3

Perceived Quality: Does Performance Matter?

Chapter Overview

In this chapter, we examine changes in consumer perceptions of the quality of the goods and services provided by companies in the U.S. economy over the last 25 years. Included is a comparison of industries that perform well and poorly on quality, and the changes in those industries over the last decade. We next examine the predominant role of quality in driving customer satisfaction, over and above pricing and consumer perceptions of value. We then proceed to a discussion of two perspectives on what constitutes "quality"—reliability and customizability—and why the latter dominates the former as a predictor of customer satisfaction in today's economy. The chapter closes by examining the prospects for continuing gains in satisfaction in the absence of improved quality.

Key Conclusions

- Over the past quarter-century, consumer perceptions of the quality of economic output in the U.S. have improved, but only very slightly, and far less than one might assume.
- In general, durable and nondurable goods manufacturers tend to provide the highest quality to customers, compared with other industries, though quality with commercial airlines has actually improved the most over the past ten years.
- Contrary to the perceptions of many marketers, quality trumps price and value as an influencing factor on customer satisfaction across almost all industries and sectors of the economy.

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- The modern economy is a "mass customization" economy, and thus customer satisfaction is more sensitive to the "personalizability" of goods and services than to their reliability.

3.1 Has Quality Improved?

The last half of the twentieth century saw companies and national economies as a whole focusing more than ever on quality and quality management. This focus came first in manufacturing, production processes, and product quality, and soon thereafter turned to less tangible consumer experiences and customer service quality. Systems and programs like total quality management (TQM), six sigma, and ISO 9000 were (and in some cases, still are) viewed as essential to the financial success of individual firms, to maintaining a healthy domestic economy, and to competing effectively in the global marketplace. The idea that the job of the firm is to "build a great product or service" that the consumer actually wants, rather than forcing suppliers to manipulate demand and attempt to lure customers via pricing, advertising, or creative marketing efforts, is now widely accepted.[1] Most business professionals would say that this level of customer orientation has become widely adopted across most industries.

In addition to these quality improvement programs and the movements they have inspired, the latter part of the twentieth century and the beginning of the twenty-first century also coincide with the dawn of the Information Age and its most recognizable component, the internet. As we discussed in Chap. 1, the internet and related technologies have undoubtedly produced massive changes to the economy, including many that would become synonymous with (or were at least believed to make possible) the improved quality of goods and services across the economy. The ease and efficiency of communications both within companies (e.g., between functional business units, like engineers and marketers) and between companies and their customers (creating new feedback loops beneficial to problem identification) would create opportunities for significant enhancements to both productivity and product quality. The still-developing "Internet of Things (IoT)," enabling seamless connectivity and real-time performance monitoring within production processes, including all phases of the heavily globalized supply chains, promises to further minimize product defects and failures.[2] These same new communication efficiencies, alongside the many related innovations to service (and self-service) via automation and the mining of "big data," would seem to make the delivery of services faster, more efficient, and (potentially) less error prone.

But have these "technology" phenomena resulted in demonstrably better quality of products and services delivered to consumers? Has quality actually improved over the last 25 years? The obvious answer would seem to be yes. Today our phones are wireless, faster, and have much more functionality. We have more television channels and radio stations. Our cars and household appliances are digital and far more efficient. And, we seem to be able to receive faster service from all types of businesses via the internet. Given these advances, we might assume that most consumers also perceive that the goods and services today are of substantially higher quality than they were 25 years ago.

Yet, as we reviewed in Chap. 1, ACSI measures quality not from the perspective of the engineer, the marketing director, or the CEO, but rather from the perspective of the consumer, the final and most important arbiter (at least in a free market economy where consumers have choice and the ability to switch) of the performance of goods and services. And the perceptions of the average consumer do not necessarily mirror those of the engineer or others who may recall a product or service prior to the technological advances that have "changed everything." Likewise, if consumers do not perceive these changes as quality enhancements, either for a particular firm or for the economy as a whole, then the desired outcomes of stronger quality—including elevated customer satisfaction and customer loyalty—may also have failed to materialize. The key is that quality has improved but quality assessments in the minds of the customers are relative to expectations and relative to the alternatives (e.g., today's wireless phones vs. the phone patented by Alexander Graham Bell in 1876). Few customers benchmark the quality of their cars against a 1908 version of a Ford Model T. They perceive the quality relative to today's options in the global marketplace and their expectations. Customers' perceptions, in this regard, also build in a time effect; have companies delivered on the quality expected given the evolution of the marketplace?

According to ACSI data, aggregate national consumer *perceptions* of quality have improved over the last 25 years, but only very slightly. Figure 3.1 shows data for national customer perceptions of quality across all major consumer sectors and industries in the U.S. economy between 1994 and 2017. In 1994, during the first year of ACSI measurement, customer perceptions of quality debuted with a score of 80.2. After falling precipitously between 1994 and 1997, to an all-time low of 77.3, quality increased gradually and consistently until 2013, when it peaked at 81.7. Over the ensuing three years, quality has slipped again; in the most recent year of measurement, 2017, overall consumer perceptions of quality rested at 80.5. This is also a period in which global efficiency (i.e., cross-border trade relative to world production) slipped some. All told, the perceived-quality metric has gained only 0.3 points or

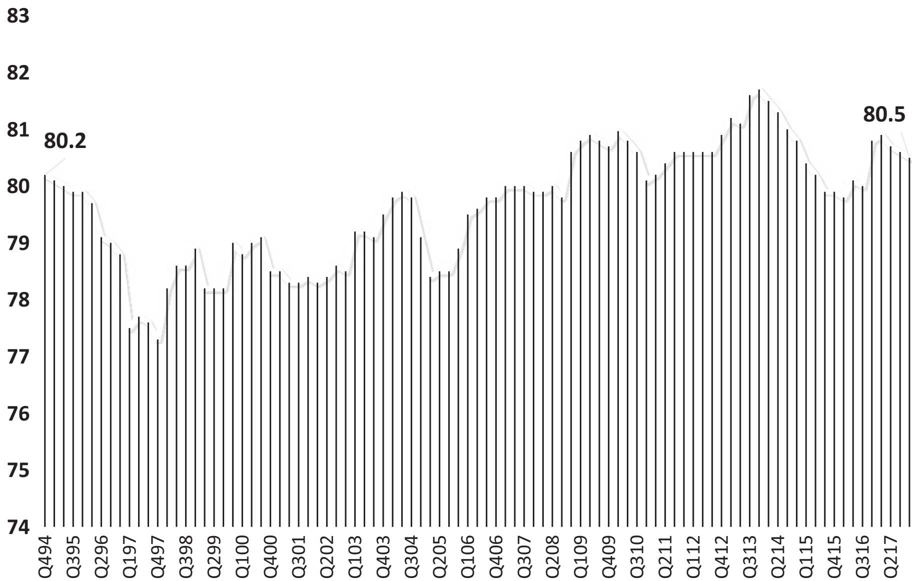

Fig. 3.1 National perceived quality, 1994–2017. (Source: Authors' creation from American Customer Satisfaction Index data and methods)

0.4% over the past 25 years, a statistically significant but marginal improvement, and certainly not representative of a major change in consumer perceptions of quality delivered in the economy. Basically, companies have kept up with the quality improvements in goods and services expected by customers in the global marketplace, relatively speaking not more and not less.

Let us elaborate on this time-dependent quality phenomenon and especially perceptions of quality. Why are American consumers' perceptions of quality virtually unchanged over the past 25 years? To ask the question more pointedly, how can it possibly be that consumers perceive roughly equal quality now as in 1994, given the undeniably dramatic changes and innovations in the economy since that time? A few explanations for this phenomenon are worth considering, some mentioned already and some not so clear-cut or obvious.

First, much of what is often perceived as "better quality" is identified as such by comparing current goods and services to those produced in earlier eras. But not all consumers have this perspective, and the data we are examining here is not "panel data" of the same consumers interviewed in 1994 and again throughout the years. Rather, it is an evolving random sample of all active American consumers (as we described in Chap. 1). So, for example, the roughly 80 million Millennial consumers who were born between 1981 and 1998 are now adults and part of the largest generational cohort in the U.S., representing

more than one quarter of the nation's population. Yet no Millennials were adult consumers in 1994, as the oldest members of the Millennial group did not reach adulthood until 1999. As such, virtually no Millennial consumers perceive the current quality of goods and services relative to a time before the Information Age fundamentally changed the economy, at least not based on direct experience as adult consumers. Therefore, current aggregate consumer perceptions of quality will not impound much of this sort of comparative reference to the quality delivered in earlier eras, at least not among a huge proportion of the most active and important consumers today.

Additionally, while the internet has undeniably revolutionized communication in a way that enhances efficiency in both directions—almost always for companies and very often for consumers as well—it also seems to have produced some negative effects on customer service and consumer experiences. Ironically, these negative effects are felt most potently by those consumers—in the Baby Boomer and Generation X cohorts—who *do* remember pre-internet consumerism. More specifically, the internet has been argued to have produced a "dehumanizing" effect on customer service that many consumers have been forced, unhappily, to accept.[3] Automated telephone systems, email communication, "virtual chat" customer support, and so forth have almost completely replaced human-to-human customer service for many large firms. Likewise, internet retail has further limited human interaction for a substantial portion of consumer activity and spending. But what many consumers seem to want, and especially many older consumers, is to speak to a human when comparing goods and services, placing an order, asking a question, or lodging a complaint. These types of interactions are now harder—if not totally impossible—to find. So, while contemporary customer service may be more efficient, it may not create the kinds of experiences that lead to perceptions of higher quality among some consumers and may actually be having the opposite effect for many of them.[4]

A final question remains: If consumer perceptions of quality are basically unchanged over the past 25 years, then how has customer satisfaction increased, as we briefly discussed in the last chapter? After all, quality tends to be the single most important driver of customer satisfaction, and as we pointed out in Chap. 2, both customer expectations and customer satisfaction have increased similarly and significantly over this period. So, if quality is largely unchanged, how has aggregate customer satisfaction improved? In the next chapter, we will examine customer perceptions of value—defined in the ACSI data as the ratio of perceived quality to price perceptions—and show that it, far more so than quality or customer expectations, has driven increased satisfaction over the last 25 years. In that context, we will discuss whether this

trend is sustainable over the long term, with companies continuing to offer more satisfaction to consumers primarily via better value, rather than quality. We will also explore the opportunities this opens for companies to beat competitors via quality improvements.

3.2 Quality Leaders and Losers

As we pointed out in Chap. 2 when discussing customer expectations, it is far too common for business and marketing professionals to assume that factors impacting consumer experiences and perceptions in one industry apply equally to all industries. Absent data to suggest otherwise, trends in one industry are far too often assumed to apply to all industries. Yet in reality, industries tend to be differentiated, not only in the types of goods and services provided to customers, but also in how these different goods and services are provided. Given this, it is necessary here to ask as well: Is quality equally high or low, and is it moving in the same direction and at the same magnitude, across all of the many and varied consumer industries? Table 3.1 below shows overall consumer perceptions of quality scores for all of the industries measured in ACSI, ranked from highest to lowest, and with the change (and growth rank) in scores over the last ten years. Over this period, national-level perceptions of quality actually declined slightly (−0.1%).

As we see in Table 3.1, two manufacturing-nondurable goods industries lead in consumer perceptions of overall quality—beer brewers and soft drinks—with scores of 87. Two more manufacturing industries, one in durable goods and another in nondurables—televisions and video players and personal care products, respectively—tie at second with scores of 86. All told, six of the ten highest-quality-producing industries are producers of physical goods rather than service providers, a common result in ACSI data since the project's inception. This is the case for a variety of reasons. In the first instance, when measuring quality in manufacturing industries where only product quality is under the direct control of the supplying company—including the top-performing beer, soft drinks, televisions and video players, and personal care products industries, which are mostly sold by the manufacturer to a large number of retailers who then provide most or all of the pre- and post-consumption "service"—ACSI is only measuring consumer perceptions of the goods themselves, and not the services. As such, the consumer is asked to rate only the quality of the product, not the retail experience through which it was purchased, and all of the aforementioned manufacturing goods tend to be produced via highly regulated, meticulously monitored production processes that limit defects.

Table 3.1 Industry quality perceptions, ten-year changes, and growth rank

Sector	Industry	Overall quality 2017 (0–100)	Ten-year change (%)	Growth rank
Manufacturing-nondurables	Breweries	87	−2	24
Manufacturing-nondurables	Soft drinks	87	−4	40
Manufacturing-durables	Televisions & video players	86	−2	26
Manufacturing-nondurables	Personal care products	86	−3	34
Retail trade	Internet retail	85	−1	19
Manufacturing-nondurables	Food processing	85	−3	35
Finance & insurance	Banks	84	8	5
Finance & insurance	Credit unions	84	−2	27
Manufacturing-durables	Automobiles & light vehicles	84	−5	41
Telecommunications & information	Computer software	83	9	2
Accommodation & food services	Limited service restaurants	83	8	4
Retail trade	Specialty retail stores	83	6	6
Accommodation & food services	Full service restaurants	83	1	15
Finance & insurance	Property & casualty insurance	83	−2	28
Manufacturing-nondurables	Apparel	83	−3	36
Manufacturing-durables	Household appliances	83	−3	37
Transportation & warehousing	Consumer shipping	83	−7	42
Retail trade	Supermarkets	82	4	10
Manufacturing-durables	Wireless telephones	82	4	11
Accommodation & food services	Internet travel services	82	3	13
Retail trade	Health & personal care stores	82	0	16
Manufacturing-nondurables	Athletic shoes	82	−2	29
Finance & insurance	Internet investment services	81	3	12
Energy utilities	Municipal utilities	81	1	14
Finance & insurance	Life insurance	81	−2	30
Health care & social assistance	Ambulatory care	81	−4	38
Energy utilities	Cooperative utilities	81	−7	43
Manufacturing-durables	Personal computers	80	0	17

(*continued*)

Table 3.1 (continued)

Sector	Industry	Overall quality 2017 (0–100)	Ten-year change (%)	Growth rank
Accommodation & food services	Hotels	80	−1	20
Energy utilities	Investor-owned utilities	80	−2	31
Health care & social assistance	Hospitals	80	−2	32
Retail trade	Gasoline stations	80	−4	39
Retail trade	Department & discount stores	79	5	9
Telecommunications & information	Wireless telephone service	78	8	3
Telecommunications & information	Internet news & opinion	78	−1	21
Telecommunications & information	Internet search engines & information	78	−7	44
Transportation & warehousing	Airlines	77	17	1
Finance & insurance	Health insurance	77	0	18
Transportation & warehousing	U.S. postal service	77	−1	22
Telecommunications & information	Fixed-line telephone	76	−3	33
Telecommunications & information	Internet social media	75	6	8
Public administration	Public administration	75	−2	25
Telecommunications & information	Subscription TV	72	6	7
Telecommunications & information	ISPs	71	−1	23

Source: Authors' creation from American Customer Satisfaction Index data and methods

Beer, soft drinks, and personal care products also share other traits as products experienced by consumers that tend to result in higher consumer perceptions of quality. They are all sold at a fairly low price point, variety is strong, competition is high, and switching is frictionless. Consumers who typically make a choice with these products at some point in their customer life cycle are able to quickly switch to another product without losing much if the product does not meet their quality needs (or quality deteriorates over time), and ultimately settle on (i.e., become loyal to) a brand or brands they like the most. In other words, most of these consumers are providing quality perceptions regarding a good they consume precisely because they find it, perhaps after some trial and error, to be of high quality and the most desirable among competitors.

Down at the bottom, two interconnected industries—both service providers—come in at the bottom in terms of perceptions of quality: internet service providers (ISPs) at 71, and subscription TV (cable and satellite services) at 72. Here too, the finding that the cable companies that often provide both TV and ISP services are not seen by their customers to provide strong service quality will probably not come as much of a surprise. These companies are notoriously unpopular with their customers, to the point that the industry is regularly used as an exemplar of poor services. Service disruptions caused by both preventable and uncontrollable phenomena, such as weather, are common. Stories of consumers waiting days or weeks for service at their residence—services often provided by "independent contractors" not directly employed by the company—are common as well. As we will discuss in each of the next two chapters, these industries have added insult to injury: poor service with dramatically higher prices and numerous mega-mergers, the latter often leading to service problems and diminished customer satisfaction.

In terms of improvements in quality over the last decade, one industry clearly stands out as the most improved, paralleling earlier results regarding changing customer expectations. Up 17.0% to a score of 77, airlines have seen the largest improvements in customer perceptions of quality, nearly doubling the improvement of the next closest industry (computer software, up 9–83%). Because the quality of commercial airlines remains in the bottom 25% of all industries in terms of overall ranking in 2017, it would be incorrect to suggest the industry now delivers "exceptional" quality. But it is vastly improved over this period. Pressure on the largest legacy carriers (e.g., Delta, United, and American Airlines) by smaller, newer companies like Southwest and JetBlue, both of which regularly provide stronger quality and satisfaction than their competitors according to customers, has seemed to lift the performance of all the carriers to more respectable levels.

The industry where quality has declined the most over this period is surprising: internet search engines and information. Consumer perceptions of quality with search engines and similar information-seeking web portals have declined 7.0% since 2008, more than any other industry measured in ACSI. Much of the quality decline is attributable to market share leader Google, which has gone from exceptional quality (and satisfaction) to merely good (and closer to average) quality. The company has focused much more on revenue growth over this period, via advertising and related monetization strategies, which seem to have disrupted the consumer experience at least to some extent. Cooperative electric utilities (−7.0%) and consumer shipping companies (such as UPS and FedEx, −7.0%) decline in quality nearly as much as internet search engines and information and show that here, too, quality levels and changes are not constant across industries.

Quality Leading and Lagging Companies

Which companies provide the highest overall quality, from the perspective of their customers? Among all of the firms measured by ACSI, three companies tie for the lead in customer perceived overall quality in the most recent data available—chocolate bar icon Hershey Foods, fast food chicken sandwich leader Chick-fil-A, and supermarket/grocery store Publix, each registering a score of 89. Coming from three very distinct industries (food processing, limited-service restaurants, and supermarkets), these three companies with very different business models, products, and services illustrate that delivering high quality to consumers need not be isolated to only a limited or a select few industries.

At the other end of the spectrum, the two companies anchoring the bottom, tied for lowest customer perceived overall quality at 62, come from the same industry and offer the same services in (roughly) the same way—Frontier Communications and Windstream Communications, both for their ISP services. While Subscription TV providers are often lambasted for their notoriously poor quality, in both customer service and product offerings, it appears that these same companies do even worse by their customers when offering them ISP services than cable TV. As new media for delivering internet services emerge, become more widely available, and gain popularity, one would expect these companies to suffer.

3.3 What Matters Most? It's Quality, Stupid

Perhaps the single most ubiquitous marketing approach (and undoubtedly also one of the oldest) is to lure new customers or secure existing customer's loyalty via price promotions. Among the four traditional "P's" of marketing (product, place, price, and promotion), "price" has long held a position of prominence for many companies, often beating out product (i.e., quality), promotion (advertising), and place (channel) as a marketing strategy. Seasonal or holiday shopping specials, limited-time price promotions, discounts or exclusive offers for new or repeat purchasers, and "going out of business" sales are an unavoidable feature of the consumer landscape, and are often very successful in driving traffic into stores, onto websites, and so on. Taken by itself, there is nothing wrong with marketing to consumers on price—assuming that sufficient attention is paid to profitability, of course—and nothing we will write here will dissuade companies from doing so in the future. But how important is price to consumers, exactly? If the manipulation of price is sufficient to both bring in new customers and keep existing customers from leaving, does a company really need to focus on any other marketing strategy or metrics when analyzing the customer experience?

Based on analysis of data from ACSI—which looks at not only performance on quality and value, but also relative importance in driving satisfaction—one

result has appeared repeatedly over the last quarter of a century, and this finding is important to any discussion of marketing strategy and competition on price: While price and the value proposition certainly matter, quality is consistently found to be a more important driver or influencing factor of customer satisfaction and customer loyalty in virtually every consumer industry. In other words, consumer perceptions of quality tend to matter more than price—somewhere between a little and a lot more, depending on the consumer industry being considered—in driving customer satisfaction, and thus propensity for the customer to return to the company (remain loyal) in the future.

There are a handful of exceptions where the consumer's perception of value matters more in terms of its impact on customer satisfaction, and these deserve mention. More precisely, of the 48 consumer industries measured in ACSI, about a half-dozen regularly show consumer perceptions of value as a more influential predictor of satisfaction than quality. To give a few examples, the list of the most value-sensitive industries includes fixed-line telephone, subscription television service, and internet service providers. These three industries are, of course, virtually interchangeable today; for many consumers, their cable TV, landline telephone, and internet service are all provided by the same company via the same delivery mechanism and paid for via the same bill. Because of the near-monopoly status of these companies in many local markets, options are limited and price is more critical to consumers. Given that prices have increased for cable TV service far above the rate of inflation since telecommunications deregulation in the mid-1990s, as exemplified by these three industries having the three lowest value perception scores among all private sector industries measured by ACSI (see Chap. 4), consumer price sensitivity as a driver of satisfaction is not surprising. Two more examples are gasoline service stations and electric utility providers, two "credence good" industries that are highly commoditized and in which perceptions of price are far easier to form than perceptions of quality. Another is credit unions, and here the preeminence of value is understandable too; while credit unions score very well on the value proposition in the eyes of consumers, they are often the choice of those seeking better rates and prices than traditional banks, thus making value a primary driver of satisfaction.

Nevertheless, for a vast majority of companies in B2C industries, consumers' perceptions of performance or quality, whether with a product or a service, are between slightly and substantially more important than value in driving the consumer's end-state satisfaction, and through it their loyalty. Most likely, this finding will make sense to experienced marketers; consumers may be drawn in by a promotion and an attractive price, but if that discounted price entails a product or service that fails to perform at a basic level

relative to competitive offerings, the customer will be unhappy and leave, or at least seek-out alternatives. In some cases, marketing primarily on price, as in the case of Walmart and its "Always Low Prices" promise, can send a signal to the marketplace that quality may be low, thereby confounding efforts to boost customer satisfaction by calling quality into question from the start. With this in mind, it is wise to remember that customers can be temporarily attracted by low prices, but enduring satisfaction and long-term loyalty is won via high quality. To stress this notion, here we are again talking about perceptions of quality relative to the times we live in, not relative to some historical benchmark (i.e., any new car of today is better than the 1908 version of a Ford Model T that we mentioned earlier, which was a great innovation at the time, but relatively speaking compared with today's cars, is the car a customer is considering of the quality expected).

In the next chapter, we will expand on the issue of "quality versus price" as a driver of customers' satisfaction. Specifically, following a discussion of the finding that improvements in satisfaction over the last 25 years have been largely value-driven, to some extent contrary to the lessons presented above, we ask whether value can continue to drive higher satisfaction. Can the economy continue to remain highly and increasingly satisfying without improving quality in the minds of consumers? Or, have consumers become more value-focused, and/or are companies so much better at providing value that quality simply matters less today?

3.4 Customization Trumps Reliability

There are many ways to define quality as it is perceived by the consumer of a good or service, and if asked, different consumers will often define quality differently. For example, the popular SERVQUAL model used to measure the service quality delivered by firms identifies five differentiated generic items and more than a dozen sub-items included in most customer service experiences (such as tangibles, reliability, empathy).[5] Similar models for measuring the quality of products tend to be even more complex, and they typically differ significantly across the type of good or product being investigated. Furthermore, consumer perceptions of quality and what constitutes quality are themselves complex and evolving. Taken together, the broadness intrinsic to the quality concept can complicate efforts to understand consumer perceptions. But intrinsic to virtually every good or service is a tension between two broad yet essential quality dimensions that sometimes complement and sometimes conflict with one another: quality as reliability and quality as customization.

Defined briefly, quality-as-reliability refers to the consumer's perception that the product or service experienced was free from observable defects, and that when consuming it nothing significant went wrong. On the other hand, quality-as-customization refers to the perception that the good or service meets consumers' particular, personal needs, or that it is appropriate to what they want as individual consumers. Thinking of quality perceptions from any consumer experience in a simplified four-box matrix form, a product (for instance) can be both highly reliable and highly customized (the optimal outcome), achieve high quality on one dimension (reliable or customizable, but not both), or exhibit low reliability and low customization (the worst outcome). Sometimes, of course, a trade-off is necessary between these two values for companies, with high reliability being chosen at the cost of lesser customizability. For example, manufacturing a highly standardized product may allow a firm to simplify and improve production processes and virtually eliminate defects, but there is an opportunity cost for the company (or the customer) in not offering customized goods, and vice versa. This begs the question: What is more important to the consumer, customization or reliability?

Basing our conclusions on the data from ACSI over the last quarter of a century, we find that in every industry measured (with almost no exceptions over time), and regardless of price structure, competitive environment, or whether the consumer is purchasing a good or a service, quality-as-customization trumps quality-as-reliability as a driver of customer satisfaction and loyalty. This result is perhaps not terribly surprising, as the past few decades have seen the principle of prioritizing customization become commonplace for companies in many industries, with most consumers now expecting that goods or services will optimally meet their unique, particular needs.

At the same time, improvements in production processes, customer service training and management, and in some cases service delivery automation have resulted in increasing levels of reliability across the board, to the point that it is often taken as a given, a basic barrier to entry into any competitive market rather than a primary driver of satisfaction. Yet regardless of the particular explanation for this phenomenon (and there are certainly others), companies must now compete first and foremost on their ability to customize for their customers. Providing a reliable product or service is important, but not as important as offering a product or service tailored to customers' unique desires. The "production-centric" era of Henry Ford, where the supplier wielded substantial power over the consumer and could often control their choice set, is long gone, and has been replaced by the customer-centric economy; customers now demand customization, and will turn elsewhere if they do not get it.

Notes

1. In a poignant comment along these lines, Amazon CEO Jeff Bezos once said: "The right way to respond to this [increased consumer power] if you are a company is to put the vast majority of your energy, attention and dollars into building a great product or service and put a smaller amount into shouting about it, marketing it."
2. For a brief review of how IoT promises to change the economy, see: "5 Areas Where The IoT is Having The Most Business Impact," *Forbes.com*, June 12, 2018.
3. For a good discussion of these trends, see: LeBret, Jabez. "Your Customer Service is Missing One Critical Piece," *Forbes.com*, March 10, 2016. Accessed online at: https://www.forbes.com/sites/jabezlebret/2016/03/10/your-customer-service-is-missing-one-critical-piece/#3801f97b3ee7
4. As we observe below when discussing industry-level changes in quality over the past decade, there is some evidence for the "product vs. service quality" divide. Three of the four biggest drops in quality among industries over this period are observed for pure service providers, with the fourth being automobiles and light vehicles, where both product and service quality are measured. ACSI does not produce national-level product and service quality variables for analysis, however, as only a smaller percentage of industries (as defined by ACSI) include both distinct product and service quality components, making sample available for analysis an issue.
5. For more on the SERVQUAL model, see: Parasuraman, A., V. A. Zeithaml and L. L. Berry (1988). "SERVQUAL: A Multi-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64(1), 12–40.

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