augmented reality technology to provide an engaged shopping experience to consumers. This can help consumers make informed purchasing decisions, and simplify the shopping process. Additionally, retailers should consider investing in innovative shipping solutions, such as autonomous delivery, to minimize delivery times and enhance convenience for online customers.

Focus on Foodservice

Technology is being leveraged by foodservice players to provide a more convenient, as well as an immersive dining experience in terms of atmosphere and service provided

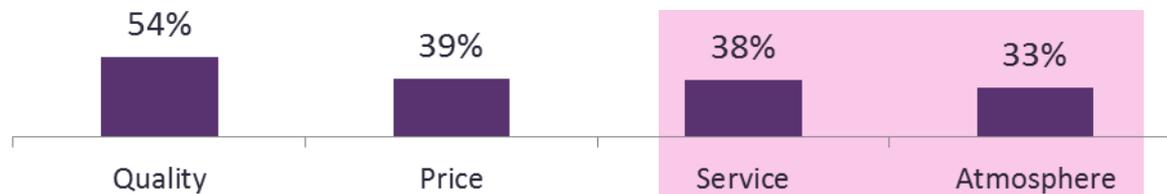


Overall impact on foodservice



Foodservice players are investing in technology to cater to the demand for convenience and an immersive dining experience, in terms of both atmosphere and the service provided. Restaurants have begun to combine the offer of traditional service alongside digital ordering kiosks, touchscreen/video drive-throughs, and mobile ordering. Foodservice players are exploring the use of artificially intelligent chatbots to power ordering via social media. Ordering online is even giving way to new business models such as "virtual restaurants," which lack brick-and-mortar stores, and instead food is prepared in shared commercial kitchens. Autonomous vehicles are also emerging as a potential delivery option for foodservice players. While these concepts may not replace traditional restaurants in future, such developments are indicative of a changing foodservice landscape.

Global: top four factors that consumers believe are "most important" when choosing where to eat or drink out, 2017¹



Trend relevancy for sector



Top five Smart & Connected trends

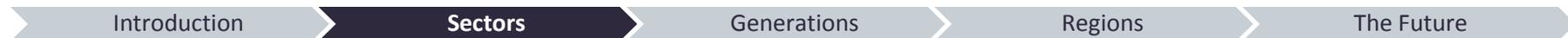
- On-The-Go
- Digital Consumption
- Digital Lifestyles
- Informed Shopping
- Next-Generation Shopping

Take-outs

- Invest in self-serve technology either in the form of in-store digital kiosks, or via smartphones. This can complement traditional service.
- Explore the use of artificial intelligence technology to create branded bots that enable "conversational ordering" via smartphones.
- Explore the use of autonomous delivery robots to aid convenience for consumers who prefer to order online and receive home delivery.

Focus on Foodservice

Timeline of foodservice product innovations

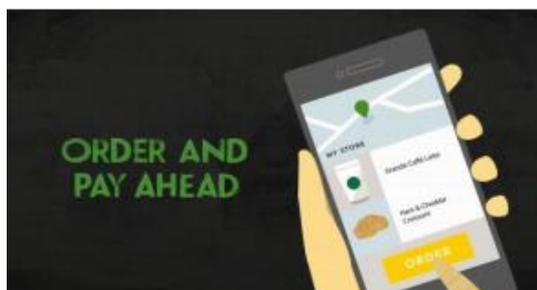


Timeline of product innovations in foodservice

Past

Present

Future: five years or later



Starbucks, US¹

Introduced US-wide in 2015, Mobile Order & Pay works through the My Starbucks loyalty program in the current Starbucks app. It draws up a list of nearby stores with approximate wait times, and once the customer visits their selected store to collect their order, it is handled separately to the queue of people, eliminating the need to wait in line.



McDonald's, global²

At present, fast food chain McDonald's is continuing to remodel its restaurants across the globe to include new digital self-order kiosks, designated parking spots enabling "curbside pickup" for customers who order on mobile, and digital menu boards in drive-throughs. McDonald's is even partnering with Uber Eats for "McDelivery" at 5,000 locations.



Virtual reality dining, global

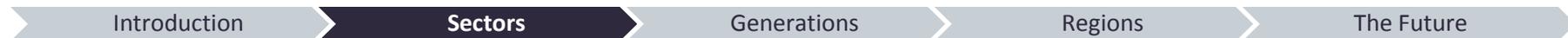
In future, in response to the demand for more immersive, experiential consumption experiences, virtual reality dining can be expected to become more popular. Applied to the culinary world, virtual reality technology can provide imagery that makes one feel like they are elsewhere – like enjoying a meal at the beach – or are eating gourmet food when that is not the case.

So what?

- If they have not done so already, quick-service restaurants (QSRs) should seek to add mobile ordering to their strategy, while also bearing in mind that consumers desire the same customization opportunities via mobile as they would get in store. Foodservice players should also explore the use of self-service digital kiosks, whether in isolation or in conjunction with traditional table service to cater to consumers who are on the go. Brands should also explore virtual reality to enhance the taste, smell, and touch of food.

Focus on Foodservice

The Smart & Connected mega-trend is being leveraged most by quick- and full-service restaurants, though the mega-trend will increase in relevancy to all players in future



Trend relevancy by category*:



The Smart & Connected mega-trend is most relevant to quick- and full-service restaurants

At present, quick-service restaurants (QSRs) and fast food outlets are visibly aligned with the Smart & Connected trend. Given their association with convenience and speed of service, such players include self-service digital kiosks and mobile ordering within their offerings to bolster this association. Similarly, full-service restaurants are also prominently investing in technology, including mobile ordering, given the growth of on-demand economy applications such as Uber Eats. Some pubs, clubs, and bars are also experimenting with the self-service concept, albeit in fewer numbers. Furthermore, while mobile operators have not reached their digital potential yet, mobile payment and ordering technology are pivotal.



The Smart & Connected mega-trend will increase in relevance to all players in future

In future, in alignment with the growing consumer demand for convenience and a more immersive consumption experience, it can be expected that all foodservice players align their strategies with the Smart & Connected mega-trend. Self-service digital kiosks will become ubiquitous, as will mobile ordering, and collaborations with food delivery services such as Uber Eats. Virtual reality dining concepts will be explored, as will digitally aided menus, which can be scanned by mobile devices to give the informed shopper additional ingredient and allergen information. It can also be expected that, alongside the growth in driverless cars in future, mobile operators will become autonomous.

Source: *"Full-service restaurants" includes fine and casual dining, "coffee and tea shops" includes ice cream parlors, "mobile operators" includes food trucks, "QSR" = quick-service restaurants

By Generation

The impact of the Smart & Connected mega-trend on purchasing decisions across different generations



Global: consumers who are often or always influenced by how digitally advanced/"smart" a product is in the following sectors, by generation, 2016 and 2018



Generation	2016 ¹	2018 ²	Key changes
iGeneration* 			<ul style="list-style-type: none"> In both 2016 and 2018, the Smart & Connected mega-trend impacted the purchases of Millennial consumers most in comparison with other generations. The mega-trend also increased in influence to this demographic between the 2016–18 period. This highlights Millennial consumers as a key audience for manufacturers to target with their Smart & Connected offerings. The mega-trend decreased in influence on the purchasing decisions of all other generations (excluding Millennials) between 2016–18. Irrespective of generation, the mega-trend influenced the personal and household care purchasing decisions most prominently.
Millennials* 			
Generation X* 			
Boomers* 			
Silent Generation* 			

Focus on iGeneration and Millennials

The iGeneration and Millennial consumers are digital natives, and are considered to be key audiences that are driving forward digital change

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- **Current** – This generation are true digital natives having grown up in a world of digital technology. They are accustomed to having endless access to information at their fingertips. They are users of predominantly image-based social media, while their desire for instant gratification is fueling the on-demand economy.
- **Future** – This generation will continue to drive the on-demand economy in future. They will make digital marketing strategies a necessity, and their usage of social media will make the development of sharable products essential. They will continue to use and demand smart devices that can offer convenience and functionality.
- **Take-out** – Brands can leverage this generation's digital adeptness by launching Smart & Connected devices and wearables that can offer convenience. The creation of shareable packaging is important and will aid consumer-to-consumer marketing online. Services such as subscription boxes, and services offered through smartphone applications will grow in relevance alongside the on-demand economy.



- **Current** – Differing from the iGeneration, Millennials are not complete digital natives, as many grew up to witness the internet and digital technologies truly begin to evolve. However, they are just as reliant on smart innovation and devices.
- **Future** – In the near future, brands should leverage technology to create personalized products and services that cater to the Millennial desire to be treated as individuals. After all, 45% of Millennials have a favorable perception of products with claims personalized to their needs.¹
- **Take-out** – Brands must use technology to improve their products and services and to offer more personalized solutions to Millennials. Making use of emerging technologies such as augmented and virtual reality to create engaging marketing campaigns, or functional applications, will also appeal to this generation.

Focus on Generation X and Boomers

Generation X and Boomers should not be overlooked by brands when launching Smart & Connected products, given their receptivity toward such concepts

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- **Current** – Like Millennials, this generation makes use of the internet and digital technologies despite not being digital natives. Out of all of the uses of social media, this generation is most likely to use social media to share images/post with friends, and then discover new products and brands¹.
- **Future** – In future, this generation will only embrace digital technologies in their lives more. As such, it is important that brands are inclusive in their digital marketing campaigns, and are inclusive in who they target with any smart solutions.
- **Take-out** – It is important that brands are active on social media in order to capitalize upon this generation's usage of the platform to find new products and brands. As with Millennials, to engage this generation, brands should continue to create digital marketing campaigns, and smart products and devices that offer convenience and that can simplify daily tasks.



- **Current** – Baby Boomers are less active on social media than younger generations. However, smart products and technologies that can make daily duties simpler and more convenient are welcomed. For example, 52% of Boomers find the idea of being able to control home appliances (e.g. central heating, air conditioning, kitchen gadgets) using a smartphone appealing.²
- **Future** – Brands should recognize that this generation are likely to start to care about monitoring and managing aspects of their lifestyle such as food and drink consumption in a bid to maintain or improve health. Launching digital applications and wearable devices that can aid this will be welcomed by this generation.
- **Take-out** – Brands must not overlook this generation when developing innovation aligned with the Smart & Connected mega-trend. While they use social media less, they are still receptive to online marketing, and smart devices that can make tracking health simple and convenient.

Focus on the Silent Generation

Silent Generation consumers are least likely to be engaged with social media and digital technologies, but brands should target these audiences with innovation that can add convenience to their lives

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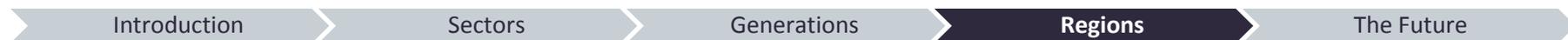
- **Current** – This generation are least likely of all to be using social media and actively engaging with digital technologies. However, this does not mean that they abstain from these things altogether. In fact, 46% of the Silent Generation believe that the internet has had a positive impact on their social lives.¹
- **Future** – In future, the elderly (i.e. the iGeneration and Millennials now) will be digital natives. No longer will there be a pre-conceived stereotype that this generation are unable to use technology or partake in an engaging digital marketing campaign, for example.
- **Take-out** – Brands should recognize that while this generation are not the key audience to target with smart products and devices, they do appreciate these when they can enhance their lives or add convenience.

Take-outs

- The iGeneration are digital natives. They use image-based social media platforms heavily, and are driving the growth of the on-demand economy. Brands should maintain a strong presence on social media, launch products with "shareable" packaging to aid consumer-to-consumer marketing, and create innovative online subscription services.
- While not digital natives, Millennials, like Generation Z, use smart technologies extensively. Brands should recognize this, in addition with this generation's desire to be treated as an individuals. For example, leveraging technology to create personalized (e.g. DNA-compatible) products and services will be desirable.
- Generation X, Baby Boomers, and the Silent Generation are often underestimated in their ability to use and appreciate digital technology. Brands must not overlook these generational cohorts when launching smart products and services.

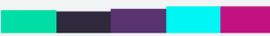
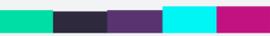
By Region

The impact of the Smart & Connected mega-trend on purchasing decisions across different regions



Consumers who are often or always influenced by how digitally advanced/ "smart" a product is in the following sectors, by region, 2016 and 2018



Region	2016 ¹	2018 ²	Key changes
 North America	23% 22% 24% 27% 27% 	23% 22% 23% 27% 27% 	<ul style="list-style-type: none"> The influence of the Smart & Connected mega-trend is most evident in Latin America, highlighting potential for brands to target consumers with high-tech offerings in this region in particular. The Smart & Connected mega-trend has the least influence over the purchasing decisions of North Americans, followed by Europeans, highlighting limited potential for brands to target consumers with innovation aligned with the mega-trend in this sector. Across regions, the Smart & Connected mega-trend has most prominently been influential over the personal care and household care sectors, in both 2016 and 2018.
 Europe	24% 24% 22% 33% 30% 	24% 23% 19% 31% 33% 	
 Asia-Pacific	36% 35% 34% 43% 41% 	37% 37% 33% 42% 44% 	
 Latin America	44% 41% 36% 57% 54% 	36% 38% 35% 54% 55% 	
 Middle East and Africa	33% 34% 22% 45% 43% 	40% 36% 30% 43% 47% 	

Focus on North America

Exploring the impact of the Smart & Connected mega-trend in North America

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North American consumers are very much engaged with the Smart & Connected mega-trend, with the majority holding the belief that technology and improved access to information have had a positive impact on their respective countries overall. North America is home to one of the most advanced technology hubs globally, Silicon Valley, which continues to develop innovation technologies that hold the potential to transform the FMCG landscape completely. Consumers are engaging with technological concepts that can bring about convenience in a unique way, which Amazon Go proved when it was launched in Seattle. Compared with other regions, fewer consumers in North America are limiting time that is spent on their smartphones. However, inspired by Europe's launch of GDPR, there is potential for North American countries to improve their data protection laws and regulations to better protect consumers.

Key events related to Smart & Connected occurring within North America

Key events



California may potentially introduce what are being called "GDPR-style" data privacy laws, which will drastically change how technology companies gather and monetize customers' data¹.



In early 2018 it was reported that Amazon's Alexa recorded a private conversation and sent it to a random contact in a user's address book, highlighting key privacy concerns².



President Trump is said to be contemplating the restriction of Chinese investments in US companies with "industrially significant technology"³.

Key events



In early 2018, Amazon unveiled "Amazon Go" – a checkout-less convenience store powered by video recognition technology and Amazon's application⁴.



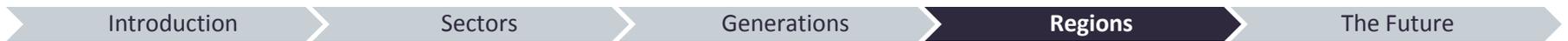
Avon launched an "instant messaging brochure" in 2018 allowing its sales representatives to connect with customers and offer personalized benefits while on-the-go⁵.



In 2017, Shiseido Americas acquired Giaran, a data-driven technology company that provides artificial intelligence platforms. This will expand Shiseido's capabilities in beauty customization⁶.

Focus on North America

Exploring the impact of the Smart & Connected mega-trend in North America



Key consumer behaviors within the region

Consumers who believe technology or improved access to information is having a positive or very positive effect in their country, by country, 2017¹

Country	Percentage
USA	72%
Canada	67%

Consumers who actively try to limit the amount of time they spend online or on their smartphone, by country, 2017²

Country	Percentage
USA	46%
Canada	36%

North America: top four factors that would encourage consumers to use an online subscription service to buy products, 2017²

49%	Value for money	35%	Curiosity
39%	Convenience of delivery	30%	Tailored to my preferences

"Technology has made my life simpler"².

Country	Percentage
USA	72%
Canada	66%

Trend relevancy for region

Top five Smart & Connected trends:

- Digital Lifestyles
- On-The-Go
- Guided Health
- Next-Generation Shopping
- Smart Living

Take-outs

- The majority of North American consumers believe that technology has had a positive effect in their country, which is also true of the claim that it has made their lives simpler. This creates ample opportunities for brands to align their innovation with the Smart & Connected mega-trend, particularly so with regards to digital lifestyles and the on-the-go nature of many consumers residing within the region. North American consumers also appreciate the value-for-money aspect that subscription boxes can provide, highlighting an opportunity for brands to explore.

Focus on Europe

Exploring the impact of the Smart & Connected mega-trend in Europe

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Europe is facing a digital transformation as a result of the General Data Protection Regulation (GDPR), which came into effect in May 2018 in order to "harmonize" privacy laws across Europe, and award consumers in Europe greater rights with regard to their privacy, personal data collection, and digital tracking. This is a monumental policy that will, in the face of ongoing digital evolution, work to increase transparency and consumer trust in businesses and their digital activities. This will work toward engaging with the 72% of European consumers who actively try to limit the amount of time they spend online or on their smartphone, as it is possible that these consumers are concerned about the safety of sharing their personal data online. Several innovations using artificial intelligence and augmented reality are also sweeping the sector, which has created opportunities for FMCG companies across sectors to elevate their offerings and engage with consumers in a more exciting way.

Key events related to Smart & Connected occurring within Europe

Key events



The GDPR came into force in early 2018, and was designed to modernize laws that protect the personal information of individuals after several data hacking scandals¹.



L'Oréal acquired Modiface, an augmented reality and artificial intelligence firm for cosmetics, in 2018. This allows L'Oréal to help users visualize hair and make-up styles in real time using augmented reality².



Nestlé created a chatbot named Kim in 2017 to help improve customer experience for consumers of the Maggi brand. It runs on Facebook Messenger, and gives personalized recipe recommendations when asked³.

Key events



L'Oréal released its UV Sense product in early 2018. It is a skin sensor that monitors UV exposure while also educating people the importance of sun protection⁴.



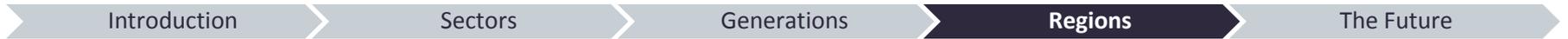
UK supermarket Tesco is trialing the concept of shopping without tills, whereby customers use an app to scan a product's barcode and then pay⁵.



Unilever recently expressed that it will no longer work with digital influencers who purchase fake followers and likes online in a bid to stamp out "influencer fraud"⁶.

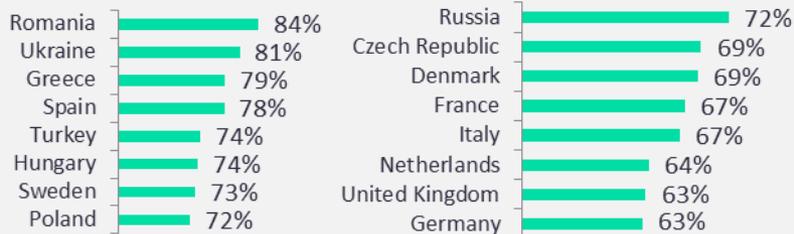
Focus on Europe

Exploring the impact of the Smart & Connected mega-trend in Europe



Key consumer behaviors within the region

Consumers who believe technology or improved access to information is having a positive or very positive effect in their country, by country, 2017¹



72%

of Europeans actively try to limit the amount of time they spend online or on their smartphone, 2017².

Europe: top four factors that would encourage consumers to use an online subscription service to buy products, 2017²

52%

Value for money

33%

Curiosity

41%

Convenience of delivery

30%

Tailored to my preferences

72%



of Europeans believe that technology has made their lives simpler².

Trend relevancy for region

Top five Smart & Connected trends:

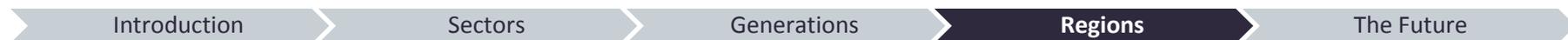
- Informed Shopping
- Digital Lifestyles
- On-The-Go
- Smart Living
- Hyper-Connection

Take-outs

- As changes to digital privacy regulation under the GDPR sweep the region, European consumers are becoming more aware of the importance of online privacy, which partially explains why the majority of European consumers are trying to limit their time spent online. This weariness makes informed shopping more desirable as consumers seek transparency. However, overall, the majority of consumers believe that technology has both made their lives simpler and had a positive effect in their country, highlighting an opportunity for brands to innovate in line with the mega-trend.

Focus on Asia-Pacific

Exploring the impact of the Smart & Connected mega-trend in Asia-Pacific



Regional overview



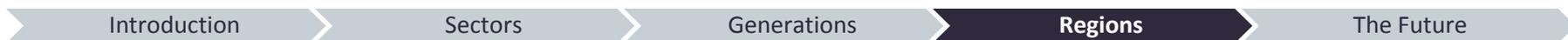
Asia Pacific is a region that is rife with innovation in the FMCG space that is aligned with the Smart & Connected mega-trend. The majority of consumers residing within each country within the region agree that technology and improved access to information is having a positive impact effect on their country, highlighting an opportunity for FMCG brands to develop Smart & Connected tools and devices that can enhance the consumer experience. In particular, promising developments have been made with regard to drone delivery by Alibaba in China, which has been approved by authorities to deliver food in the country. Several product launches that take account of the smart living, hyper-connection, and digital lifestyles trends have also been launched recently, while China has also revised its digital data protection policy, as inspired by GDPR's launch in Europe.

Key events related to Smart & Connected occurring within Asia-Pacific

Key events	Key events
 <p>In May 2018, Alibaba's Ele.me received a license from Chinese authorities to use drone to deliver food to consumers, fueling China's on-demand economy¹.</p>	 <p>Samsung's Family Hub smart refrigerator is equipped with three built-in cameras that let consumers know what they need to buy, which demonstrates the "smart living" revolution⁴.</p>
 <p>China released the final version of its national standard on personal information protection in 2018, as inspired by Europe's recent GDPR data protection policy².</p>	 <p>In South Korea, WaySkin has launched a smartphone connected diagnostic beauty tool, which is designed to measure the health of skin in real time⁵.</p>
 <p>Beauty firm Just Herbs became the first in India to launch a crowdsourced beauty product in 2017 whereby consumers were consulted via social media throughout the entire product development process³.</p>	 <p>Memebox teamed up with South Korean beauty influencer Pony to create the Pony Effect make-up range. It acted as a catalyst for brands to collaborate with social media influencers in the sector⁶.</p>

Focus on Asia-Pacific

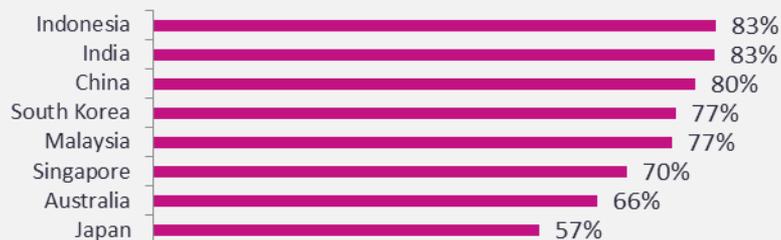
Exploring the impact of the Smart & Connected mega-trend in Asia-Pacific



Key consumer behaviors within the region



Consumers who believe technology/improved access to information is having a positive/very positive effect in their country, by country, 2017¹



74%

of Asia-Pacific consumers actively try to limit the amount of time they spend online or on their smartphone, 2017²

Asia-Pacific: top four factors that would encourage consumers to use an online subscription service to buy products, 2017²

53%

Convenience of delivery

45%

Curiosity

52%

Value for money

41%

Tailored to my preferences

44%

of Asia-Pacific consumers believe that technology has made their lives simpler².

Trend relevancy for region

Top five Smart & Connected trends:

- Informed Shopping
- Digital Lifestyles
- Smart Living
- Digital Consumption
- On-The-Go

Take-outs

- The highest proportion of consumers who are trying to limit the amount of time they spend online reside in Asia-Pacific, as do the lowest proportion of consumers who believe that technology has made their lives simpler. While this could be discouraging for brands, it does not imply that these consumers are halting their technology use altogether. As the majority of Asia-Pacific consumers believe that technology has had a positive effect in their country, brands should leverage technology to make users lives simpler, and to add convenience and efficacy.

Focus on Latin America

Exploring the impact of the Smart & Connected mega-trend in Latin America

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Smartphone ownership is becoming more commonplace within Latin America, which is helping to fuel a surge in internet and social media usage across the region. This is a result of stronger economic growth, and demand for new technology from the emerging middle class. As a result, FMCG firms including Unilever and PepsiCo have been able to penetrate the region with innovative offerings aligned with the Smart & Connected mega-trend, including an e-commerce only beverage brand internationally, and trials of in-store facial recognition technology conducted by the Knorr brand in Brazil. Instagram's innovative social media commerce offering has also been rolled out into several countries within the region, indicating the firms recognition that the region is ripe for an elevated e-commerce offering.

Key events related to Smart & Connected occurring within Latin America

Key events



In March 2018, Unilever's Knorr brand worked with Brazilian and US retailers to trial in-store facial recognition technology to measure consumer engagement with shelf displays¹.



PepsiCo's Drinkfinity, developed in Latin America, is to be rolled out internationally using an e-commerce-only model².



Technology hubs are to be formed in Brazil to connect businesses in the UK with those in emerging digital markets³.

Key events



Latin America has seen strong growth in smartphone usage in recent years, as much of the region experiences stronger economic growth, and as the new middle class seeks new technology⁴.



World Bank's IFC has proposed a project to set up a fund for investing in technology firms in Latin America. The fund will invest in technology and technology-enabled companies in the region⁵.



Instagram's new shopping feature has been rolled out to many Latin American countries including Brazil, Argentina, and Peru, fueling e-commerce⁶.

Focus on Latin America

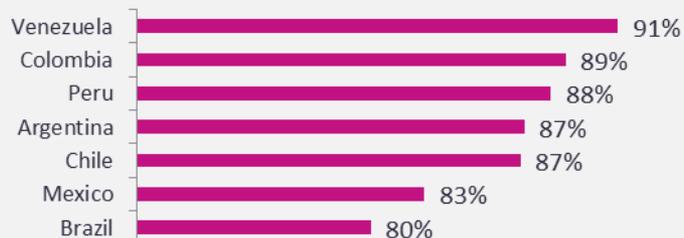
Exploring the impact of the Smart & Connected mega-trend in Latin America



Key consumer behaviors within the region



Consumers who believe technology or improved access to information is having a positive or very positive effect in their country, by country, 2017¹



49%

of Latin Americans actively try to limit the amount of time they spend online/on their smartphone, 2017².

Latin America: top four factors that would encourage consumers to use an online subscription service to buy products, 2017²

65%

Convenience of delivery

52%

Value for money

56%

Curiosity

45%

Tailored to my preferences

80%



of Latin American consumers believe that technology has made their lives simpler².

Trend relevancy for region

Top five Smart & Connected trends:

- On-The-Go
- Digital Lifestyles
- Informed Shopping
- Digital Consumption
- Hyper-Connection

Take-outs

- The lowest proportion of consumers who try to limit the time they spend online or on their smartphones are evident in Latin America as compared to other regions. Similarly, the proportion of consumers who believe that technology has made their lives simpler is higher in Latin America than any other region. Brands can therefore take advantage of this digital engagement by, for example, creating online marketing campaigns and developing smart tools and devices.

Focus on the Middle East and Africa

Exploring the impact of the Smart & Connected mega-trend in the Middle East and Africa

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Regional overview



Considering the Middle East- a region which predominantly generates its income from the oil and gas industry, news that the technology industry is closely trailing behind in terms of human capital employed¹ signifies a promising technological evolution for the region in future. In particular, the United Arab Emirates (UAE) has taken a pioneering role in the development of self-driving cars, drones, and delivery robots, among other innovations that FMCG brands can leverage to enhance customer experience, as well as to improve their operational efficiency. While these developments are more common in the Middle East compared with Africa, brands including Oracle do recognize the potential that this continent holds that can be unlocked. It is also notable that the Ugandan parliament has recently approved a social media tax, highlighting the potential for other countries within the continent to propose a similar rule, which creates limitations for digital marketing strategies.

Key events related to Smart & Connected occurring within the Middle East and Africa

Key events



In late 2017, Costa Coffee began testing drone delivery services in Dubai with delivery times of 15 minutes, highlighting the potential for technology address demands for convenience².



MENA brands are becoming aware that due to the European Union's GDPR, compliance auditing may have to become a reality for companies who do business with the EU³.



Uganda's Parliament has approved a tax on social media usage of UGX200 (\$0.05) a day to curb the spread of online gossip. Others argue that it is a way of restricting critical comments about the government⁴.

Key events



Oracle hosted its "Chatbot Week Africa" in various countries including Kenya and Ghana to drive awareness of chatbots and how they can be used to elevate offerings in different industries⁵.



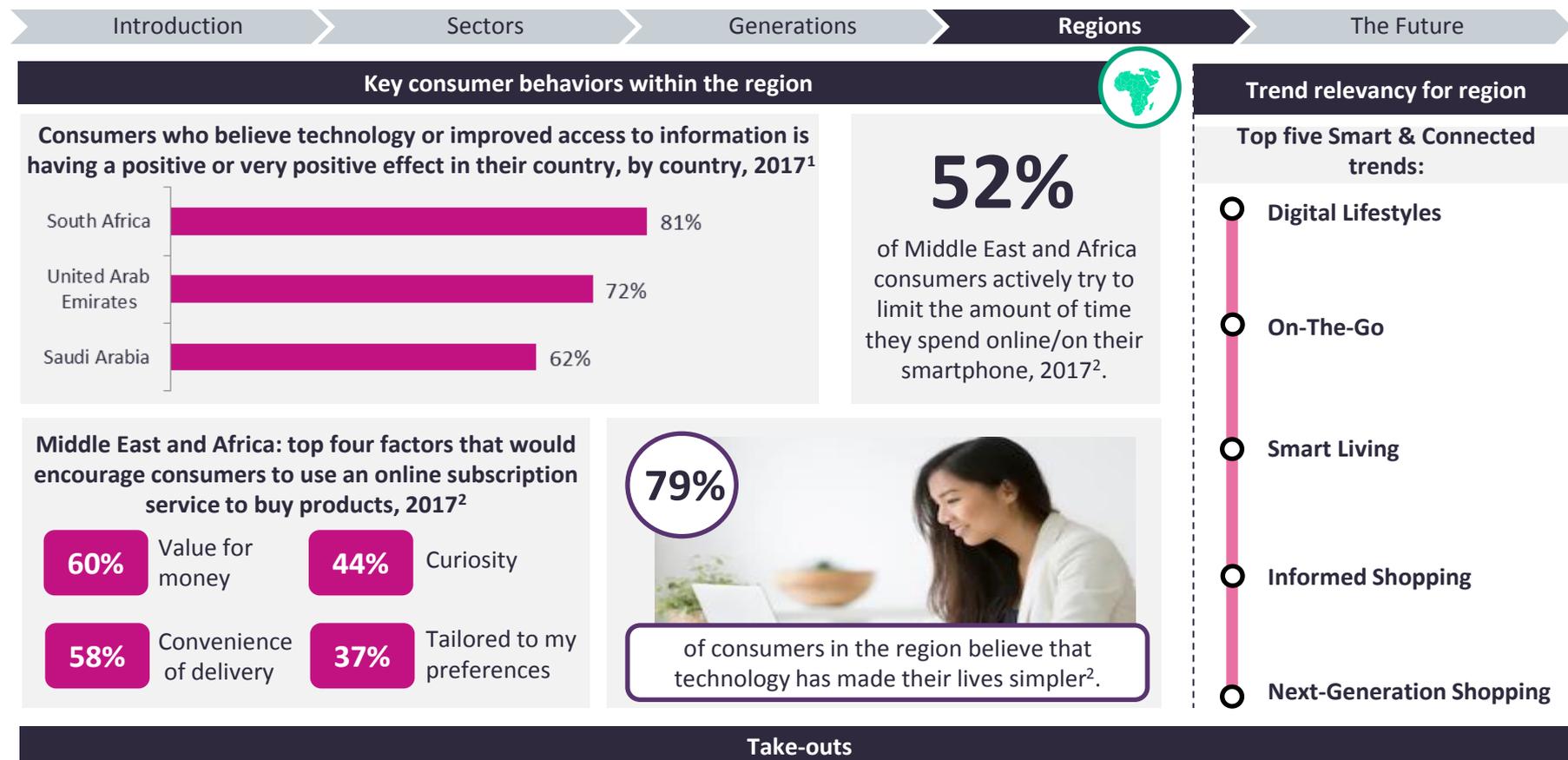
Technology hubs are to be formed in South Africa to connect businesses in the UK with those in emerging digital markets⁶.



Several Gulf nations are leading the 5G wireless network transition, with Saudi Arabia being the first to test a 5G network in one of its cities⁷.

Focus on the Middle East and Africa

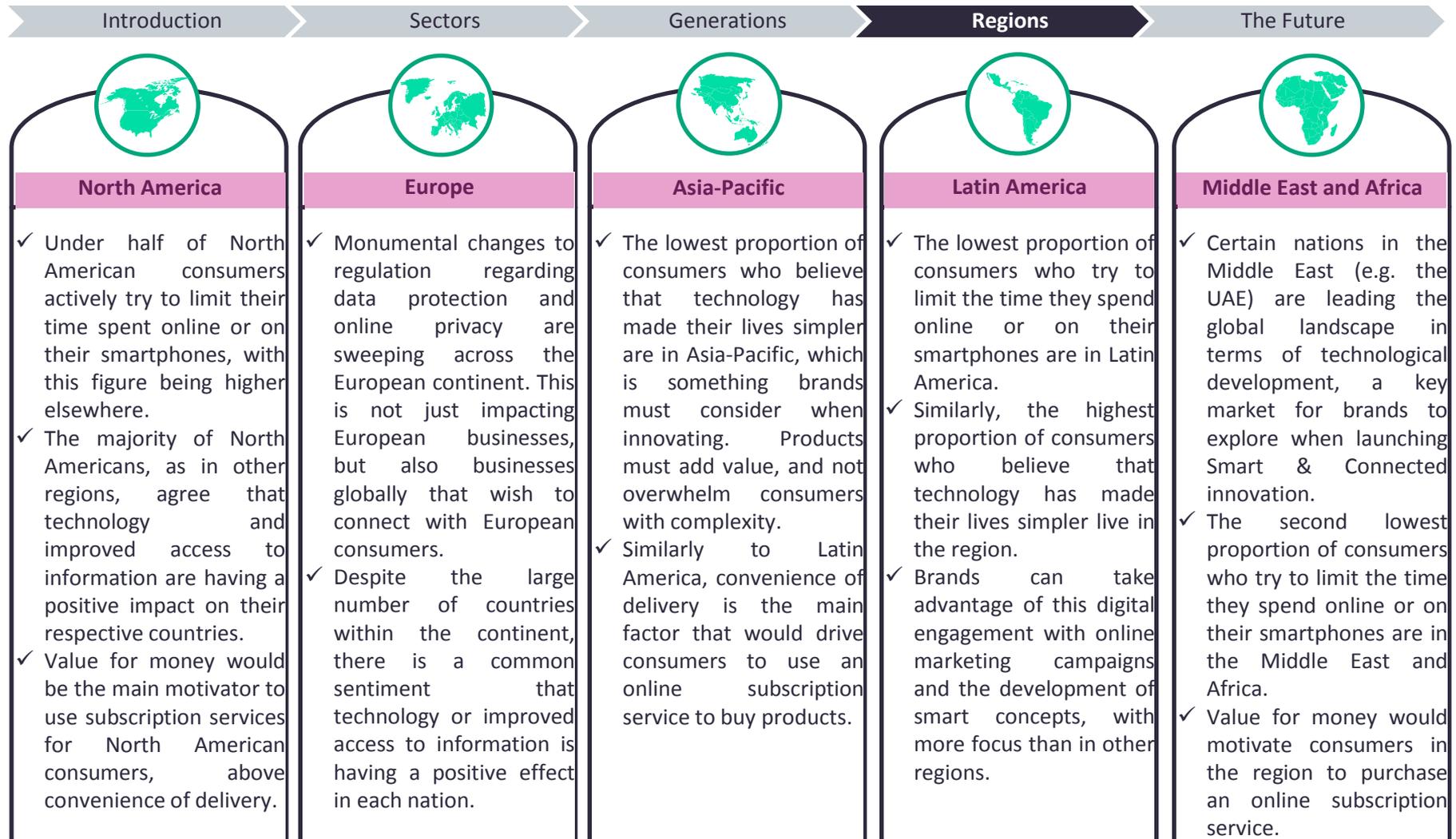
Exploring the impact of the Smart & Connected mega-trend in the Middle East and Africa



- The majority of consumers in the Middle East and Africa believe that technology has had a positive effect in their country, with South African consumers leading this sentiment. Similarly, most people in the region think that technology has made their lives simpler, while value for money is the main motivator for Middle East and Africa consumers to purchase an online subscription service. This highlights ample opportunities for brands to innovate in line with the Smart & Connected mega-trend, ensuring that value for money and convenience factors are prioritized.

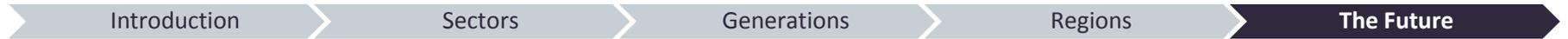
Regional Comparison

Key differences between regions



The Future: What Next for Smart & Connected?

In future, targeting the tech occasion with stress-reducing products will continue to prevail, the 3D printing revolution will increase pace, and cultured meat will become the norm



Mainstream concept



Targeting tech stress

The seamless integration of technology into everyday life, and the sometimes negative implications this can have on people's work/life balance and mental health have created ample opportunities to target the effects of digital usage on health. This includes smartphone apps that can measure the impact of digital use on mental health and even skin health.

Emerging concept



3D printing FMCG products

Advancements in 3D printing technology is enabling brands to enhance their supply chain processes and product portfolios. For example, Chanel created a 3D printed mascara brush¹, which is the first of its kind on the market. It boasts improved performance as the micro-cavities printed in the brush deliver the optimal amount of product for application.

Future concept

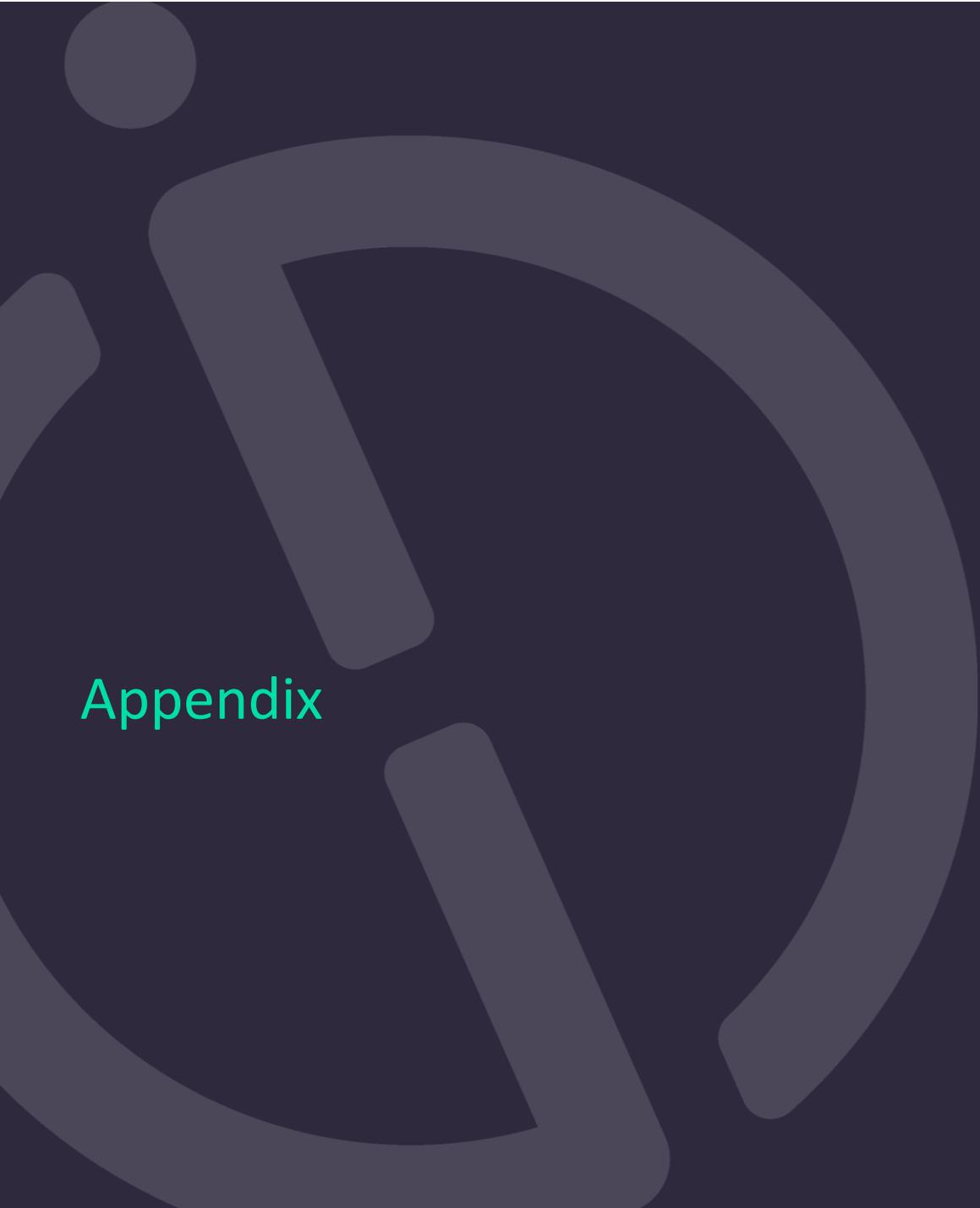


Cultured meat to become the norm

Cultured or "lab-grown" meat has been a hot topic recently, as many believe that it has the potential to solve some environmental challenges that are facing the food industry, as well as the social challenge of feeding the world's growing population. With continued research and experimentation, cultured meat can be expected to become mainstream.

Looking ahead...

The seamless integration of technology into everyday life will create new opportunities for brands to target the Smart & Connected consumer, from the food that they eat to the beauty products that they use. Brands should embrace the tech revolution going forward, while bearing in mind the possibility of tech stress.



Appendix



Lia Neophytou, Associate Analyst

Lia joined GlobalData as an Associate Analyst in 2016. Her responsibilities include providing insightful analysis into the trends and consumer behavior catalyzing innovation across the FMCG space. Her particular areas of interest lie in the impact of consumer behavior and trends on the development of global beauty and personal care innovation, and she has been quoted in several publications including Forbes, Journal Du Net, Cosmetics Business, and Cosmetics Design Europe.

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Generation specifications

- iGeneration (Generation Z) born in 2000 or later
- Millennials (Generation Y) 1981–99
- Generation X 1966–80
- Boomers 1946–1995
- Silent Generation 1925–45 (birth years inclusive)

GlobalData at a glance

4,000 of the world's largest companies **make better and more timely decisions** thanks to our **unique data, expert analysis and innovative solutions delivered through a single platform**



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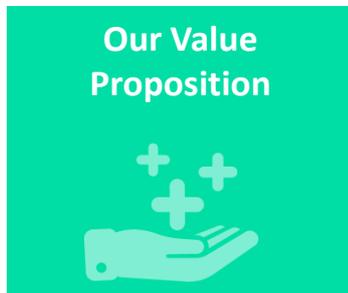
- Intelligence Center
- Consulting Services
- Reports



Our Industry Coverage

Our services cover **five primary industries** :

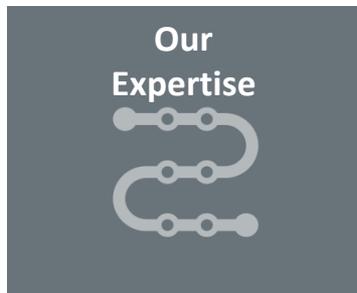
- Consumer
- Retail
- Technology
- Healthcare
- Financial Services



Our Value Proposition

We empower clients to **decode the uncertain future** they face by providing:

- Unique data
- Expert analysis
- Innovative solutions
- One platform



Our Expertise

- Market Insights
 - Market Forecasts
 - Competitive Intelligence
 - Consumer Insights
- Innovation & New Product Development
- Strategic Planning
- Marketing
- Channel and Sales Management

Our clients:



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