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ECONOMIC ANALYSIS

Technology Puts the Consumer in the Driver's Seat for Shaping Industries

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Digital technology will continue to empower consumers, granting them deeper product and pricing transparency, control over different layers of the value chain, and refinement of experiences. Survivalist mode will compel consumers to search for new ways to be frugal, facilitating the next-generation of the sharing economy. Selectionist mode will compel consumers to expand the hyper-personalization economy, the on-demand economy, and the service economy. This technology will also continue to disrupt industries, challenging them to be agile - so that they can increase the value added for the consumer - and to deliver original experiences. Industries will have to create partnership ecosystems, develop listening infrastructure, and establish trust with consumers to collect their data. That will allow companies to form a real-time feedback loop that can be used to make rapid adjustments to the products and experiences.

The face of the U.S. consumer

Who is today's consumer? According to the Bureau of Labor Statistics Consumer Expenditures Survey[1], the average consumer is a college educated 51-year-old female who identifies herself as neither Hispanic nor African American. She is a homeowner cohabitating with a domestic partner or spouse, with a car for each of them. Only one of them is a full-time earner and the household income is in the upper half of the third quintile.

Table 1. Consumers' Profile by Income Quintiles

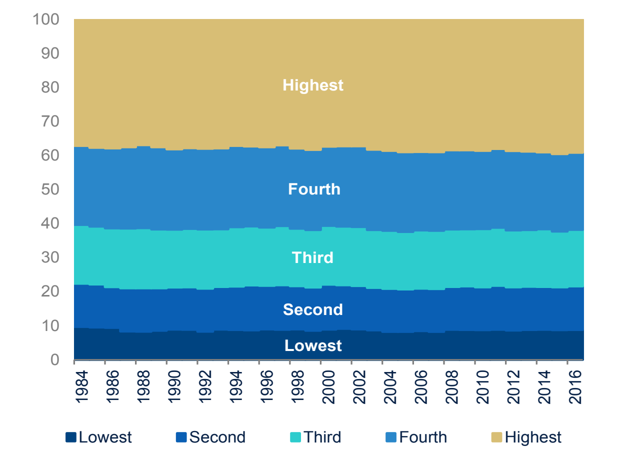
	Average	Highest	Fourth	Third	Second	Lowest
Gender	Majority Female	Majority Male	Majority Male	Majority Female	Majority Female	Overwhelmingly Female
Housing Tenure	Owner with or without Mortgage	Owner with Mortgage	Owner with Mortgage	Owner with or without Mortgage	Owner with or without Mortgage	Renter
Reference Race	Not Hispanic/Latino Not Black/African American	Not Hispanic/Latino Not Black/African American	Not Hispanic/Latino Not Black/African American	Not Hispanic/Latino Not Black/African American	Not Hispanic/Latino Not Black/African American	Not Hispanic/Latino Not Black/African American
College Education	Majority Obtained	Overwhelmingly Obtained	Overwhelmingly Obtained	Majority Obtained	Majority Obtained	Majority Did Not Obtain
Reference Age	51	49	48	50	54	54
At Least 1 Vehicle Owned/Leased	Yes	Yes	Yes	Yes	Yes	Yes
At Least 2 Earners	Majority No	Overwhelmingly Yes	Overwhelmingly Yes	Majority No	Overwhelmingly No	Overwhelmingly No
Necessities Share of Total Exp. **food, housing, transportation and health care**	69%	62%	70%	74%	76%	80%

Source: BLS & BBVA Research

1: Bureau of Labor Statistics (BLS) Consumer Expenditure Surveys, last updated August 2017 https://www.bls.gov/cex/

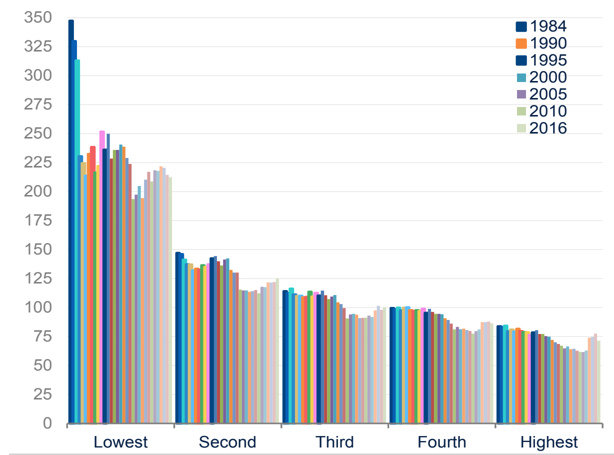
When it comes to the typical consumer, one size does not fit all. The face of the consumer changes according to income quintile. For example, the highest income quintile's typical consumer is a 49-year-old male. At the same time, despite the widening of the earning gap, the share of total consumer expenditures by each income quintile has remained steady. The households in the upper two income quintiles comprise 61% of total consumer expenditures. The lowest two quintiles account for 21% of consumer spending, while they continue to finance a large part of their spending with alternative means.

Figure 1. Share of Total Expenditures (%, income quintiles)



Source: BLS & BBVA Research

Figure 2. Expenditures Share of After Tax Income (%,income quintiles)



Source: BLS & BBVA Research

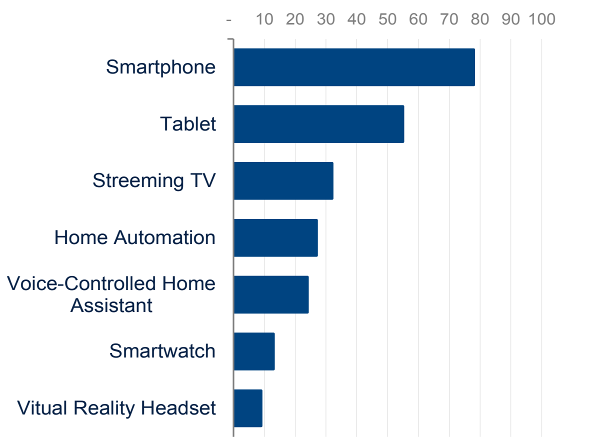
However, the socio-economic portrayal of the consumer does not provide a complete picture of the drivers behind consumption patterns and needs. The penetration of digital and information communication technologies have become an integral part of today's consumption. Regardless of age, gender, or any other demographic or socio-economic depiction, consumers today are highly connected.

- 87% of consumers own desktop, laptop, or handheld computers.
- 77% have internet service.
- 78% of consumers own a smartphone.
- 96% of consumers shop online at least occasionally.
- 65% of consumers have made a purchase by using an app on their phone.

The connectivity of consumers has given them an alternative means to shop, which will become the preferred way to shop for the majority of consumers soon. In 2017, 46% of consumers prefer to shop via a mobile device, a voice controlled device, or a desktop computer over traditional walk-in shopping in brick and mortar stores. 29% of consumers use digital channels weekly and 8% use them daily. Additionally, 19% of U.S. consumers have made a purchase through voice controlled home assistant devices while 29% shop often via a mobile app. The percentages for shopping through phone apps and voice assistants are certainly larger for younger consumers, who are much more digitally connected and are more comfortable with voice-activated devices.

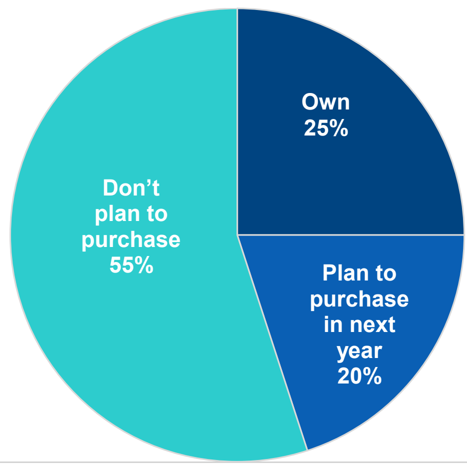
The shift of consumers towards spending via digital channels has resulted in empowered consumers. The digital means of efficient and smart shopping has given them greater price and quality transparency along with convenient fulfillment options.

Figure 3. Consumers' Device Ownership (%)



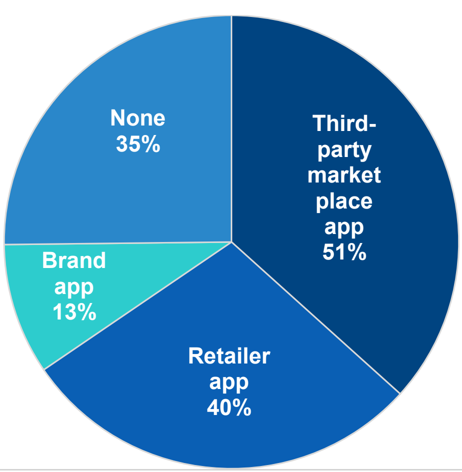
Source: Walker Sands Future of Retail 2017 Survey & BBVA Research

Figure 4. Ownership of Voice-Activated Devices (%)



Source: Walker Sands Future of Retail 2017 Survey & BBVA Research

Figure 5. Retail Apps on Mobile Devices (%)



Source: Walker Sands Future of Retail 2017 Survey & BBVA Research

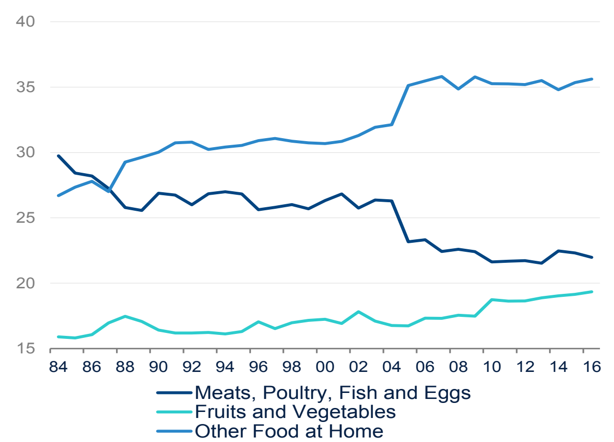
Figure 6. Drivers Behind Mobile App Purchase (%)

Source: Walker Sands Future of Retail 2017 Survey & BBVA Research

With the examination of current consumption trends, it has surfaced that the rise of digital consumption and the demographic shift, specifically aging, have a stronger impact on consumers' expenditure patterns than their income brackets. Spending patterns are quite similar across all income quintiles with most of the budget devoted to the necessities. Yet when compared to consumers of the 1980s, today's consumers across all income quintiles are spending a larger portion of their expenditures on housing and health care. They are also spending a lower portion on transportation, food, and apparel.

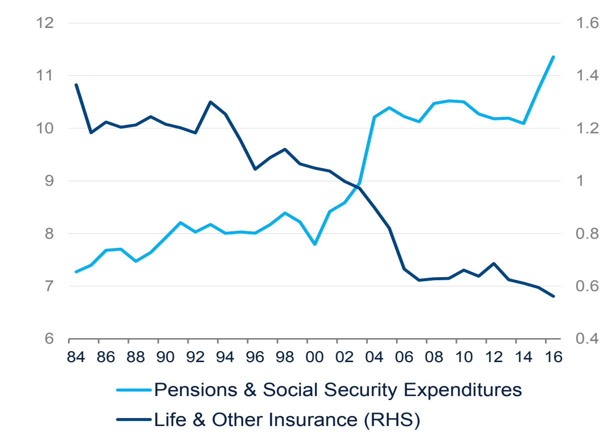
On average, typical consumers today spend 2.4% more on housing compared to what they spent in the 1980s. This is due in large part to a rise in both home ownership and in rental expenditures. They also spend 2.7% more on health care as a share of the household's total expenditures, driven by an increase in expenditures on health insurance. There has also been a 2.4% increase in the share of expenditures on personal insurance and pensions. Pensions and social security expenditures, including deposits to retirement plans, have risen from 4.1% in 1984 to 11.4% in 2016 as a share of total expenditures, while life and other insurance expenditures have declined.

Figure 7. Share of Food Expenditures (%)



Source: BLS & BBVA Research

Figure 8. Share of Total Expenditures (%)



Source: BLS & BBVA Research

The share of total consumer expenditures on food has decreased by 2.0% due to lower spending on meat, poultry, fish, and egg consumption. The share of expenditures on transportation has also decreased by 3%, which is due to lower spending on new cars and trucks. The share of expenses on apparel saw a similar 3% decline, reflecting lower spending on both women's and men's apparel.

Consumption segments of the next decade

The shifts in expenditure patterns over the last two decades confirms that digitally empowered consumers across all income brackets embraced two consumption modes– **survivalist** and **selectionist**.[2]

Survivalist mode compels consumers to turn into value consumers who are looking to stretch their budget and are eager to trade down on expensive brands for cheaper brands, as well as to replace ownership consumption with access-based

2: Medeiros, A., Lauster, S., Veldhoen, S. and Soundararajan R. (2017)

consumption. The settled decline in the share of expenditures spent on food, transportation, and apparel are vivid examples of consumers' survivalist mode decision-making.

The shift to the sharing economy and to value retailers is long lasting. Studies find that the main motives for consumers to participate in the sharing economy are self-oriented motivations, economic motives, environmental and moral concerns, the desire to be more a part of a social community, and an interest in reducing risks and responsibilities.[3]

2016 Consumer Sentiment Survey reports that most consumers in North America who trade down do not regret it and are satisfied with less-expensive alternatives. Moreover, 60% of consumers who did not trade down have purchased their preferred brand at a lower price by waiting for a sale, using a coupon, or by searching in different stores.[4] Similarly, consumer goods studies identify a shift in U.S. to value retailers such as Aldi, Lidl, Sam's, and Costco.[5] Numerous articles on U.S. retail sales highlight the fact that shoppers are flocking to off-price retailers such as T.J.Max and Ross, as well as to online outlets that offer lower prices with the benefit of the greater convenience of "sofa-shopping."

While survivalist mode is mainly an effect of the growing number of retirees, it is also strongly associated with millennials, many of whom are saddled with a load of college debt.

Selectionist mode compels consumers to be choosy and to "select" those products that they perceive to be "for me" products. "For me" products are thought of as being of much higher quality and are customized to consumers' individual needs. Surveyed consumers associate personal care products, fresh produce, and alcohol - specifically wine - as "for me" product categories and are eager to pay a premium in these categories. Selectionist mode is also strongly in effect in stores that provide a personalized experience for their select group of customers. A 2017 consumer goods study indicates that when in selectionist mode, consumers flock to:[6]

- Namesake stores with brands that are associated with high quality products;
- "For me" personalized services. For example, the cosmetics store Lush offers all natural, handmade cosmetics, massages, a display of scents, and customized shopping
- Stores known for personalized shopping experiences, such as Apple and the athletic wear store Lululemon

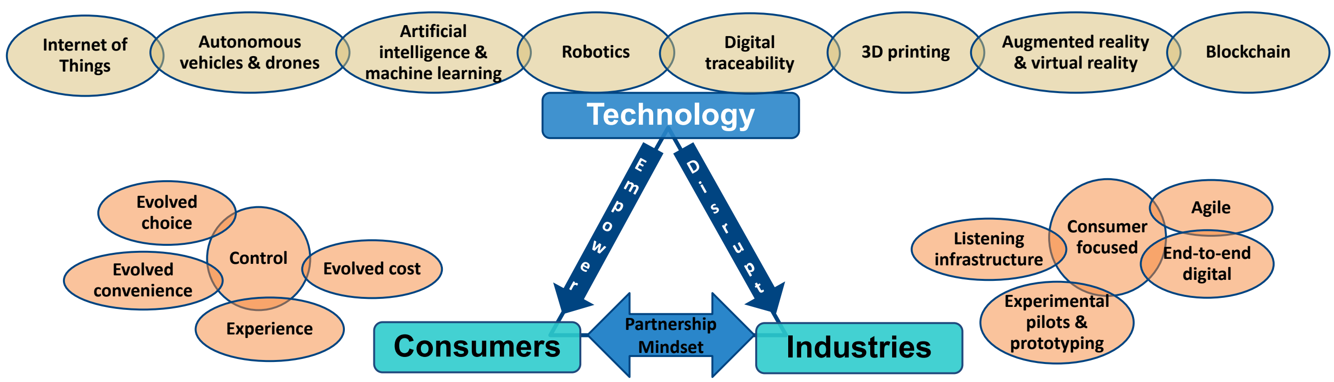
Thus while the shares of each income quintile have remained historically steady, the digitally equipped consumer, driven by demographic shifts has been "rebalancing the budget" for the last two decades. Consumers across each income bracket have been trading down in product categories where they do not have a favorite brand, where they do not find quality differentiation between high-end and cheaper brands, or where preferred brand names are available on discount. At the same time, consumers have been trading up in "for me" product categories where they have a strong attachment to a brand, where the high quality of the product is essential, or where they are treated to a personalized shopping experience or personalized service.

3: Bardhi and Eckhardt (2012), Habibi et al (2016)
4: McKinsey Global Consumer Sentiment Survey 2016, Magni, M., Martinez, A., and Motiwala, R. (March 2016)
5: Medeiros, A., Lauster, S., Veldhoen, S. and Soundararajan R. (2017)
6: Ibid.

Technology represents empowerment for consumers and disruption for industries

The present eight game changing technologies – the Internet of Things (IoT), autonomous vehicles (AV)/drones, robotics, artificial intelligence (AI)/machine learning, augmented reality (AR)/virtual reality (VR), digital traceability, 3D printing and blockchain, will become fully established over the next 10 years. Their ability to drive efficiency and their widespread application will continue to empower consumers, granting them deeper product and pricing transparency, control over different layers of the value chain, and further refinement of experiences. At the same time, these technologies will continue to enable innovations and disrupt industries, challenging them to be agile, to embrace new technologies so that they can increase the value added for the consumer, and to deliver original experiences.

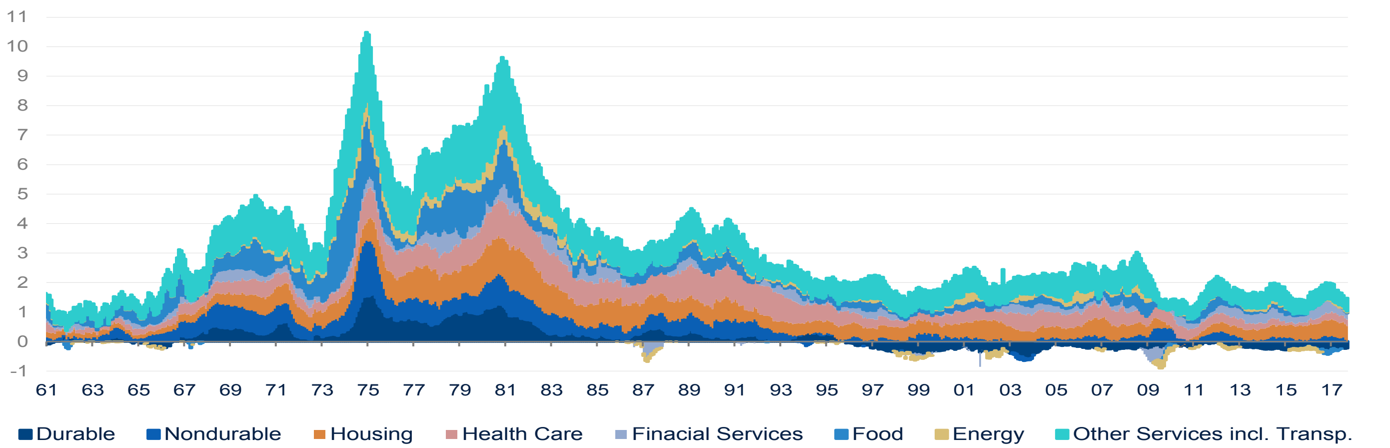
Figure 9. Technology, Consumers and Consumer Goods Industries



Source: BBVA Research

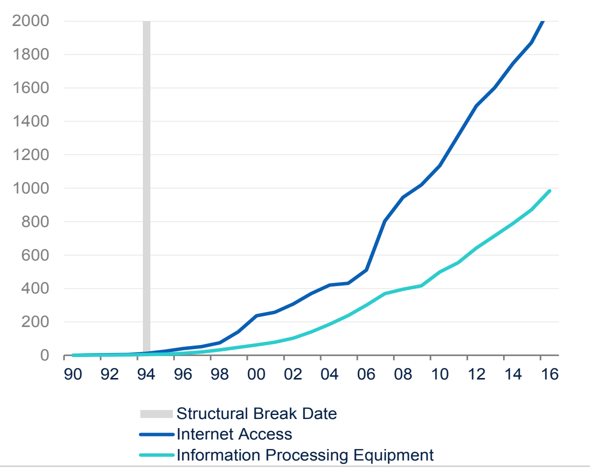
Information and communication technologies' disruptive effect on consumer goods industry is apparent when looking at the decomposition of the consumer expenditures price index by quantity and price change of each expenditures category. Durable goods have been contributing negatively, and the contribution of major service categories - as well as that of nondurable goods and food - has dramatically declined since 1994, which is the estimated date of a structural break and multifold increase in the personal consumption expenditures (PCE) quantity index of internet access and information processing equipment. The quantity index of internet access has increased by over 2,000 times, and information processing equipment has increased almost 1,000 times since 1990, compared to the aggregate PCE quantity index only doubling in the same time frame. Testing over 75 series of PCE quantity indices by expenditure type for structural breaks identified several categories of expenditures with structural break in the years 1993-1994 that have benefited from a pick-up in computer technologies. These are pharmaceutical products, medical and therapeutic equipment, and appliances. Likewise, with the boom of e-commerce in 2000 there are several expenditure categories identified with a structural break in the years 2000, 2001 and 2002 that have been disrupted by emerging technological developments.

Figure 10. Personal Consumption Expenditures Decomposition (%)



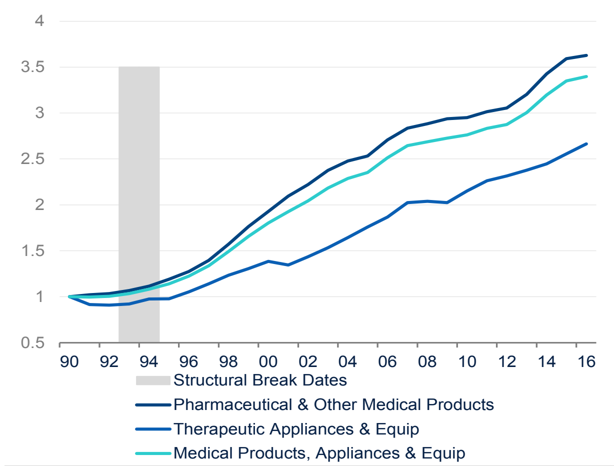
Source: BEA & BBVA Research

Figure 11. Personal Consumption Expenditures' Quantity Index Cumulative Growth Relative to 1990 (%, 1990=1)



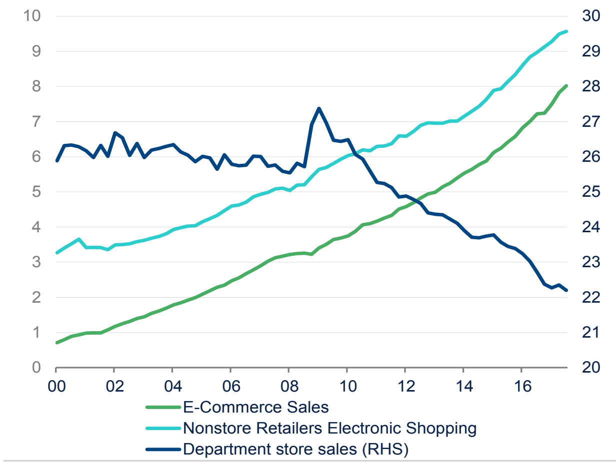
Source: BEA & BBVA Research

Figure 12. Personal Consumption Expenditures' Quantity Index Cumulative Growth Relative to 1990 (%, 1990=1)



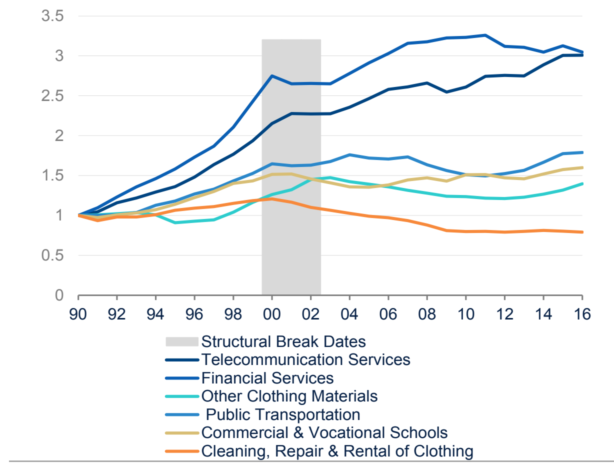
Source: BEA & BBVA Research

Figure 13. Share of Total Retail Sales (%, 1990=100)



Source: Census Bureau & BBVA Research

Figure 14. Personal Consumption Expenditures' Quantity Index Cumulative Growth Relative to 1990 (%, 1990=1)



Source: BEA & BBVA Research

The consumers of the future are similar to those of today, but are rapidly evolving

The intensification of digital transformation will continue to empower consumers. While presently, digitization, connectivity and automation have already become an integral part of consumers' lives and shopping habits, over the medium term consumers will switch to exclusive use of smartphones and other smart-mobile devices to make purchases. The massive amount of data available and the fast processing ability emerging from the use of artificial intelligence will further enable consumers to improve their control over the industries catering to them. Consumers will ever more loudly make their voices heard on exactly what they want and how much they are willing to pay for it. They will become an integral part of product development, the means of marketing, and the delivery and packaging of products.

At the same time, the needs of consumers of the next decade will be shaped by further progression of present demographic and socio-economic trends. The future consumer will be a product of the present demographic shifts, namely the aging population and the expanding millennial culture, which should result in further shrinking of household size and in increasing urbanization. Moreover, Generation K, which is a digital native generation and which will significantly influence future customer expectations, follows the millennials. There will be a steady flow of expenditures from households in the highest two income quintiles, who can afford dedicating a bigger share of their budget towards "for me" goods and services.

Technology empowered consumers will gain more control and will transform the measure of consumers' value equation from the three dimensions of cost, choice, and convenience to the much broader five dimensions of evolved cost, evolved choice, evolved convenience, control, and experience.

Evolved Cost: A massive amount of data is available to consumers to compare prices, products, retailers, and manufacturers. In addition to being able to view regular product/service information, such as quality, fit, and sensory experience, consumers also gain insight into the social and political causes that are supported by manufacturers, service providers and/or retailers, their benevolent involvement, and their environmental standing. These factors are becoming a more important part of consumers' decisions. The consumer will continue to use the wide scope of information available to decide whether they will trade-down on goods and services and experiment with new brands and products or whether they will develop a longer-term relationship with the brand, product or service, and classify it as a "for me" product that deserves a premium price. Peer reviews and recommendations in the media and in informal peer promotion will play a crucial role in future consumers' decision-making.

Evolved Choice: The needs of consumers of the next decade will be centered on finding new ways to enhance the survivalist in them and arouse the selectionist. To satisfy their needs, consumers will make use of a much broader selection of products and services that make use of robotics, autonomous vehicles, sensors, and augmented/virtual reality.

Survivalist mode will keep consumers searching for new ways to be frugal. Consumers will further search to find niches to trade down to by buying local or accessing digital channels. Consumers will further explore and support opportunities of access-based consumption. Ownership will become less essential and the attitudes of "renting" and reliance on "used/pre-owned" goods will become increasingly socially acceptable. The youngest generation of consumers has already been seeking access to goods and skills rather than possession of them. Thus, the trend toward access-based consumption will flourish and be embraced by all since it allows for pooling of resources, reduction of waste, and withdrawal when necessary to minimize risk and responsibility.

Selectionist mode will push consumers to demand new and exciting frontiers of products and services that yield personalization and customization. The expectations will increasingly grow towards highly relevant interactions catering to consumers' individual context. In selectionist mode, aside from quality of the product, consumers will continue to demand unique and original experiences. The focus on health and wellness goods and services will also remain.

Thus, consumers' main choices will evolve around two domains:

- a choice between consumption modes: possession or access
- a choice between classification of a good as a "for me" good worthy of a premium cost or one that is not.

Evolved Convenience: The consumers' economy is turning increasingly into an "on-demand" economy where instant gratification will become the norm. Two trends will dominate the convenience definition of consumers – "cocooning" and "sofa-shopping."

- The demographic shift towards smaller household size and an increase in single-person households will also continue to support the fully domesticated life style, a trend that is called "cocooning." As such, the number of households who receive goods and services at home without the need to leave the house will continue to rise. E-commerce is expected on average to grow multifold. Consumers will continue to support take-away foods and home entertainment services. They will also demand additional services that can be conducted without the hassle of leaving the house and will expand the boundaries of the "do-it-for-me" service economy. Packaging and delivery choices will continue to expand as well, offering a variety of perishable and durable goods that can be delivered to the home.

- Enabled by the digital assistance of artificial intelligence, an increasing number of consumers are moving away from shopping on PCs to multi-screen shopping on smart TVs, mobiles, tablets and voice activated assistant devices. The “sofa –shopping” trend will advance the seamless and automated search for products and will expand the omnichannel shopping experience in which consumers have the same shopping experience regardless of the application or device they use to shop. The trend has already prompted creating the shopping experience of digital fitting rooms that blur the line between digital and in-person shopping.

Control: Consumers will categorize services and products as low-engagement or high-engagement. In the category of high-engagement products, consumers will be eager to be involved in each step of the value chain. They will expect to be involved in product design and customization, in the channels of marketing, in delivery options, and in the overall experience. Yet even for low-engagement products, consumers will desire to control and shape the purchasing journey. Consumers will make their voices heard by using social media outlets. Nevertheless, online visits and app clicks as well as online decisions regarding order and delivery options will continue to serve as data points for industries desiring to learn more about consumer preference.

Experience: Experience is defined as the collection of all interaction points that the consumer will encounter with the product, service, or supplier/retailer. It encompasses both tangible and intangible benefits for consumers from the customized experience. Experience is particularly essential for “for me” products and services, where consumers expect the product/service to deliver exquisite quality with an unforgettable experience that engages their senses. Expectations will be set on hyper-personalization of goods and services incorporating a high level of tailoring to their context, and highly relevant interactions.

Learn, adjust, and repeat – to stay in business

The providers of goods and services in the consumption industries have to adopt a sustainable “learn and adjust” strategy – learn about consumers’ tangible and intangible desires and develop the agility to successfully shape consumer experiences that will enable business competitiveness. While the concept is a familiar one, the evolved definitions embrace both the constant motion and the continuity of the processes, thereby abbreviating the time lag between the two.

Evolved learning will encompass using a consumer first mentality. It will further evolve so that in addition to understanding consumer demands and pain points, companies have also to understand the level of engagement and customization desired by consumers or the right level of personalization to offer. Most of the product space has been advancing into hyper-personalization as consumers increasingly expect highly relevant interaction and contextualization. In many product and service industries, staying ahead of consumers’ experience expectations will become a key to competitiveness.

Disruptive technologies will continue to bring benefits to companies in terms of collecting data on consumer needs and behavior. The Internet of Things, autonomous vehicles, artificial intelligence, augmented and virtual reality, and digital traceability will provide enough data to create a 360-degree view of the consumer. However, companies have to unlock the information by:

- Establishing trust to collect data will be pivotal for companies' to stay ahead in data collection and therefore in personalization and adaptation of their products. Consumers will need to be assured of data security and privacy before they opt in to data sharing. They will also look for direct incentives to share personal data. Companies will have to carry the image of trust and security at all times. The data collection and sharing will need to be transparent for consumers to feel confident and comfortable to opt in. Additionally, companies will have to be creative in providing tangible incentives to consumers in exchange for data.

- Developing a "listening infrastructure," an infrastructure that will be able to collect real-time feedback from consumers along their journey as a customer. The listening infrastructure is essential for any industry but is of particular importance for industries that have a higher degree of separation from their customers. This effort should exceed text recognition and other models applied to social media and other online communities. It should incorporate development of metrics dashboards linked to a real-time feedback loop that will allow companies to make necessary adjustments to the product or service. Industries will gain the ability to remain dynamic and sensitive to ever-changing consumers' expectations. Industries will be able to monitor real-time consumers' responsiveness to marketing campaigns and context changes.[7]

- Create "experimental pilots," such pilots can answer directly many questions about what kind of relationship to expect between consumer and product. It can help companies observe new consumption experiences and new engagement levels with their products. The experimental pilots will become essential for industries whose business model revolves around continuous innovation and prototyping to understand the adjustments needed to each version of the product.[8]

Overall, embedded partnership models that create direct consumer involvement in the value chain will allow companies to stay ahead of digitally enabled consumer expectations. The partnership mindset should become the essential part of retail businesses that revolve around the consumer, offering hyper-personalization and unique experiences to stay competitive.

Fitness to adjust, the ability of companies to be agile in responding to ever-changing consumer preferences and in outpacing consumers expectations, will determine their success. Agility will require companies to successfully incorporate disruptive technologies through the value chain. They will have to become operationally efficient and effective and operate in an end-to-end digital environment so that their revenue models can keep up with a quickly changing consumer environment. For many consumer goods industries, this will mean successfully resolving the present issues of minimizing

7: World Economic Forum (2016)
8: Ibid.

idle physical retail spaces, dealing with data privacy and security issues, and enhancement of omnichannel strategies for sales.

However, in the next decade agility will impose additional requirements on companies:

- Companies' product development philosophy should "shift from designing one product or service for many to designing many experiences for one."[9] It will require companies to make advancements in traditional methods of customer research on design thinking in order to gain a more profound understanding of consumer emotional needs and context.

- Companies will have to form intra-industry and extra-industry ecosystems that will help them stay ahead of ever changing consumer expectations and to deliver enhanced products and a variety of experiences to individual consumers.

- In order for companies to keep pace with and adapt to a rapidly changing consumer expectations environment, they will have to adopt prototyping as one of their key competitive strategies. Prototyping will allow companies to bring to market consumer-led ideas quickly – even if the product or service is not completely to their liking –to test the product with consumers and to improve on it based on consumer feedback.

The partnership mindset is the road to success

Within the next decade, mobile devices will become the device of choice for shopping, and consumers will demand a seamless omnichannel experience. The multifold increase in e-commerce will continue to distort the line between retailers and manufacturers. Industries will compete for the consumer's screen time and will have to offer unique and personalized experiences to retain customers. Yet consumers routinely will expect relevant and contextualized interactions. They will also expect to gain some control over different layers of the value chain. Thus, Industries have to keep learning and adjusting to respond to ever-changing consumer preferences and to stay ahead of consumer expectations. The ability of companies to deliver original experiences and to be agile and creative in increasing the value added for the consumer will boost their competitiveness. Thus, industries should embrace partnership models that create direct consumer involvement in the value chain and form ecosystems to stay ahead of consumer expectations.

In the next decade, sustainable solutions will be established for data ownership, data security, and the subsequent regulatory environment. The ownership of consumer data will be the determinant of success for companies, but that ownership will likely be disproportionally distributed and could prompt natural monopolies. At the same time, data privacy and security will be the key to earning consumer trust. Thus, successful industries will have to learn to monetize data without risking consumer confidence. Overall, the maintenance of intra-industry and extra-industry ecosystems, and a solid, incentive-based partnership with consumers will determine companies' success.

9: Ibid.

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