

# Checkout Conversion INDEX™

SNAPSHOT FOR Q1 2018

**51.0**

**Average Checkout Conversion Index (CCI) score**  
on a scale of 0 (worst) to 100 (best) for Q1 2018



**\$236 billion**

in sales is forgone due to  
checkout process friction



**82.4** **Average Index score of the top 30 merchants**

– 62 percent higher than the CCI average



**38** **Number of eTailers that scored a 75 or higher in Q1 2018**

– Top scorers excel at almost every tracked feature



**2:39 mins** **Average time to check out from online websites in Q1 2018**

– Five seconds slower than Q4 2017



**23.1** **Average number of clicks to complete online and mobile purchases in Q1 2018**

– 1.8 more than Q4 2017

# Why We Need A Checkout Conversion INDEX™

Shoppers essentially carry a shopping mall right in their front pockets in today's global online retail market. The widespread and progressively universal availability of mobile phones is revolutionizing how consumers shop, providing them with nearly constant internet access and bringing them closer to their favorite stores than ever before. In fact, **as much as 57 percent of all online traffic is generated via mobile phones and smart devices.**<sup>1</sup> Any company that does not provide a mobile-friendly website to help this massive shopper group discover its services is essentially closing its doors to a plethora of potential customers.

While it's true traditional online commercial channels like desktop websites still boast higher conversion rates than their mobile counterparts, mobile sites are quickly gaining importance. More people than ever are using their phones to make purchases, and merchants are increasingly seeking to optimize their mobile sites to ensure they are providing the most convenient shopping experience for both new and returning customers.

PYMNTS' Checkout Conversion Index (CCI) analyzes the overall user experience online retailers provide. In short, it measures the friction customers experience during their online checkout process — the time between that first and last click. The higher the CCI score, the smoother the experience.

To gain a clear understanding of how, exactly, the quickly evolving eCommerce ecosystem is adapting to mobile phone usage — and how that usage is changing the ways customers purchase

goods and services online — the PYMNTS research team identified and collected data on 676 online merchants via three commercial channels: desktop, mobile and apps. It examined 74 variables present in the purchasing process through any or all three channels, then used a calculation system which weighed features that drive sales — including payment options and free shipping, among others — in terms of importance. This data was then used to determine each merchant's unique CCI score.



<sup>1</sup> DeMers, Jayson. The 7 most important factors for mobile optimization. Forbes. 2018. <https://www.forbes.com/sites/jaysondemers/2018/04/06/the-7-most-important-factors-for-mobile-optimization/#22734fa61f25>. Accessed April 2018.

As demonstrated by our Q1 2018 dataset, many companies are taking the plunge and shifting their resources to improve their mobile sites. The number of merchants allowing customers to purchase products on their phones increased from 565 in Q2 2017 to 646 in Q1 2018, a 14.34 percent increase.

Apps for online purchasing are also increasing in popularity, though not to the same extent. The number of merchants offering their customers mobile apps increased 31.67 percent from Q2 2017 to Q1 2018. The total number of merchants offering an app is still relatively small, however, as only 158 merchants did so in this period. The app trend appears to still be in its infancy, and it will take some time before analysts can reach solid conclusions regarding its effectiveness.

All CCI scores were calculated on a scale of zero to 100. Each score considered a company's desktop and mobile channels, and also factored in its app, if one was offered.

Overall, PYMNTS identified 16 key features that had a statistically significant impact on a merchant's CCI score, along with several features that did not. The next section will discuss 12 of these features, and considers factors like checkout time that similarly impact the online shopping experience.



We are interested in your feedback on this report and where you would like us to take it over time. Please send thoughts, comments or questions to [ecommercefriction@pymnts.com](mailto:ecommercefriction@pymnts.com)

The number of merchants offering their customers mobile apps increased

**31.6%**

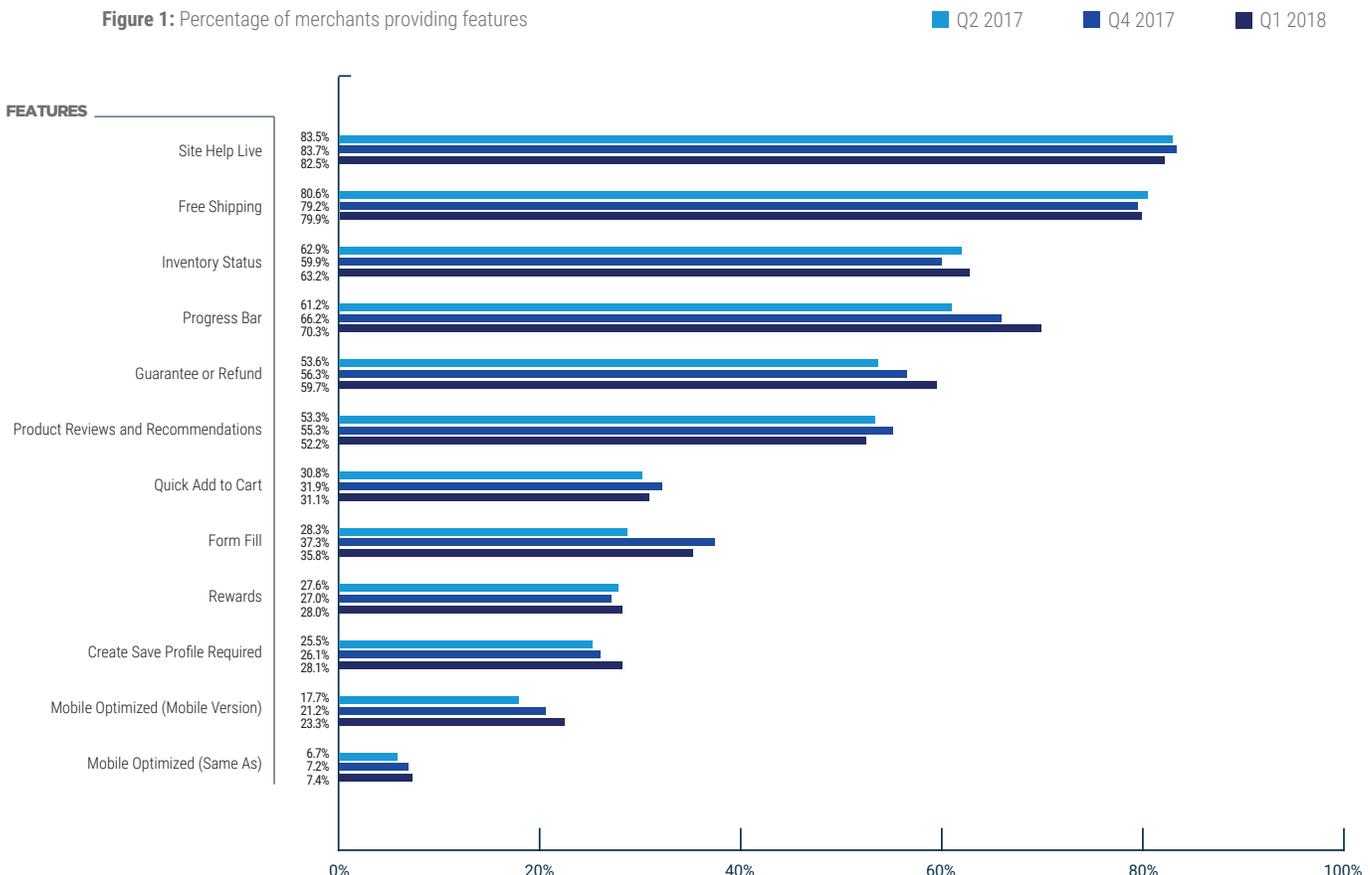
from Q2 2017 to Q1 2018.

# Where We Are In The Journey

## Feature Analysis

Of the 12 features merchants can provide to better reach their customers via the web, the most common were live site help, free shipping and inventory status, as shown in Figure 1. Some features have become less common, like status reports and guarantee or refund, and OW quick add to cart and quick form fill have yet to be widely adopted. Mobile optimization (same as), which refers to a mobile site that is identical to a standard desktop site, was negatively correlated with CCI and was the least commonly offered feature among the observed merchants. This is likely because desktop sites are notoriously difficult to navigate when rendered for mobile usage. Required profiles (create save profile required), another feature which decreased a merchant's Index score, was still offered by 26 percent, but many companies appear to be dropping it as a feature.

Figure 1: Percentage of merchants providing features



The total number of payments accepted by our sample returned to 6.48 in Q1 2018, matching Q2 2017, after dropping to 5.90 in Q4 2017.



In addition, several features did not directly impact a merchant's CCI score but did affect the checkout process, and therefore should be examined. Among these statistically insignificant checkout functions was product details, which includes information like the material used to build a product as well as the option to select a shipping address identical to a customer's billing address. The other statistically insignificant features we identified included site help lookup, shipping same as billing, security logos, feedback and required marketing option functions. These features are so widely offered that their inclusion in the checkout process was a given. As a result, they did not factor into our calculation of a merchant's CCI score.

Some features, such as the requirement of marketing options, had a negative correlation with merchants' CCI scores. It appears fewer merchants are implementing this, however, with as few as 1 percent requiring it in Q1 2018.

For a more in-depth look at how these variables impacted companies' Index scores, we cross-referenced our sample merchants' scores against four metrics to determine which checkout features played the largest role in score improvements. These four metrics, or "data cuts," included the following:



Figure 2 displays the results of this cross-referencing, along with a visualization of the overall CCI, that for desktop and that for mobile. The overall Index score has remained relatively stable since Q2 2017. The CCIs for both mobile and desktop dipped slightly between Q2 2017 and Q4 2017, but both have mostly recovered since.

Figure 2a: Index score, by performance and size

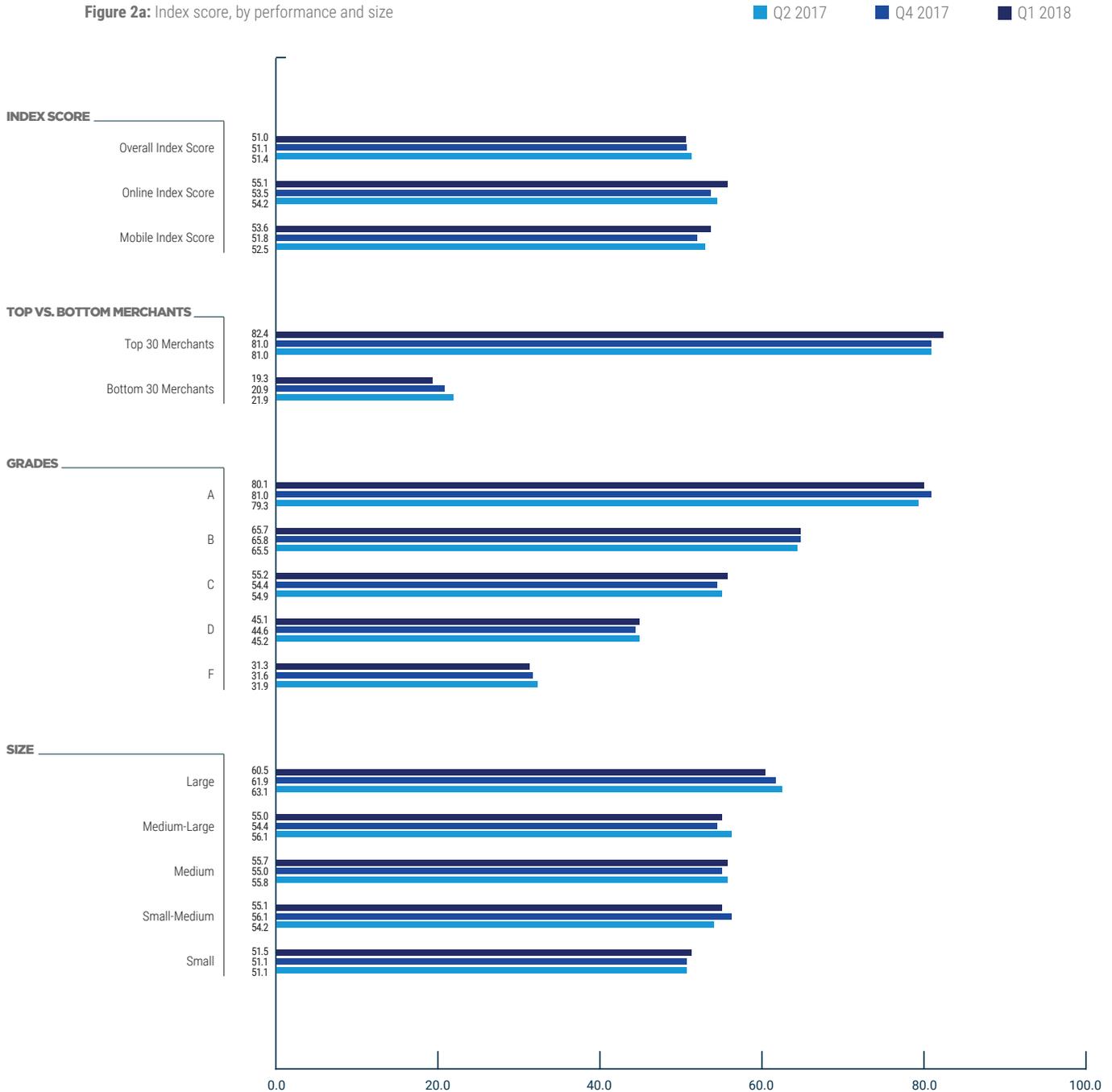
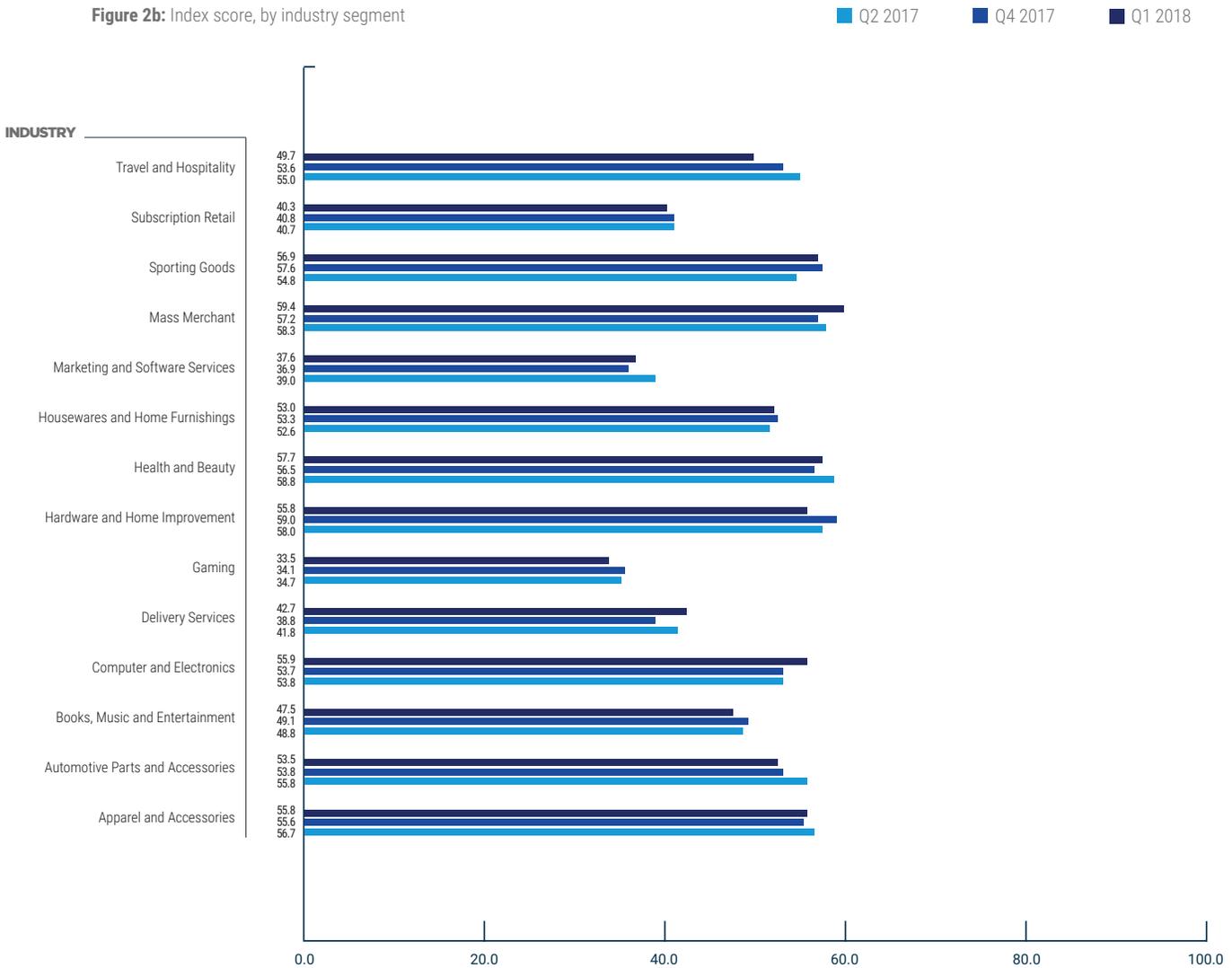


Figure 2b: Index score, by industry segment



Grouped by industry, the highest scoring companies in our sample were mass merchants with an average CCI of 59.4, followed by health and beauty at 57.7 and sporting goods at 56.9. The lowest-scoring merchants hailed from the gaming industry, which had an overall average CCI of 33.5.

To provide an idea of how these scores compared to the overall sample, we noted the 30 merchants with

the highest CCI scores averaged an impressive 82.4, and the 30 with the lowest scores achieved just 19.5. This indicates a great deal of variety in our sample's checkout procedures.

Our data painted an even more detailed CCI picture when our merchants were grouped by grade. Grade A merchants were the highest performers with the highest CCI scores, and F merchants were the worst

performers with the lowest. Only 5 percent received an A, making them exceptionally high achievers with an exceptional 80.1 average. Grade F merchants, by comparison, achieved a CCI score of just 31.3.

We also grouped our merchants according to size, with five classes in total: small, small-medium, medium, medium-large and large. The data suggests CCI and company size are positively correlated overall: the bigger the merchant, the higher the CCI. When it comes to a business' size, bigger does appear to be better.

The time spent making a purchase on a company's website also likely influences a customer's overall shopping experience, though in a very different way. Dividing merchants into categories by the aforementioned data cuts and cross-referencing them with the total time spent while purchasing revealed a completely different set of trends, as demonstrated by Figure 3. It showed that the time online shoppers spent between the first and last clicks on a merchant's desktop or mobile website remained relatively constant between Q2 2017 and Q1 2018.

Figure 3a: Index score, by checkout time

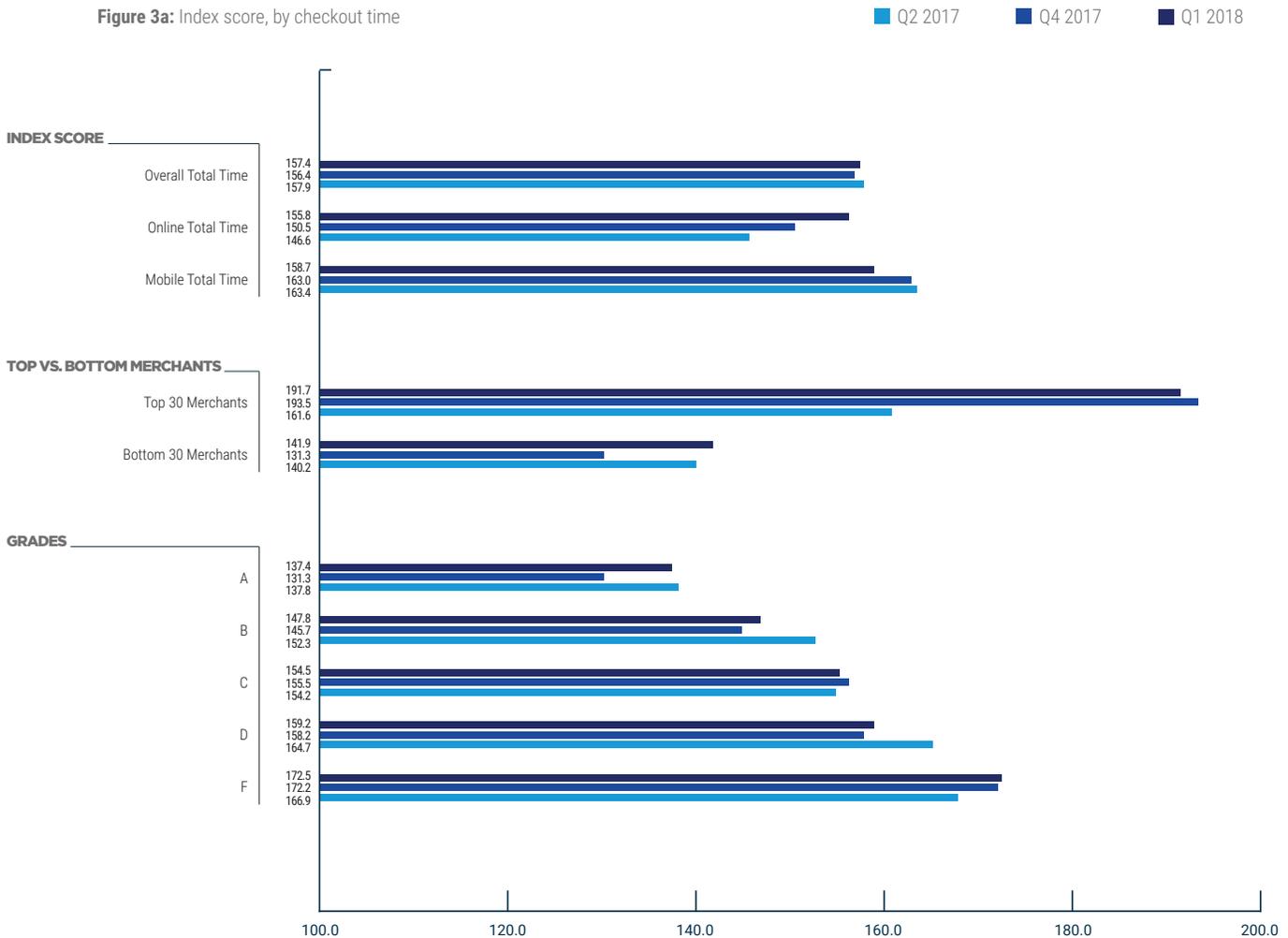
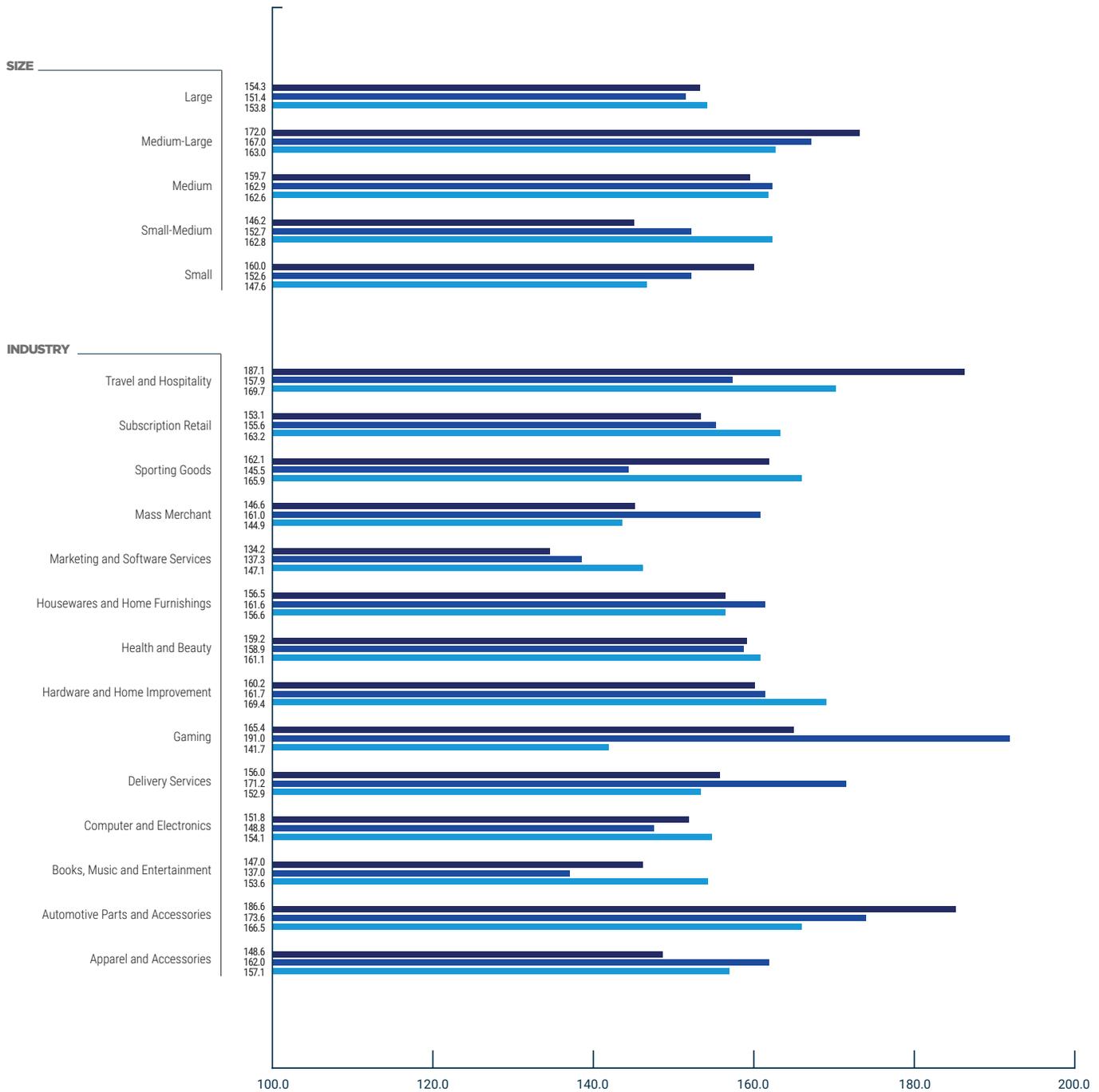


Figure 3b: Checkout time, by merchant size and industry segment

Q2 2017 Q4 2017 Q1 2018



When measured as separate entities, however, it was obvious the time shoppers spent on mobile and desktop channels had changed since Q2 2017, and in opposing ways: Customers were spending more time in the checkout process on desktops and less time on mobile channels than in previous quarters.

Furthermore, when our online retailers were evaluated in terms of their checkout process lengths, the 30 worst performing merchants – the Bottom 30 – were far behind the 30 top performing merchants. Regardless of channel, it took a whole 50 seconds longer to complete a purchase on a Bottom 30 merchant’s website than on that of a best performing – Top 30 – merchant. This is a very large margin, as it only took 140 seconds to buy a product from a Top 30 merchant. That’s 36 percent longer to make a purchase, and customers are bound to notice such a large time difference.

Even more troubling was that the effectiveness of our Bottom 30 merchants’ checkout processes had

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deteriorated. They clocked in at 162 seconds back in Q2 2017 and 192 seconds in Q1 2018, meaning these 30 worst performers kept getting slower.

In contrast, Top 30 online retailers’ checkout times seem to be getting faster. In fact, all merchants with A through D grades have improved or maintained a constant checkout time since Q2 2017. Grade F retailers were the only companies that performed worse overall, with customers spending six seconds longer on the buying process now than they were in Q2 2017. This is bad for Bottom 30 merchants trying to get an edge on their competitors, who are quickly – and literally – outpacing them.

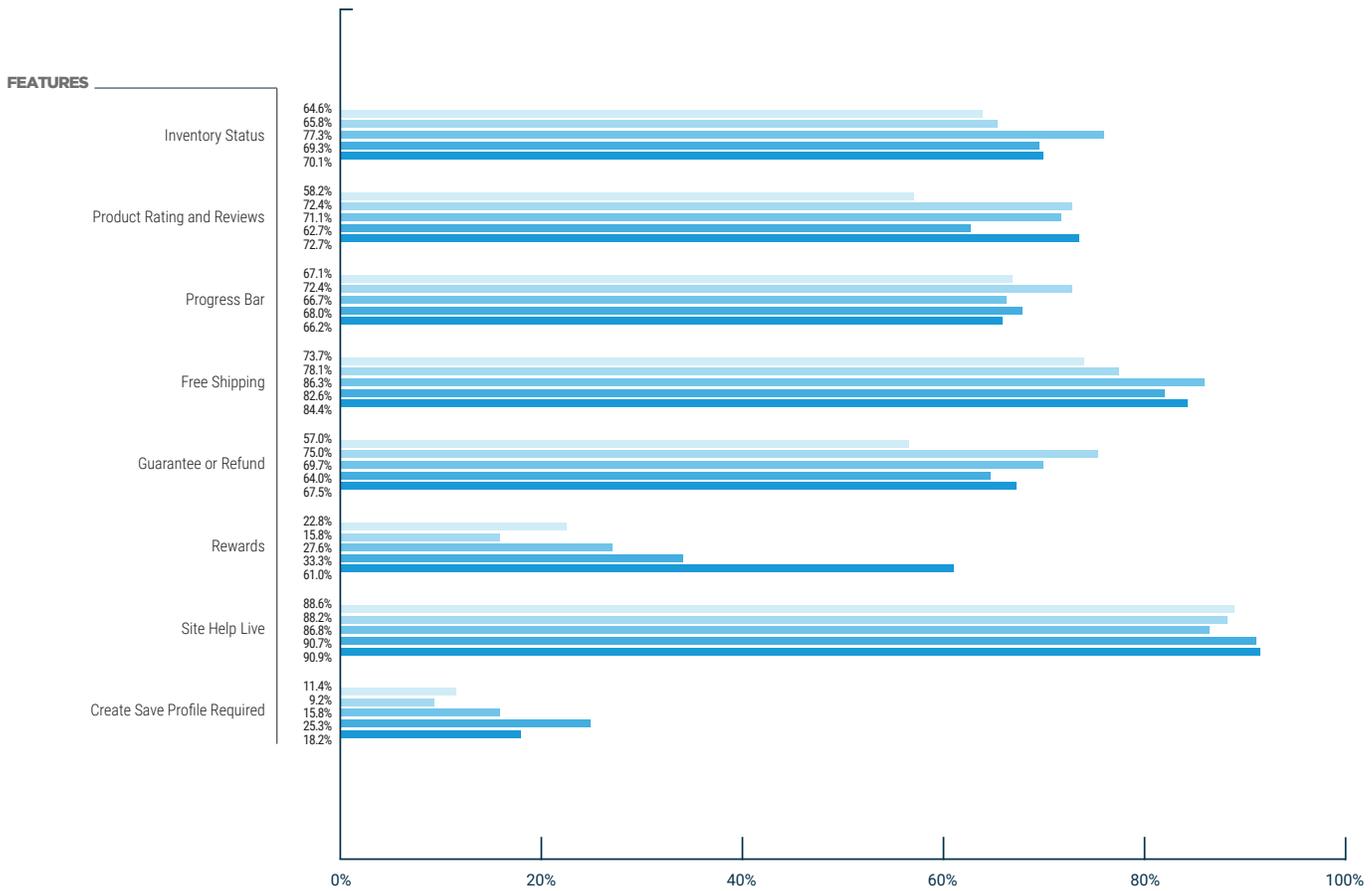
This should come as no surprise: The less time a shopper needs to make a purchase on a commercial channel, the greater that merchant’s conversion rate. Consumers value their time, and they are likely to appreciate companies that do, too. No one wants to spend his entire afternoon trying to make an online purchase that could be made in minutes, so customers will naturally gravitate toward quicker checkouts.

In addition to identifying factors that increase or decrease checkout times, we also gained an idea of which features have little to no impact on checkout times. There was no clear correlation between a merchant’s size and checkout time, for example, which suggests our mass merchants may have been providing their online shoppers non-time-related features to make their checkouts faster or easier.

In fact, when we took a more in-depth look at features distribution in our sample’s checkout processes, we saw that merchants of different sizes tended to offer similar features, as shown in Figure 4. Some, like live site help and inventory status, were extremely common among merchants of all sizes.

Figure 4: Merchants providing features, by size

Small Small-Medium Medium Medium-Large Large



One feature stood out for larger companies, as it appeared to increase in availability alongside a merchant's size: rewards. As many as 61 percent of large merchants offered rewards programs to their customers, as did only 33 percent of medium-large merchants. What's more, only 28 percent of all merchants in all sizes offered a rewards program, as demonstrated by Figure 4 – a considerable drop off. It is difficult to avoid the suggestion that rewards programs may boost a company's CCI score.

This strategy may not benefit merchants of smaller sizes, however, as larger merchants in certain

industries benefit from economies of scale in ways that smaller merchants simply cannot. That said, our data suggests a correlation between availability of customer rewards systems and CCI scores.

For the other features, our data shows the most widely available were live site help, free shipping and inventory status. All top merchants provided free shipping and product rating features, while 97 percent offered live site help. It stands to reason that these features, offered most frequently by the best of our Top 30, are the ones merchants should strive to offer to their customers.

Conversely, although a mandatory profile was offered by 3 percent of our sample, 67 percent of Bottom 30 retailers required customers to create a profile before making a purchase. None of them have a guarantee or refund policy, meaning any merchant seeking to boost its CCI score might be advised to remove its saved profile requirement and institute a guarantee or refund policy instead.

Considering all these checkout features, it's still important to ask one question: Which industries had the quickest checkout times? The answer may seem surprising. In Q1 2018, marketing and other services customers, and those in books, music, video and entertainment, needed the least time to complete their checkouts. In an ironic twist, travel and hospitality was tied with automotive parts and accessories as the two with the longest checkout times.

It may seem odd that travel and hospitality was characterized by relatively long checkout times, but it should also be noted that its CCI score was nearly the lowest, as previously demonstrated in Figure 4. In fact, it achieved a respectable Index score of 50, suggesting there is far more to be considered. These customer service-oriented merchants are encouraged to define what their customers expect from them, which could easily impact the checkout process. Each of our examined industries has a different focus, and this will inevitably play a part in determining which features they provide for their customers.

Regardless of industry, all these factors — from guarantee or refund policies and live site help to

payment options and free shipping — contribute to the construction of a pleasurable, convenient or frustrating checkout experience. The difference will help determine whether customers bother to turn their browsing sessions into purchases or cut their shopping sessions short.

For the purposes of our discussion, it is the conversion rate that really matters, and conversion rates for all channels have been largely stable since Q2 2017.<sup>2</sup>

Since Q2 2017, desktop and mobile channel conversion rates have increased and the overall conversion rate has decreased. Although the mobile conversion rate has seen growth, that for traditional desktop sites was still higher.

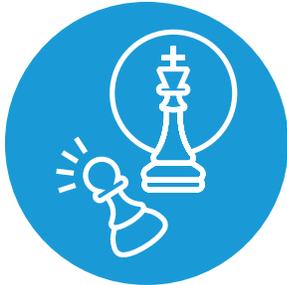
Conversion rates are not easy to change, either. Improving them takes a great deal of time and effort, and retailers should not expect immediate results. Rather, improving conversion rates is an investment that yields long-term gains.

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Since Q2 2017, desktop and mobile channel conversion rates have increased, **but the overall conversion rate has gone down.**

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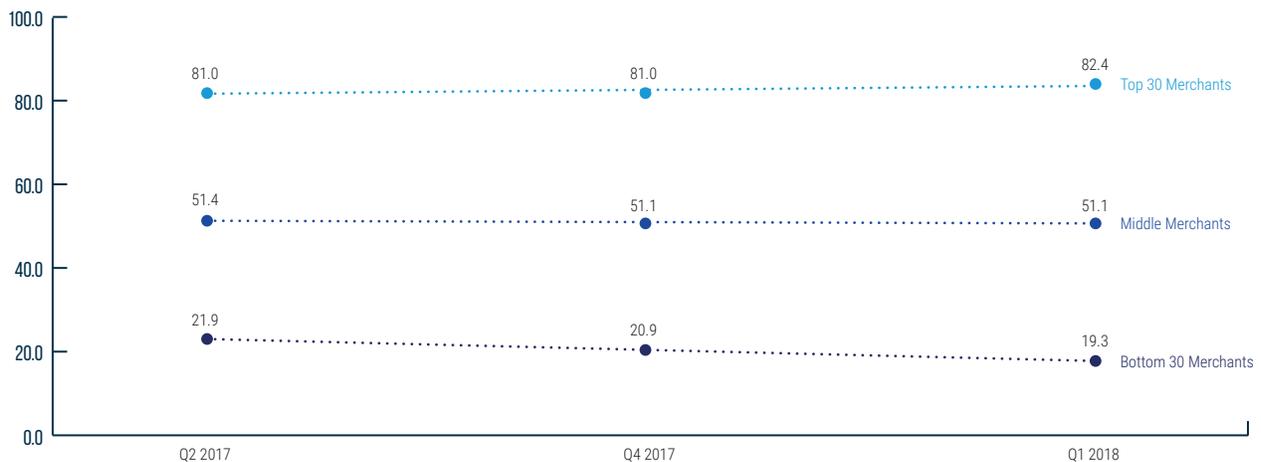
<sup>2</sup> Merchants occasionally drop out of our sample and we replace them with new ones to maintain a sufficiently large population. When we analyze performance over time, however, we restrict the sample to the merchants we've tracked since the inception of the CCI to ensure we can make apples-to-apples comparisons. This quarter, our analysis applies to 753 merchants.



## Top Merchants vs. Bottom Merchants

When we considered our sample's best and worst performers by CCI scores, we saw how widely our online retailers varied in terms of checkout smoothness. This variation is depicted in Figure 5, which provides a graphical representation of how the CCI of Top 30, Middle and Bottom merchants 30 has changed since Q2 2017.

Figure 5: Overall Index score



First, we noticed Top 30 merchants earned an 82.41 in the last quarter — our Bottom 30 only scored 19.5, representing a decrease from the 20.9 earned in Q4 2017. Meanwhile, our Top 30 increased from 80.99 in Q2 2017. In other words, the 30 best keep improving, and 30 worst keep slipping.

Secondly, little had changed since Q4 2017. Top 30 merchants were much faster than their competitors, averaging a checkout time of 141.9 seconds. In contrast, our Middle Merchants maintained a relatively stable checkout time since Q2 2017, and the time it took to make a purchase on a Bottom 30 merchant's website increased from Q2 2017's 161.6

seconds to 191.7 seconds in Q1 2018. To a shopper, that's a more than 15 percent increase in waiting time, making it difficult to avoid wondering if this played a part in lowering their CCI scores.

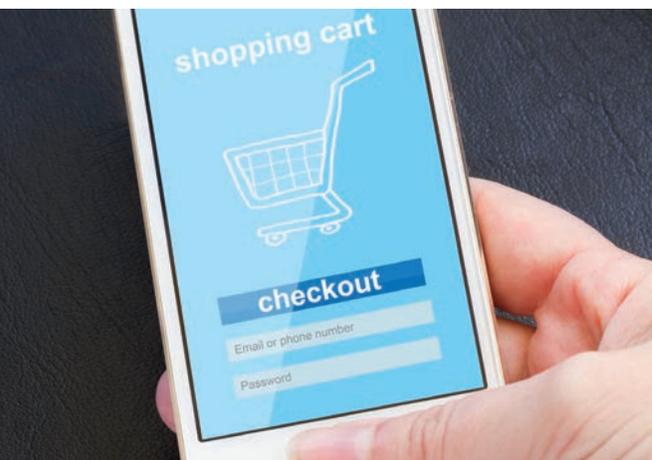
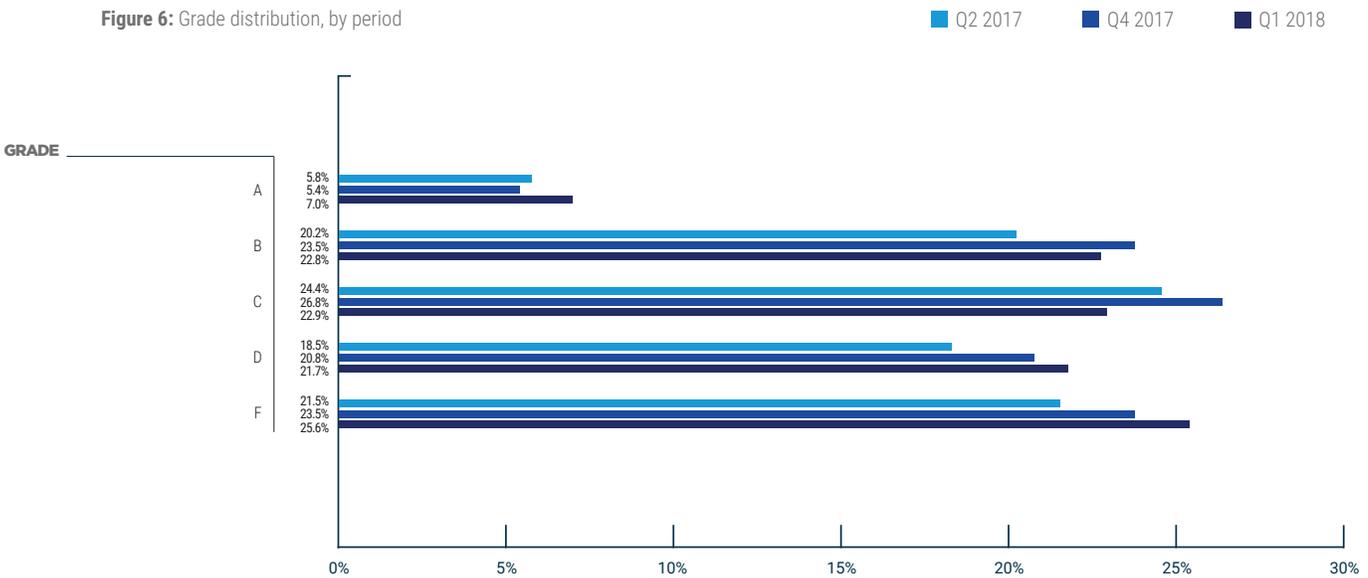
Perhaps the most remarkable difference between our best and worst performers was the difference in the number of payment options offered. The Bottom 30 in our sample only supported 4.2 payment methods on average, while the Top 30 supported 8.6 and Middle support 6.5. As one might expect, those that made the effort to accommodate a wider variety of customers enjoyed a relatively high CCI. Those that did not suffered lower scores.



## Grades

We also examined the evolution of our samples' grades, as shown in Figure 6. The number of merchants in both the highest and lowest grades, A and F, increased from Q4 2017.<sup>3</sup> Although those with higher grades significantly outperformed their lower-graded counterparts, only Grade C merchants witnessed an increase in overall conversion rates since Q4 2017. All other merchants saw their conversion rates decrease, as can be seen in Figure 7.

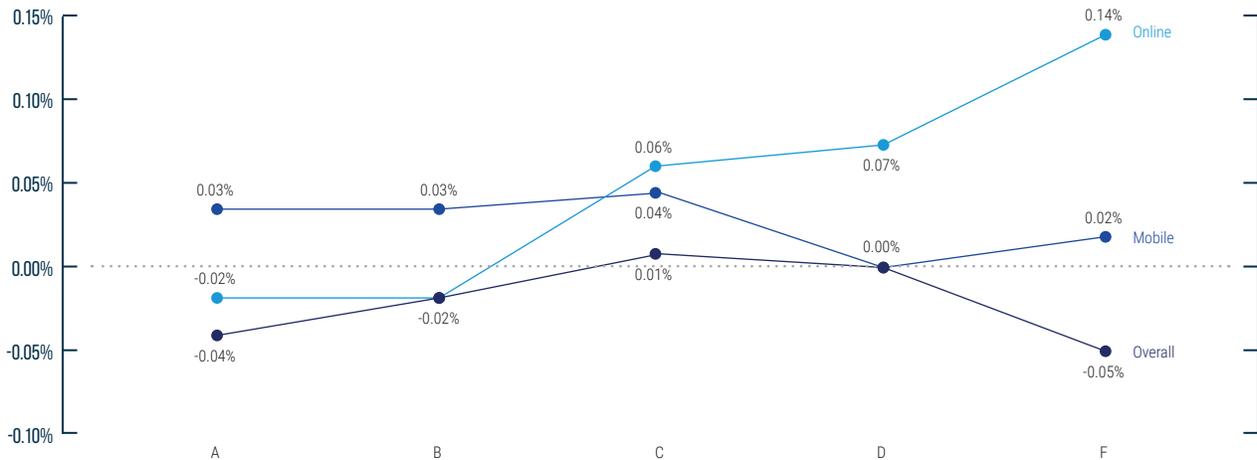
Figure 6: Grade distribution, by period



The most dramatic improvement in conversion rates occurred in the desktop channel for merchants with Grades C through F. Grade C saw a 0.06 percent increase, Grade D merchants a 0.07 percent increase and Grade F merchants were blessed with an impressive 0.14 percent increase. Meanwhile, Grade A and Grade B merchants, which both experienced a 0.02 percent drop in their desktop conversion rates in Q1 2018, struggled to prevent their numbers from slipping.

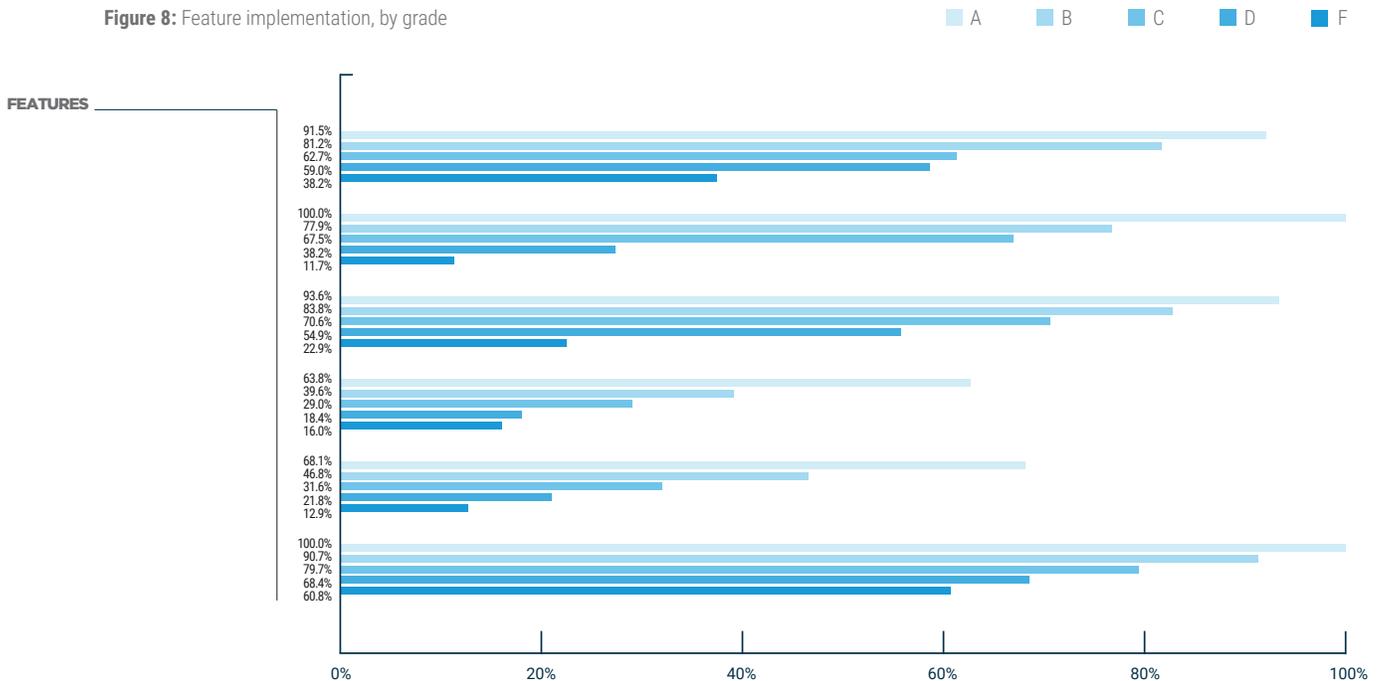
<sup>3</sup> One reason we witnessed an increase in the number of Grade A merchants this quarter was because our method of determining grades was slightly altered. Some scores were rounded up, meaning a very small number of companies entered a higher grade group.

Figure 7: Conversion rate evolution, by grade



Finally, we considered this research process an opportunity to evaluate shopping convenience in the online checkout process, specifically which grades offered the most convenient experiences, as shown in Figure 8. Free shipping was offered among merchants of all grades. While all Grade A merchants offered free shipping, only 60.8 percent of Grade F merchants did so. Product ratings seemed to be a differentiating factor between grades – more than any other feature, in fact. All Grade A merchants offered product rating services, as did only 11.7 percent of Grade F merchants.

Figure 8: Feature implementation, by grade

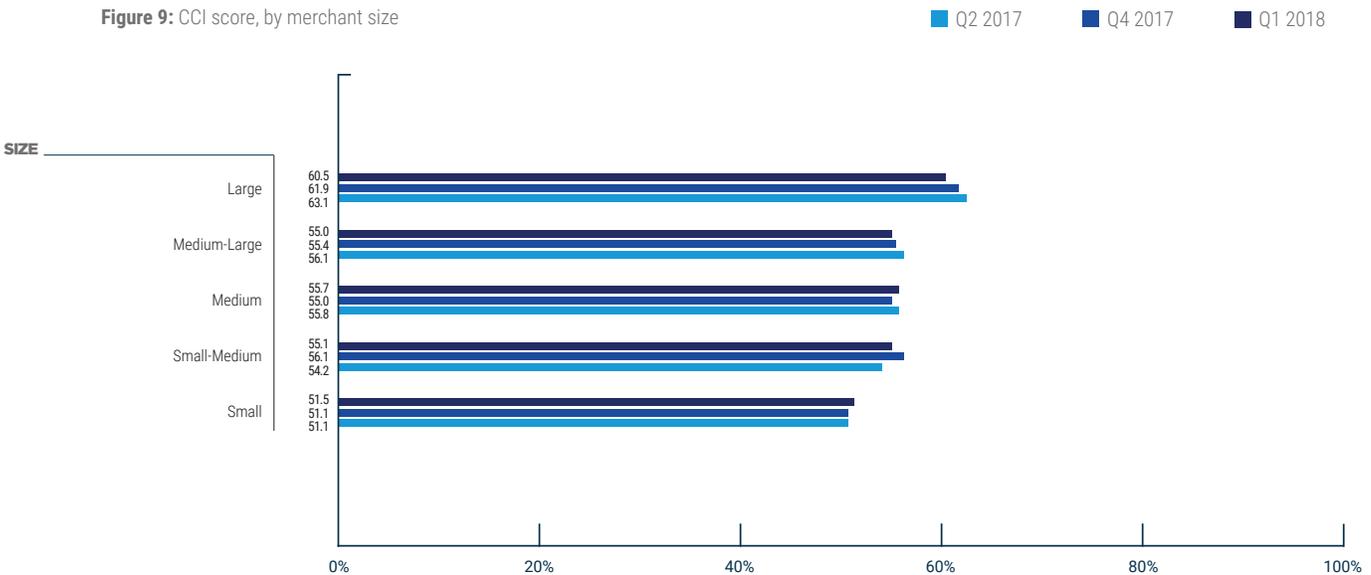




## Merchant Size

Analyzing the relationship between a merchant’s size and its CCI score can be tricky. Larger merchants in our sample tended to have higher CCI scores, but the variation between merchant sizes was not as vast as that between merchants of different grades. In other words, there was not as much variance between them. This becomes clearer upon examining Figure 9, which displays the CCI scores of our five merchant sizes. The smallest in our sample scored a CCI of 51.5, medium-sized scored 55.7 and the largest scored 60.5.

Figure 9: CCI score, by merchant size

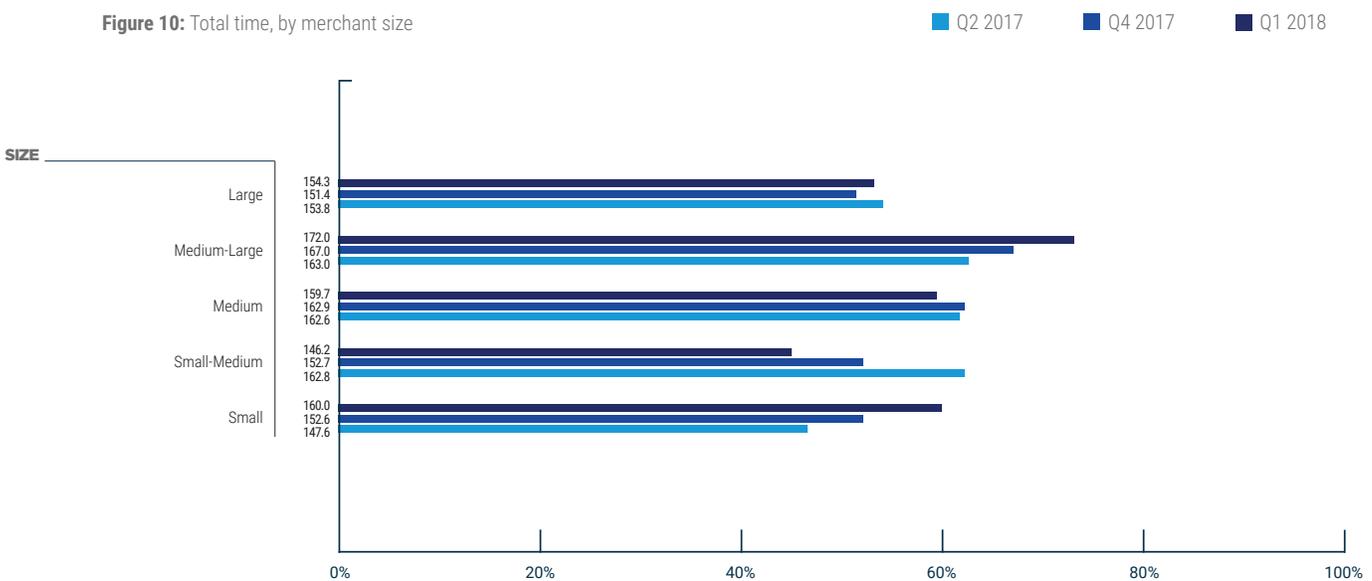


As stated, desktop sites yielded a higher CCI score than mobile sites – regardless of size. This is likely because, despite mobile phones’ growing ubiquity in our society, checkout on most sites is still far easier to complete on a laptop computer. In addition, the CCI for desktop websites is not consistently increasing across time and company size, and some size classes experienced a temporary score dip between Q2 2017 and Q4 2017. For example, medium-large companies scored 58.3 in Q2 2017, 57.1 in Q4 2017 and 58.4 in Q1 2018. Medium merchants’ scores evolved similarly, scoring 58.7 in Q2 2017, 57.8 in Q4 2017 and 59.9 in Q1 2018. Meanwhile, small and small-medium companies’ scores increased consistently between Q2 2018 and Q1 2018.

This contrasts with our findings on the CCI score evolution of different sized merchants’ mobile channels. All merchants’ mobile CCI scores have experienced a steady increase since Q2 2017, and are quickly approaching desktop scores.

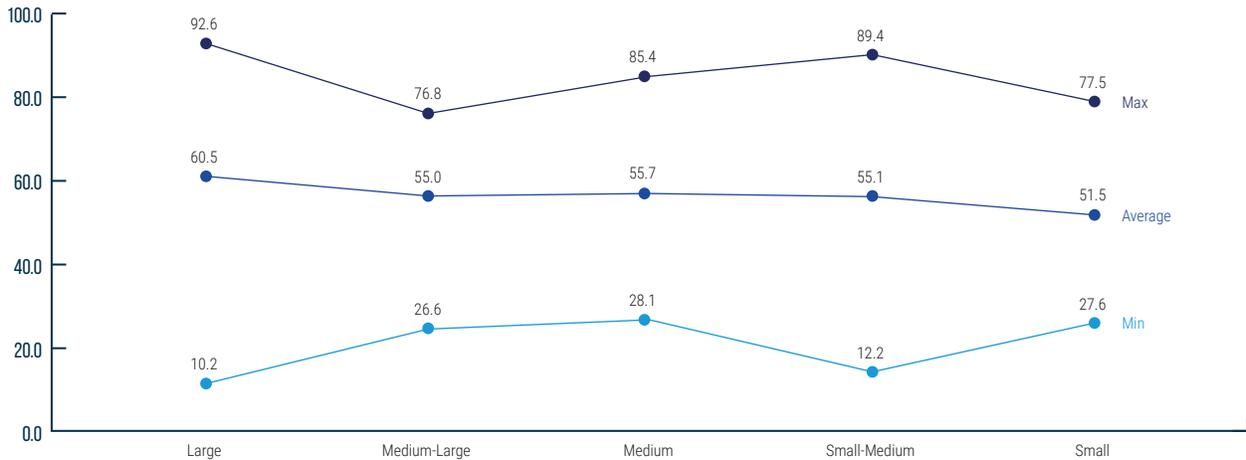
There was a very clear correlation between size and CCI, overall and on both desktop and mobile channels. The relationship between sizes and speed is not so clear cut, however. Medium-large merchants performed worse than those of all other sizes in terms of speed, as seen in Figure 10. It took their customers 172.0 seconds to make a purchase, regardless of channel. The small-medium firms were the standouts, trimming their checkout speeds from 162.8 seconds in Q2 2017 to 152.7 seconds in Q4 2017, and then to 146.2 in Q1 2018.

Figure 10: Total time, by merchant size



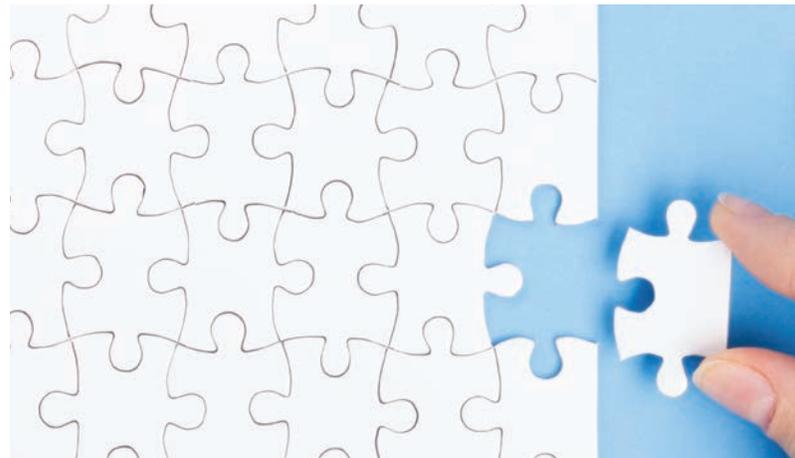
In terms of variability, merchants grouped by size seemed to earn relatively similar CCI scores. There was also more variability in scores among merchants of larger sizes than among those of smaller sizes. At their best, the smallest merchants did not measure up to the best of the largest merchants, and the lowest-scoring ones fared worse than the lowest-scoring of the smallest merchants. The variability of each merchant size's CCI score can be observed in Figure 11.

Figure 11: CCI score variability by merchant size



The best of the largest merchants easily outperformed all others in terms of their CCI, achieving an exceptional score of 93. The worst of the largest were also the lowest performing, scoring a CCI as low as 10. Meanwhile, the all-size average hovered around 50 to 60, making it relatively constant throughout.

The final metric we used to examine the effects of merchant size on CCI was payment options, the number of payments accepted on any given merchant’s channels.



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On average, **large merchants supported 7.4 payment methods**, while smaller merchants supported 6.4.

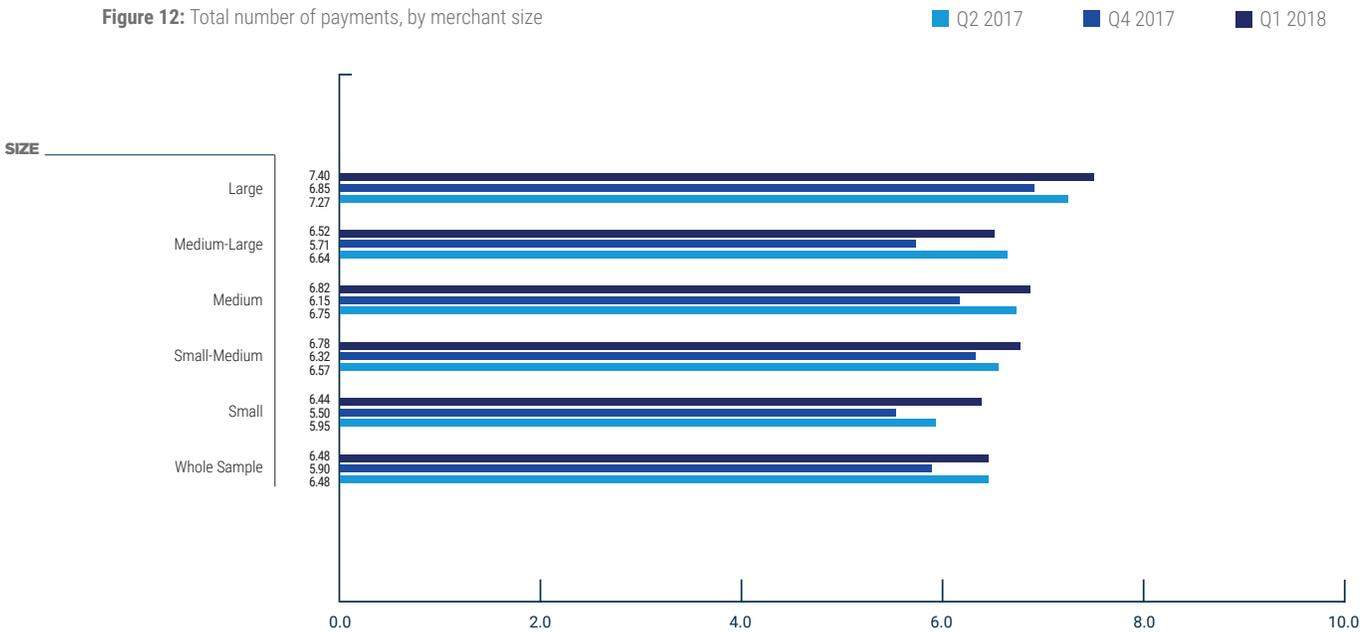
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According to our Q1 2018 data, the average number of payment methods accepted increases with the size of a merchant. The notable exception is medium-large merchants, which only supported 6.5 payment methods on average. Large and medium merchants supported 7.4 and 6.8 payment methods, respectively, and small merchants allowed their customers to choose from 6.4 options, on average.

The number of payment methods accepted seems to have changed comparably among companies of

all sizes between Q2 2017 and Q1 2018. As Figure 12 shows, they exhibited a similar pattern of slight decline in Q4 2017 and subsequent recovery in Q1 2018.

Figure 12: Total number of payments, by merchant size

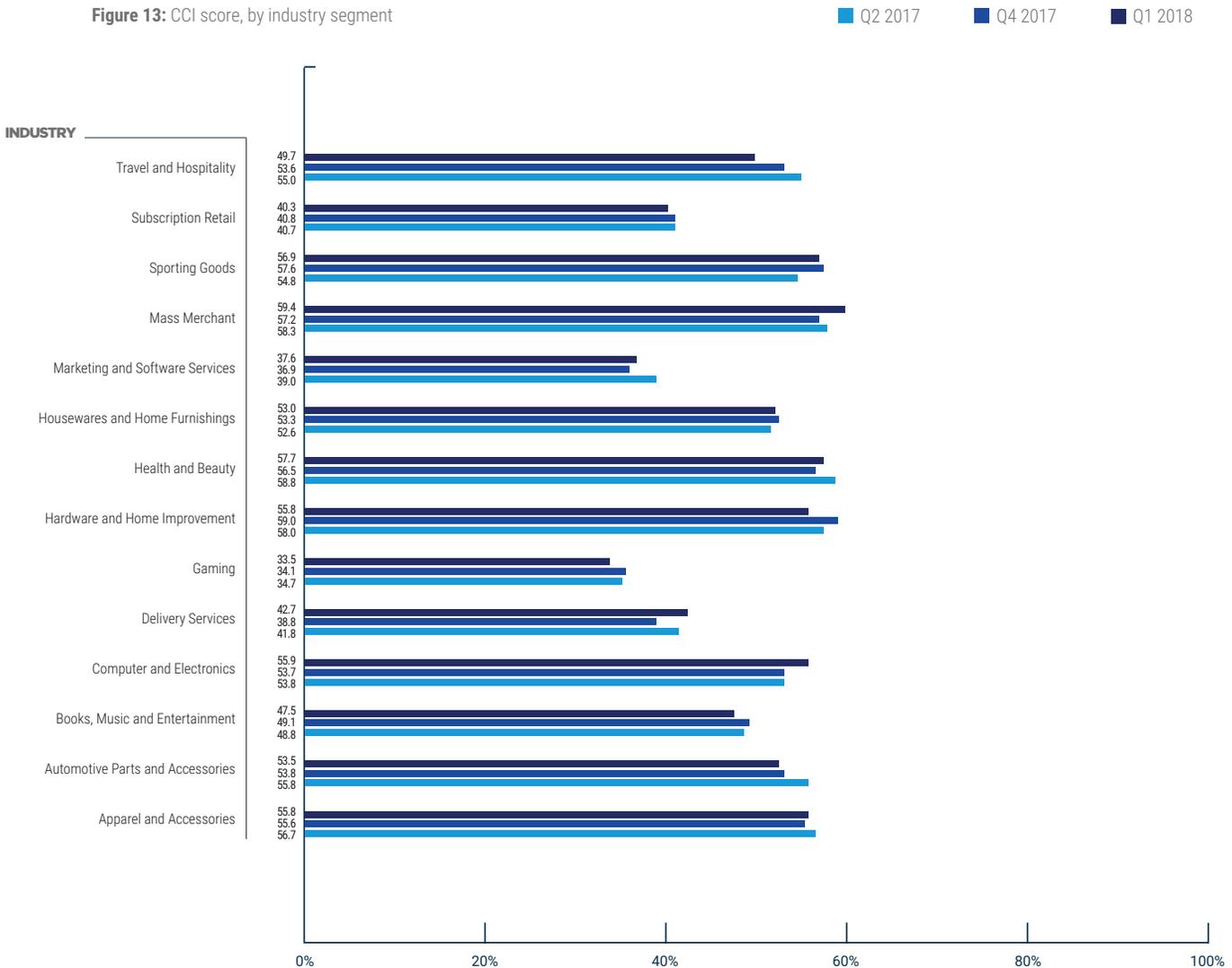


## Industry

Considering the wide range of services offered by companies from different sectors, and the constraints each faces in its respective industry, it comes as no surprise that our sample merchants varied significantly in CCI score when examined by industry. As seen in Figure 13, the industry with the highest average CCI score was mass merchants at 59.4, while gaming performed worse than all others at 33.5.

There was no clear-cut trend available to explain the evolution of merchants' CCIs in these industries over time. It was very much a mixed bag, with some industries – like travel and hospitality, gaming and automotive parts and accessories – performing worse in Q1 2018 than in Q4 2017. Others, like health and beauty, conversely improved their overall CCI score.

Figure 13: CCI score, by industry segment



When we observed the speed of merchants' checkout processes by industry, we found marketing and other software services and mass merchants had the fastest checkout times at 134.2 seconds and 146.6 seconds, respectively. Travel and hospitality and automotive parts and accessories had the longest checkout times, each clocking in at 187 seconds.

Likely because larger businesses tend to offer more payment methods to their customers, we found mass merchants supported the most payments options in Q1 2018. As an industry, they accepted approximately eight different methods on average. Meanwhile, subscription retail merchants accepted the fewest, allowing customers to use an average of 4.5 payment methods to purchase.

The sheer diversity of our sample inevitably leads to analytical unpredictability. Though all companies want to improve their conversion rates, the fundamental composition of their consumer bases, economic structures and financial structures are vastly different. This means companies in each industry will reach different conclusions about how to increase online conversions. As helpful as statistical analysis is in giving them the tools they need to improve their commercial performances, it is still extremely important that each company has a solid understanding of what customers expect from their shopping experiences. Each business must make its own determination on how to act on that data.

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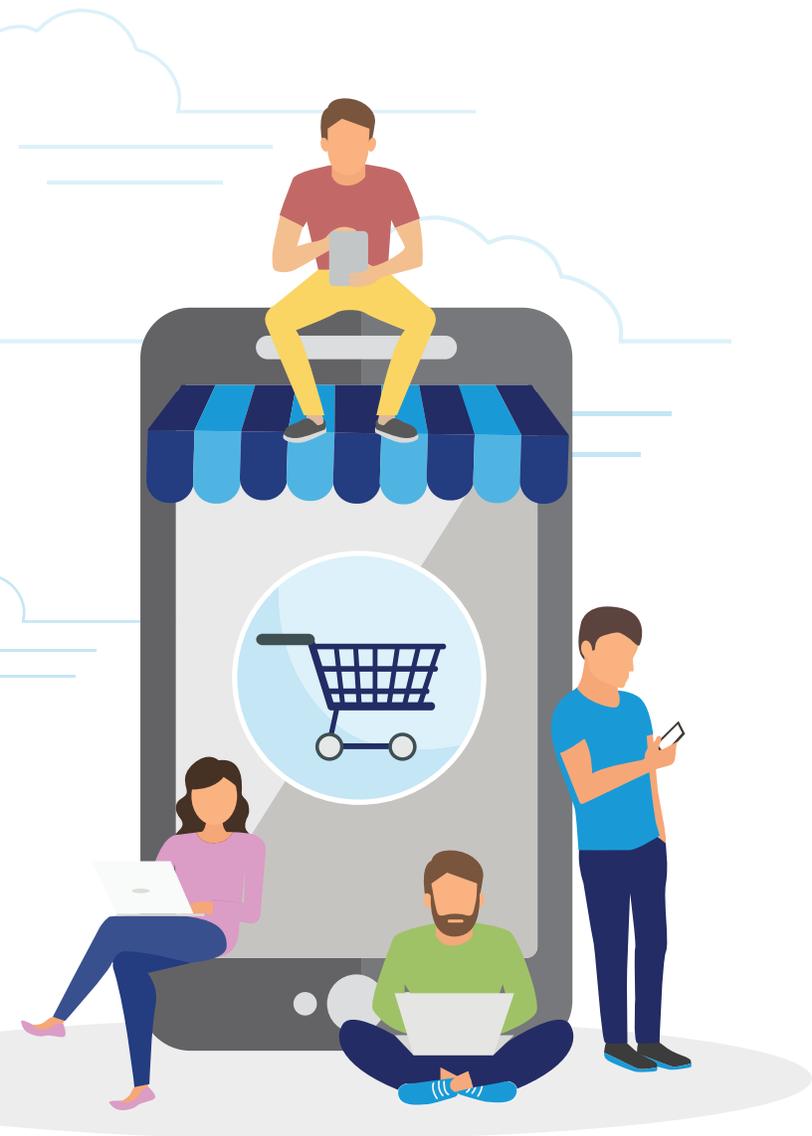


# Deep Dive: Mobile Adoption

Time is an asset about which online shoppers truly care, and they are doing their best to save as much of it as they can. This likely plays a role in the current shift from traditional computers to mobile devices for everyday purposes. Unlike traditional computers, mobile phones are simply always there, making them especially convenient for netizens on the go. Completing routine tasks no longer necessitates a traditional computer because smart devices come equipped with most of the same capabilities. For this very reason, desktop, laptop and tablet sales are declining compared to those from mobile devices, and experts are speculating that the latter could eventually replace more traditional computers.<sup>4</sup>

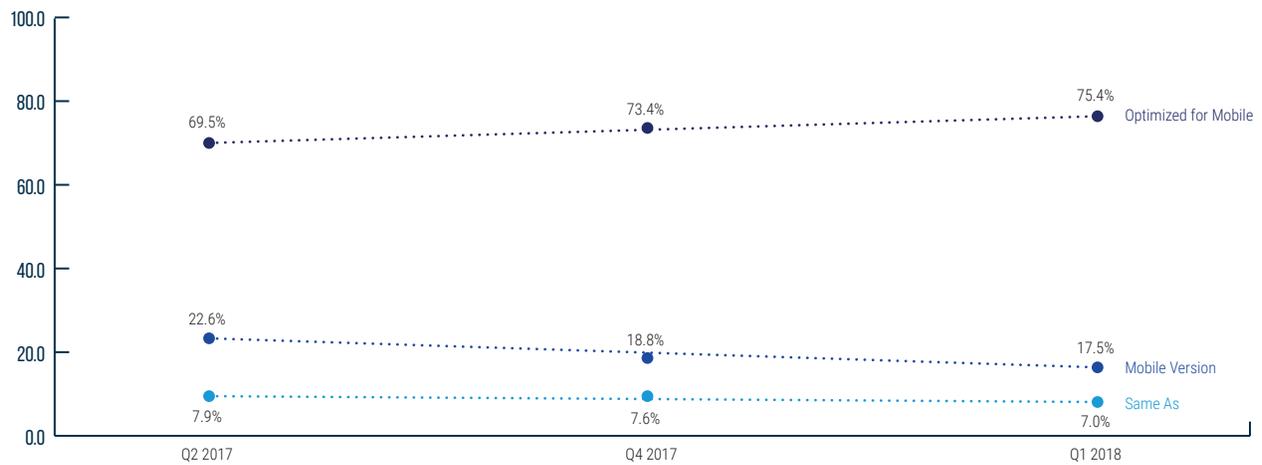
When it comes to online shopping, it's safe to say that times are changing. As more online shoppers leave their computers for their mobile phones when carrying out everyday activities – including shopping – online retailers are slowly realizing that their strategies for reaching them might need to change to reflect this trend. As such, an increasing number are optimizing their mobile sites.

<sup>4</sup> Hartung, Adam. Are the cloud and IoT making PCs, laptops, and tablets irrelevant? Forbes. 2017. <https://www.forbes.com/sites/adamhartung/2017/05/30/are-the-cloud-and-iot-making-pcs-laptops-and-tablets-irrelevant/#1f1fc638d45>. Accessed April 2018.



For clarity, the term “mobile optimization” refers to a broad array of techniques used to ensure that a merchant’s website fits on a mobile device screen, meaning it is as easy for a customer to navigate as possible. “Mobile version” refers to merchants’ sites that have yet to be optimized in this way. Finally, “same as” refers to sites that appear identical when viewed on both desktop and mobile screens.

Figure 14: Rate of mobile optimization



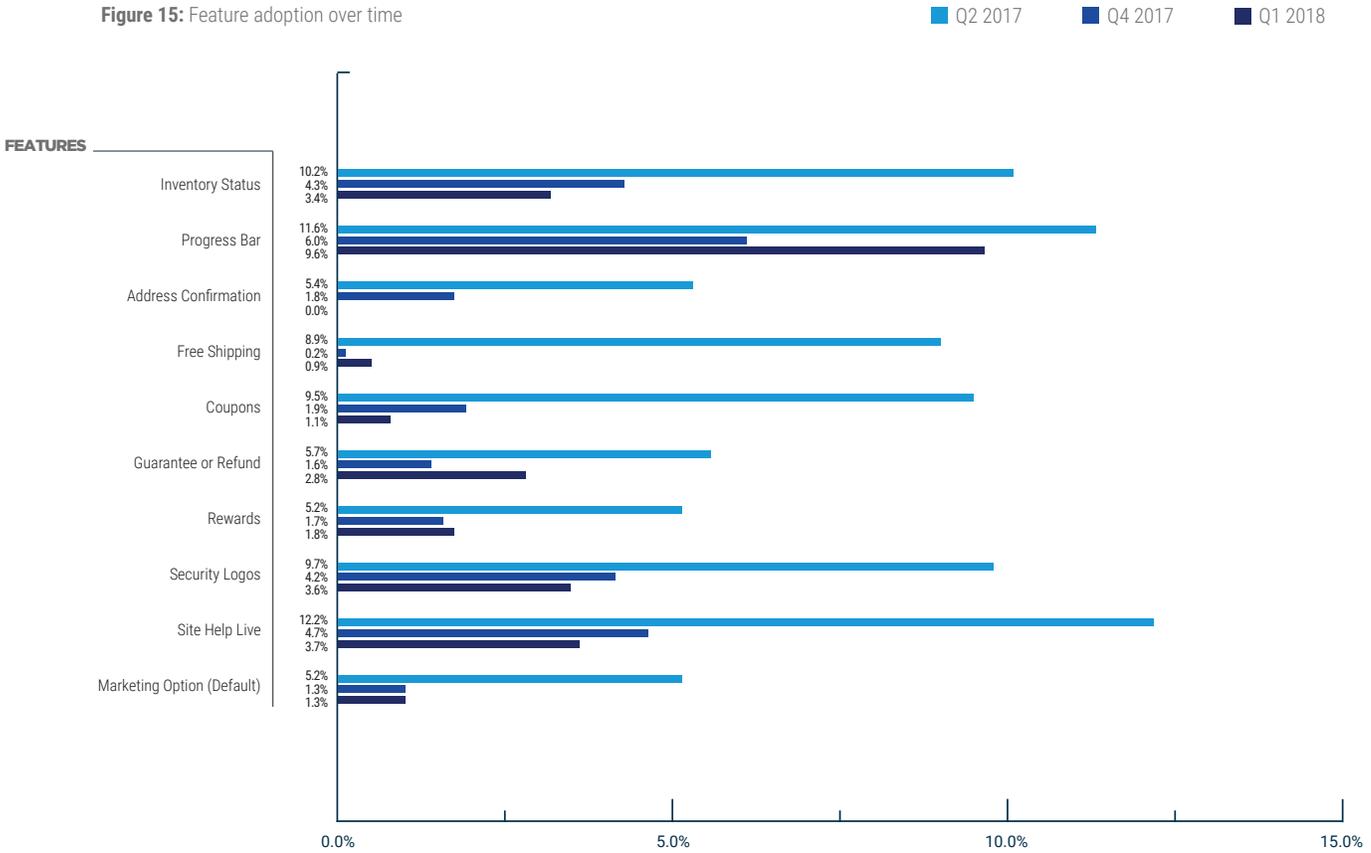
Many companies have already taken steps toward mobile optimization. Seventy percent of merchants had invested in the optimization process in Q2 2017, and that number has since increased to 75 percent, according to our Q1 2018 data. This trend is seen in Figure 14, which shows our sample’s rates of mobile adoption. “Mobile adoption” refers to merchants’ usage of mobile-optimized, non-optimized and “same as” mobile sites. As depicted, the percentage of those who use mobile versions of their desktop sites is decreasing overall, and those gearing up to optimize their mobile sites has increased since Q2 2017.

Upon closer analysis, it became clear that this movement toward mobile optimization was affecting our Bottom 30 more than our Top 30, presumably

because they were trying to boost their conversion rates. Just 26.7 percent of the Top 30 had mobile optimized sites in Q1 2018, as did 80.0 percent of the Bottom 30.

This trend is neither happening all at once nor equally impacting all available mobile features. Rather, its effects on the online retail market vary by time and feature. The differences in overall feature adoption between mobile and desktop channels are depicted in Figure 15. In this graph, all positive percentages represent the number of merchants’ desktop channels that offer any given feature. For example, the value bar for inventory status is 3.4 percent in Q2 2017, meaning 3.4 percent more desktop sites than mobile sites offered inventory status as a feature.

Figure 15: Feature adoption over time



As demonstrated, online retailers are adding features to their mobile sites that were previously only available via desktop. The idea is to embed as many as humanly possible, allowing customers to enjoy them and closing the gaps that differentiate desktop sites from their mobile equivalents.

Some features are being more widely implemented than others, however, like address confirmation. In Q2 2017, 5.4 percent more desktop sites offered address confirmation than mobile. In Q1 2018, there was no distinguishable difference between these two channels. The same cannot be said for progress bar, which informs a customer of an order’s status. As of Q1 2018, 9.6 percent more merchants offered this feature on desktop sites than on mobile. The divide

in availability between mobile and desktop is quickly shrinking, though, meaning the shopping experiences are becoming more similar over time.

This drive to provide more features on mobile is causing a decrease in time required to purchase items via a desktop, laptop or mobile device. It took 16.77 seconds less to make a purchase via mobile channel than it did via desktop in Q2 2017, but only 2.89 fewer seconds in Q1 2018. This seems intuitive, as mobile sites are slowly adding more features and their checkout times are bound to increase. This conclusion is supported by our data, which found the total number of clicks needed to purchase an item on a mobile device had increased relative to that needed to make a purchase on the traditional

desktop channel. It took 0.63 fewer clicks to make a purchase via a desktop website in Q2 2017, and 1.28 fewer clicks in Q1 2018. It seems providing more purchasing features on a mobile channel means customers will have to spend more clicks to opt for them or opt out.

So, has the effort to optimize mobile sites produced results for the companies that do so? Has it increased their conversion rates? In short, the answer is “yes,” but there is more to the story. This group increased its conversion rates between Q2 2017 and Q1 2018. This improvement was not steady, however, and these companies saw a slight decrease during the financial quarter immediately following mobile optimization.

This trend appears to be a constant, found by analyzing the conversion rates of 31 merchants that optimized their mobile sites between Q4 2017 and Q1 2018. In the time immediately following their efforts, those 31 merchants also experienced a slight drop in conversion rates. As such, if one’s company has recently chosen to optimize its mobile channel and witnessed a subsequent decrease in overall conversions, it is not time to panic.

It is normal to experience some growing pains immediately following mobile optimization. After all, mobile optimization means changing the layout of an already-established site, and regular customers are going to be less familiar with an optimized site than they were with the older format. Newer formats can be learned, though, and shoppers will likely grow more accustomed to them in time, providing merchants a chance to increase their conversion rates.

In any case, online retailers’ conversion rates are clearly increasing with that of mobile optimization. In

Q4 2017, 62.3 percent of all merchants had already optimized their mobile sites, and that percentage jumped to 71.9 in Q1 2018. Between Q2 2017 and Q4 2017, 8.5 percent underwent the mobile optimization process, and 4.4 percent did so between Q4 2017 and Q1 2018.

This data points to an inevitable conclusion: Mobile optimization is a long-term investment. Any merchant that opts for mobile optimization is likely going to see a slight drop in its conversion rate for at least one financial quarter. This long-term investment pays off after only two or three quarters, though, at which point mobile optimizers will likely see an increased conversion rate.

We have reached a juncture, and merchants are being forced to reckon with the fact that mobile phones are not going away. If anything, smartphones are threatening to replace the desktop computer as users’ default devices. Companies that are devoted to improving their consumers’ online shopping experiences are taking note, optimizing their mobile sites to get an edge on their competitors and bringing their organizations into the future of the global eCommerce ecosystem.

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It took 16.77 seconds less to make a purchase via mobile channel than it did via desktop in Q2 2017, **but only 2.89 fewer seconds in Q1 2018.**

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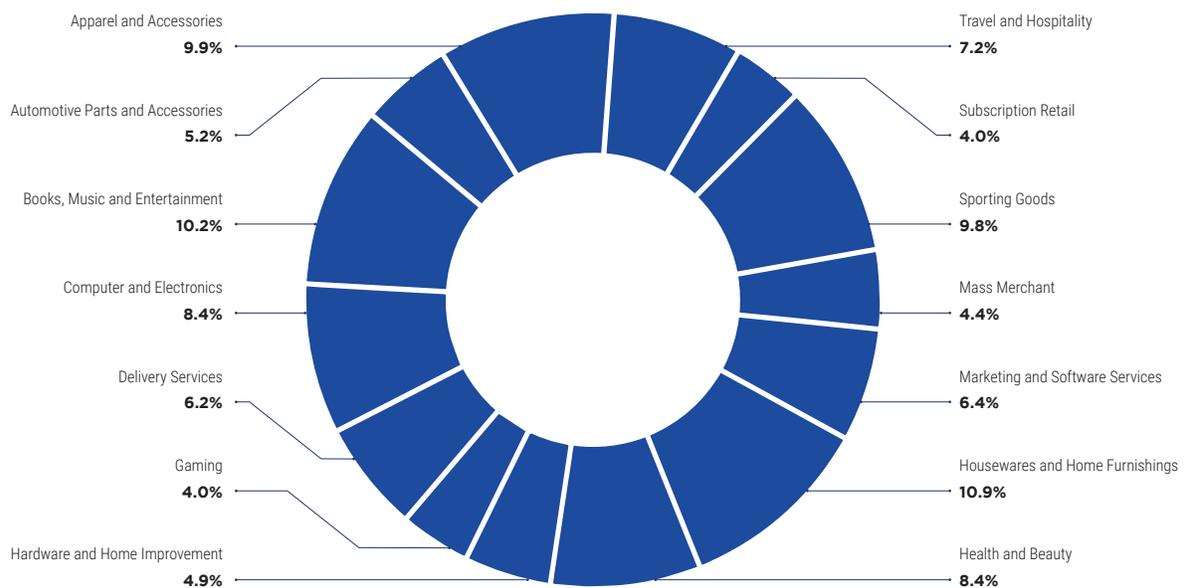
# Appendix

## Methodology

To determine which features tended to improve or worsen a consumer's online shopping experience, our researchers examined the desktop, mobile and commercial app checkout processes of more than 650 eCommerce sites. This extensive research has revealed two primary sources of friction that drive customers to abandon their carts. The first is the design of the website, which includes the addition or lack of certain checkout features. The second is faulty functionality, when a customer leaves the site after pushing the pay button and the transaction does not go through. PYMNTS' analysts also examined the overall shopping experience provided by each site, specifically how easily they were able to navigate the checkout process. We then applied statistical analysis to identify which variables had the greatest impact on a customer's commitment to completing an online purchase.

## Site Selection

To draw as complete a picture of the current eCommerce ecosystem as possible, our researchers examined sites from merchants in a wide variety of industries. Our sample's industry makeup can be seen below.



## Research Approach

Each variable’s impact quantification on our sample’s CCI scores required data collection on 74 features offered by 676 different merchants.

## Scoring

CCI scores consider several factors that stand to increase or decrease friction during the online checkout process. Each observed factor was categorized into areas like time, comfort and trust, among others. Our analysts then used statistical regression techniques to determine which factors have the greatest impact on conversion rates. We identified 16 factors with statistically significant impacts on the CCI.

## Categories and Factors That Drive Conversion

We identified 16 factors that impact a merchant’s CCI score, as broken down in the table below.

SECTION	CHANNEL	VARIABLE	DESCRIPYION
Site Metrics	Online + Mobile	Time Quantile	Average time quantile of merchants
		Total Clicks Quantile	Average clicks quantile of merchants
		Inventory Status	The merchant displays whether products are in stock
		Product Reviews & Recommendations	The merchant provides ratings and recommends other products that customers may wish to purchase
		Progress Bar	The merchant show a progress bar to track where customers are in the checkout process
Shopping Convenience	Online	Form Fill	The merchant allows the system to automatically fill some data from outside sources

SECTION	CHANNEL	VARIABLE	DESCRIPTION
Shopping Convenience	Online	Quick Add to Cart	The merchant allows customers to add an item to cart without having to read it's full description
		Free Shipping	The merchant provides an option for free delivery/shipment
	Online + Mobile	Mobile Optimized (Mobile Version)	The merchant has a different mobile site designed to be used on a mobile device
Comfort and Trust	Online + Mobile	Mobile Optimized (Same As)	The merchant has the same (identical) desktop and mobile sites
		Guarantee or Refund	The merchant displays a satisfaction guarantee or refund policy on all products
		Rewards	The merchant offers rewards for purchases
		Site Help Live	The merchant provides live help
		Create Save Profile Required	The merchant requires customers to create an account profile to purchase products
Relationship	Online + Mobile	Total Number of Payments	Total number of payments the merchant accepts
Payments			
Mobile App	Online + Mobile + App	General Value	How likely customers would be to purchase from the merchant



### Site Metrics

This section measures the time and effort needed to complete an online purchase.



### Shopping Convenience

This examines features which simplify the checkout process, including items like reviews, recommendations and mobile access, among others.



### Comfort and Trust

This measures the options available to help customers resolve issues experienced during their shopping sessions, including security or help features.



### Relationship

This section measures attributes that are designed to deepen a merchant's relationship with its customers, including the option to create a profile or to send marketing information.



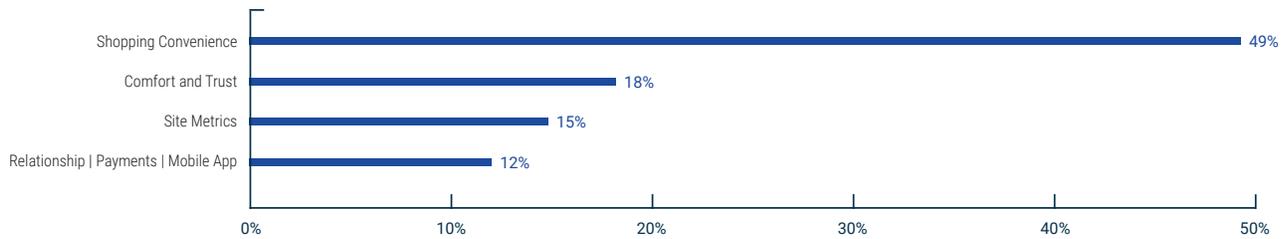
### Payment Types

This metric uses data on how many payment options a channel supports, including variables like the ease with which a payment option may be implemented.



### Weighting Scheme

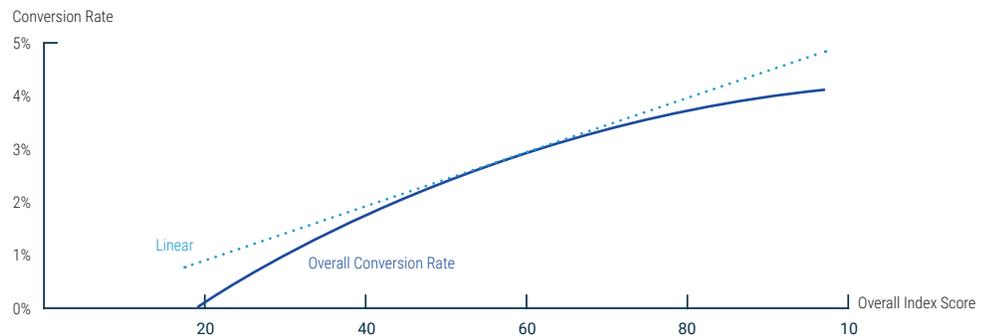
The weight given to each of the features in our calculation process is provided below.



In addition, app features are considered to the extent that they are available, but there is no overarching app Index score.

## Correlation Between CCI Score and Conversion Rate

For clarity, PYMNTS has also determined the correlation between the CCI score and the conversion rate of any given merchant. As seen in the chart on the right, the relationship between these two metrics is not precisely linear, but they are still very closely correlated.



# About

## FEEDBACK

We are interested in your feedback on this report. If you have questions, comments or would like to subscribe to this report, please email us at [ecommercefriction@pymnts.com](mailto:ecommercefriction@pymnts.com).

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