The value of the U.S. interactive kiosk industry market will reach \$1 BILLION BY 2021

**iiiiiiiiii**iiiii

67% of respondents prefer unattended vending machines and kiosks accept both cash and card payments



Electric vehicle charging kiosks presented the largest growth among kiosk types in the U.S. between 2013 and 2016, registering **153 percent growth in import**  The size of the U.S. interactive kiosk industry market grew at an average of

10.36%

**BETWEEN 2013 AND 2016,** from \$533.37 million to \$716.97 million

## KIOSKARETAIL REPORT

PYMNTS.com



Increase in import of interactive kiosks in the U.S. market between 2013 and 2016

Of all self-service kiosks in the U.S., food and beverage are the most prevalent types, encompassing

20 PERCENT AND 15 PERCENT, resp.

**20 PERCENT AND 15 PERCENT**, respectively, of the total share of kiosk imports in 2016



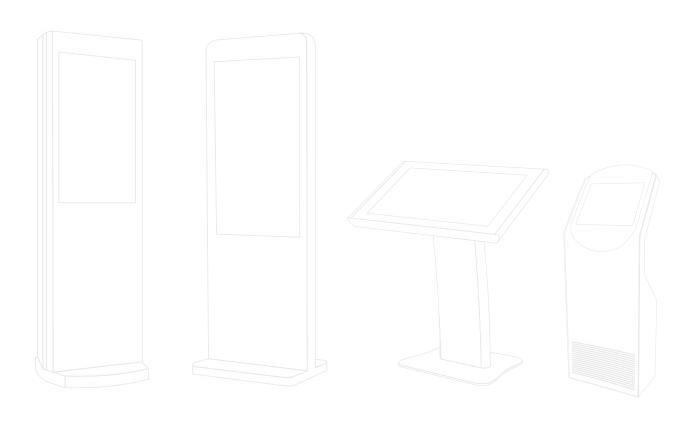
The self-service laundry industry is a nearly

\$5 BILLION market



## KIOSKARETAIL REPORT

## TABLE OF CONTENTS



UNATTENDED RETAIL IS NOT WHAT IT USED TO BE

THE ARRIVAL OF UNATTENDED RETAIL TO PHARMACY AND COSMETICS

- 07 Description Of The Market: By Type Of Kiosk
- 14 The Rise Of Cashless Vending
- 19 Other Use Cases

THE IMPACT ON THE AUTOMOBILE INDUSTRY

THE MULTIPLE APPLICATIONS OF KIOSKS

A FEW WORDS ON THE CURRENT STATE OF THE KIOSK INDUSTRY

HOW UNIQLO IS EXPANDING ITS BRAND WITH THE HELP OF KIOSKS

FIXING FOOTWEAR BLUES, THE UNATTENDED WAY

Dawn Dickson, founder of unattended shoe startup Flat Out of Heels, on how the company and the unattended retail sector as a whole have each evolved since their inception.

# UNATTENDED RETAIL IS NOT WHAT IT USED TO BE



Back in the days when one couldn't watch his or her favorite Friends episode on Netflix but instead had to wait for the show to air, and when internet connection was what happened after a modem delighted its users with a gorgeous string of melodies, there wasn't much one could buy without visiting a store. The self-service retail world was restricted to a few areas: snacks machines, cigarettes, newspapers, photo booths and a few last-resort personal product machines found in bar bathrooms.

Thanks to an infusion of new tech and capabilities, today viewers can watch Ross Geller say, "We were on a break!" any time they want, and those modem dial-up sounds can only be heard in 90s-throw-back videos on YouTube. But, how has the self-service retail industry and the technology on which hit relies really changed?

On one hand, vending machines and kiosks are certainly not what they used to be. No longer boring-looking rectangles packed with snacks and Coca-Cola bottles, today's machines provide a constantly expanding range of products and are selling them in self-service fashion — with help from technology like artificial intelligence (Al) and the Internet of Things (IoT). They've become so prevalent, in fact, that if one happens to be catching a flight, finding kiosks and vending machines offering everything from Uniqlo shirts, 1 to phone chargers and even souvenirs 2 is no longer a surprise.

New technology has also allowed the automobile industry to join the likes of kiosk-using, self-service fashion retailers with companies such as online car dealership Carvana or automotive company Autobahn Motors Group making first steps toward a completely self-service experience. In addition, China-based retailer Alibaba has presented its plans to use automated and intelligent technology to "make buying cars as easy as buying a can of Coke."<sup>3</sup>

Companies like Snapchat and CVS are also new players in the unattended game.

But it isn't just the products available from unattended marketplaces that have evolved. The use of emerging payment technologies are catalyzing change in self-serve retail. One can still choose to force a paper bill into a machine if he or she wants, but tapping a smart card is far easier. The evolution of technologies like Europay, Mastercard and Visa (EMV), near-field communication (NFC) and mobile wallets — as well as a heightened awareness of security breaches exposing buyers' payment data — creates a need for retailers, operators and FinTech companies to continue making investments and innovations in the self-service industry. With 67 percent of consumers reporting they would prefer unattended retail operators accept both cash and card payments, 4 it's clear that an evolution in the ways consumers prefer to pay is here.

But, unattended retail is not only about providing products. Self-serve shopping can also provide previously unavailable consumer engagement services.

Picture this: A plane lands in Indianapolis. A traveler skips the luggage pick-up wait because everything he needs is in his carry-on luggage — after all, it's just a two-day business trip. He wants to rent a car, so approaching one of the car-hiring desks is his only option, right? Not anymore. Companies like Bolloré are running car sharing programs such as Bluelndy, making driving away from the airport a completely self-service experience.

FROM SELF-CHECKOUT STATIONS AT SUPERMARKETS AND HARDWARE STORES

## TO THE TOUCH-SCREEN KIOSKS



<sup>&</sup>lt;sup>1</sup> Author unknown. Uniqlo shirts at push of a button in airport vending. BBC News. August 3, 2017. http://www.bbc.com/news/business-40810761. Accessed November 2017.

<sup>&</sup>lt;sup>2</sup> Baskas, Harriet. Your airport vending machine just got a major upgrade. NBC News. December 16, 2016. <a href="https://www.nbcnews.com/tech/innovation/your-airport-vending-machine-just-got-major-upgrade-n696901">https://www.nbcnews.com/tech/innovation/your-airport-vending-machine-just-got-major-upgrade-n696901</a>. Accessed November 2017.

<sup>&</sup>lt;sup>3</sup> Chou, Christine. Tmall wants to bring 'car vending machines' to China. Alizila. August 2, 2017. http://www.alizila.com/china-vending-machine-future-sells-cars/. Accessed November 2017.

<sup>&</sup>lt;sup>4</sup> Author unknown. Consumers adopt card payments at unattended terminals. Transaction Network Services. https://www.tnsi.com/resource-center/infographic-page?mediald=3319. Accessed November 2017.



With these technological advances in place, the growth of unattended retail is set to transform not only the way some businesses work, but also the economics of entire industries. The innovation involved helps businesses attract new customers by automating new services, allowing human employees to provide more value for consumers rather than wasting time on tasks that could be done by machines for a fraction of the cost.

From self-checkout stations at supermarkets and hardware stores to the touch-screen kiosks through which people search for product information, automation is here — and its working to improve the way we shop, bank, travel and more.

This report is designed to give readers a better understanding of how these emerging technologies are shaping the unattended retail market. It focuses on the ever-evolving world of unattended retail, including those selling items and services consumers never thought they could get without help from a human.

First, we present market analysis-provided data on the kiosk industry, discussing growth expectations and how markets are structured. We then zero in on how new payment technologies are transforming the shopping experience. In short, cash is still widely used for small-ticket items, but cards are winning a prominent position — and innovations with mobile wallets are also fighting to find their place.

Kiosks have a wide range of applications, including self-service luggage drop at airports, interactive information kiosks at shopping malls, machines providing tickets for public transportation and those dispensing phone chargers at travel hubs, among many others. In this report, we mainly focus on kiosks as part of the unattended retail experience. The range of offerings kiosks provide is constantly expanding, and it is our hope that our coverage will give readers an idea of the market's diversity.

We will also explore various use cases, ranging from clothing retail to the car industry, each showing how the unattended experience is modifying the way companies see retail. Finally, we will mention some of the players investing in this technology and what they hope to achieve.

All data, unless otherwise noted, is for the United States kiosk and unattended retail industry.

We are interested in your feedback on this report. Please send us your thoughts, comments, suggestions or questions to <u>unattendedretail@pymnts.com</u>.



## DESCRIPTION OF THE MARKET: BY TYPE OF KIOSK

The size of the U.S. interactive kiosk market grew at an average compound annual growth rate (CAGR) of 10.4 percent between 2013 and 2016, and the value of kiosks increased from \$533.37 million to \$716.97 million. By 2021, the interactive kiosk market value will reach \$1.07 billion, according to reports. This encompasses various applications and industries, like retail, transportation, hospitality and entertainment, among others.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> USA interactive kiosk market. (2017). BisReport Electronic Research Center.

We used this data to take a deeper look at the tailwinds driving kiosk market growth. Typically, successful businesses see a growth spurt at their inception, and rates keep pace with inflation, gross domestic product (GDP) and general economic trends as the market matures.

But kiosks and unattended retail represent an interesting case. They are mature businesses, as vending machines have been around for 134 years — the first of which debuted in London in 1883 and sold postcards. Given the longevity of the business model, one would expect growth rates to follow the typical patterns of a mature market.

However, that is not what the data shows.

The kiosks and unattended retail industry grew by more than 10 percent each year from 2013 to 2016,<sup>6</sup> well above current annual GDP growth rates of 3.1 percent.<sup>7</sup> In fact, when we project growth through 2021, we see more than 8 percent annually. Sure, it's a slight dip from the 10 percent annual growth achieved over the last five years, but it is well above typical rates of a mature industry.

This growth, therefore, implies brands can expect to see their market presence, acquisition of new customers, engagement and sales improve as kiosks become more prevalent as round-the-clock retail distribution outlets.



However, what's less clear is the overall impact kiosks will have on the retail segments they serve. In some cases, kiosks may represent an opportunity to attract new customers. One example would be an impulse buy at a kiosk in an airport or hotel lobby. But in others, it may represent a shift in store spend, such as a tourist caught without a jacket in New York City who opts to buy one from a Uniqlo kiosk instead of grabbing a Big Apple logo sweatshirt at the closest souvenir shop.

 Table 1.
 Shipment volume by type of kiosk in thousands of units for 2013 to 2016, and percentage change between 2013 and 2016<sup>8</sup>

SHIPN	2013	2014	2015	2016	CAGR 2013-16	
Food self-service kiosks	Food self-service kiosks			1060	1,192	11.3%
Beverage self-service kios	644	704	784	889	11.3%	
	Photo kiosks	93	93	110	134	12.9%
	Ticketing kiosks	378	430	488	551	13.4%
Non-food self-service retail kiosks	Electronic product charging kiosks	36	44	50	55	15.2%
retail kiosks	Clothing retail kiosks	14	16	18	21	14.5%
	Other	42	48	55	66	16.3%
Parking kiosks		223	239	266	296	9.9%
Electric vehicle charging k	Electric vehicle charging kiosks			36	45	35.7%
Patient interactive kiosks	Patient interactive kiosks			398	454	16.5%
Information kiosks	Information kiosks			393	473	12.1%
Employment kiosks	215	234	257	290	10.5%	
Check-in kiosks	eck-in kiosks		517	573	649	11.7%
Automated teller machine	mated teller machines kiosks		172	186	207	9.9%
Other	422	506	555	626	14.0%	
TOTAL	4,195	4,679	5,227	5,948	12.3%	

<sup>8</sup> USA interactive kiosk market. (2017). BisReport Electronic Research Center.

<sup>&</sup>lt;sup>6</sup> USA interactive kiosk market, (2017), BisReport Electronic Research Center,

<sup>&</sup>lt;sup>7</sup> USA interactive kiosk market. BisReport Electronic Research Center. October 2017 and U.S. economy at a glance: perspective from the BEA accounts. Bureau of Economic Analysis. September 2017. <a href="https://www.bea.gov/newsreleases/glance.htm">https://www.bea.gov/newsreleases/glance.htm</a>. Accessed November 2017.

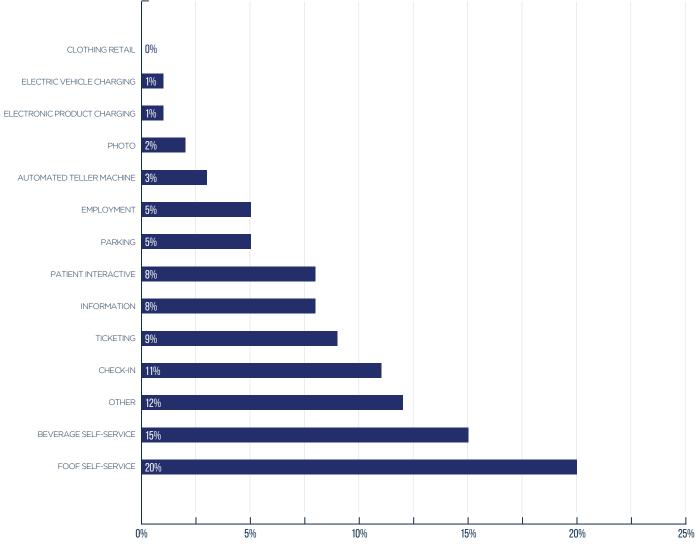


FIGURE 1. PERCENTAGE SHARE OF EACH KIOSK TYPE OVER TOTAL UNITS IN 20169

At a minimum, we believe that while kiosks may not necessarily drive incremental spend to the segment overall, giving consumers a convenient option to buy something does have the potential to drive purchasing, new customer acquisition and reduced cost of sales.

We examined how the United States' interactive kiosk market is subdivided by type of kiosk. Table 1 presents the shipment volume in thousands of units by type of kiosk — and the growth of each — between 2013 and 2016. Figure 1 shows the share of each in the total for 2016.

The importance of each type of kiosk in terms of total production amount did not change substantially during the period in consideration. Food self-service kiosks are the largest category by far, representing 20 percent of total production. Beverage self-service also takes a considerable share of units produced at 15 percent, followed by checkin kiosks (11 percent) and non-food self-service kiosks (14 percent).

In terms of growth, the production of kiosks increased by 10.4 percent per year — 42 percent in total — from 2013 to

<sup>&</sup>lt;sup>9</sup> USA interactive kiosk market. (2017). BisReport Electronic Research Center.



2016. The dynamics of each type of growth are quite different, though. Electric vehicle charging kiosks productions grew the most, increasing by more than 30 percent annually. Other industries may not have shown such growth, but they still presented an interesting evolution. The number of electronic product charging kiosks, clothing retail kiosks and patient interactive kiosks, for example, grew by 12.7 percent in the same time frame. Others saw slower production growth, with parking kiosks, employment kiosks and ATMs at 7.5 percent in 2016.

Table 2 and Figure 2 break out the numbers, referring to the market size of each kiosk type in millions of dollars.

 Table 2.
 Value of kiosks by type and percentage change in millions of dollars, 2013 to  $2016^{10}$ 

MARKET S	2013	2014	2015	2016	CAGR 2013-16	
Food self-service kiosks	92.1	99.7	107.7	117.2	8.4%	
Beverage self-service kiosks		78.7	84.7	91.5	100.8	8.6%
		13.4	14.4	15.7	17.9	10.3%
	Ticketing kiosks	49.8	56.3	63.6	70.0	12.0%
Non-food self-service retail kiosks	Electronic product charging kiosks	4.2	4.8	5.5	6.0	12.7%
retaii kiosks	Clothing retail kiosks	1.7	1.9	2.1	2.2	9.2%
	Other	5.6	6.3	7.1	8.1	13.4%
Parking kiosks		29.2	30.7	33.6	36.4	7.5%
Electric vehicle charging k	2.6	3.5	4.7	5.7	30.3%	
Patient interactive kiosks	42.3	47.1	54.4	62.5	13.9%	
Information kiosks	50.8	54.1	58.4	63.3	7.6%	
Employment kiosks	27.8	29.6	32.4	35.9	8.8%	
Check-in kiosks	59.8	65.2	71.3	78.7	9.6%	
Automated teller machine	22.1	24.2	26.3	29.3	9.8%	
Other	53.5	62.5	72.4	83.1	15.9%	
TOTAL	533.4	584.8	646.5	717.0	10.4%	

<sup>&</sup>lt;sup>10</sup> USA interactive kiosk market. (2017). BisReport Electronic Research Center.

Kiosks' growth in value has not been as high as that of production, which saw 34 percent growth between 2013 and 2016. While electric vehicle charging kiosks grew 120 percent in market size, no other market size grew more than 50 percent apart from the "Other" category. Some, such as parking kiosks and information kiosks, did not present a market share growth of more than 24 percent.

CLOTHING RETAIL ELECTRIC VEHICLE CHARGING ELECTRONIC PRODUCT CHARGING 1% PHOTO AUTOMATED TELLER MACHINE **EMPLOYMENT** PARKING PATIENT INTERACTIVE INFORMATION TICKETING CHECK-IN OTHER BEVERAGE SELF-SERVICE FOOF SELF-SERVICE

FIGURE 2. PERCENTAGE PARTICIPATION FOR EACH KIOSK TYPE IN RELATION TO TOTAL MARKET, 2016<sup>11</sup>

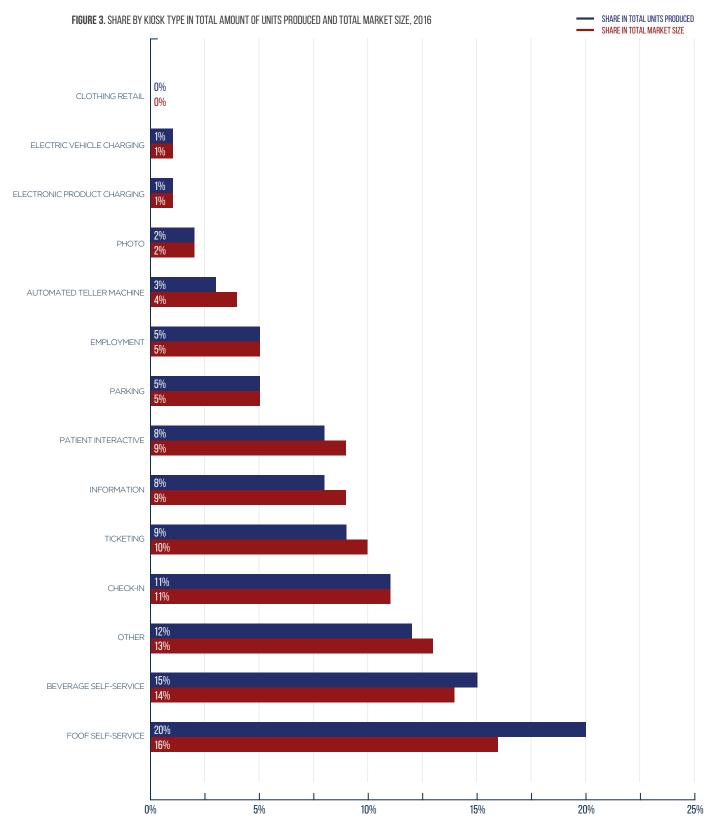
Figure 3 examines the various industries for which kiosks were produced, as well as the percentage of the market each captures. For example, food and beverage self-service kiosks have a higher production share than market share. This is because their average price per unit is below the market average. However, other categories — such as ticketing and patient interactive kiosks — have an inverse relationship, according to our data.

20%

15%

25%

 $<sup>^{\</sup>rm 11}$  USA interactive kiosk market. (2017). BisReport Electronic Research Center.



 $<sup>^{12}\,</sup>$  USA interactive kiosk market. (2017). BisReport Electronic Research Center.

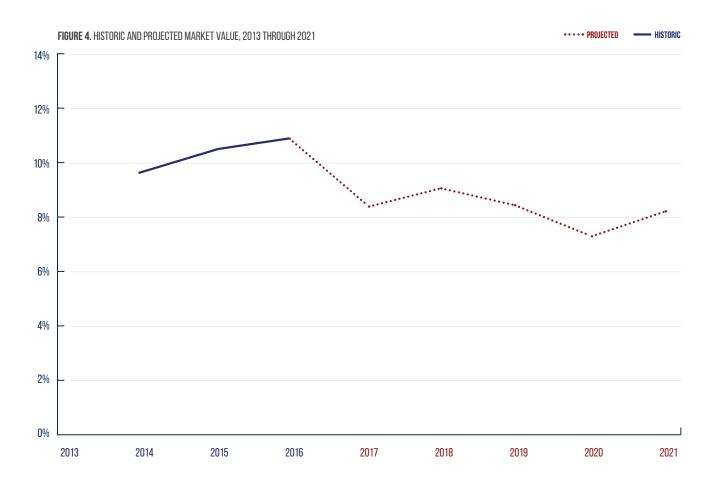
As previously noted, the total estimated market share for kiosks will exceed \$1 billion by 2021, and the total market value is expected to reach \$1,073.5 million by then. 13 It followed a remarkably steady trend of high growth from 2013 through 2016, as shown in Figure 4, and has exceeded 10 percent, and continued increasing, over the last couple of years. Going forward, growth is expected to decline, but remain above 8 percent for the next 5 years. By comparison, the current growth in GDP is approximately 3 percent and is expected to grow to 4 or 5 percent over the next five years. 14

This trend is particularly interesting, as new products with large consumer adoption would typically be expected to have a large growth rate that increases over the next several years. As these products mature, we would expect to see this rate flatten quickly and move closer to something like inflation. In this case, however, we see the projected growth

rate decreasing but remaining above indications that the product or channel has matured. The pattern shows another sales channel is competing with the kiosk market.

In fact, the largest channel expansion we see in the U.S. is in eCommerce, a niche displaying 15 percent annual growth for more than a decade. As such, it would appear kiosks represent a strategic method of reaching consumers with more immediate access to products. eCommerce might still be the preferred growth channel when consumers do not want to visit stores and do not need the product instantly, however.

Author unknown. Economic outlook no. 101 – June 2017. Organization For Economic Co-Operation And Development. Link: <a href="http://stats.oecd.org/Index.aspx?QueryId=51654">http://stats.oecd.org/Index.aspx?QueryId=51654</a>. Accessed November 2017.



<sup>13</sup> USA interactive kiosk market. (2017). BisReport Electronic Research Center.

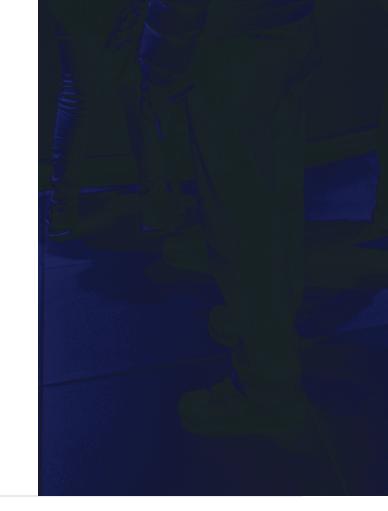
 Table 3.
 Historic and projected development of the kiosk market by segment, 2013 through 2021

MARKET SIZE (MILLION OF \$)		HISTORIC (\$MM)			PROJECTED (\$MM)				CAGR (\$MM)				
						2017				2021	<b>2013-16</b> (A)	<b>2016-19</b> (P)	<b>2019-21</b> (P)
Food self-service		92.1	99.7	107.7	117.2	126.3	138.36	151	160.34	174.77	8.4%	8.8%	7.6%
Beverage self-service		78.7	84.7	91.5	100.8	109.4	119.16	124.69	133.83	134.84	8.6%	7.3%	4.0%
Non-food self-service	Photo	13.4	14.4	15.7	17.9	19.93	22.27	24.46	26.41	29.09	10.3%	10.9%	9.1%
	Ticketing	49.8	56.3	63.6	70.0	74.75	80.57	89.34	92.23	105.64	12.0%	8.5%	8.7%
	Electronic product charging	4.2	4.8	5.5	6.0	6.39	6.8	7.2	7.64	7.94	12.7%	6.6%	5.0%
	Clothing retail	1.7	1.9	2.1	2.2	2.34	2.46	2.49	2.58	2.58	9.2%	5.0%	1.8%
	Other	5.6	6.3	7.1	8.1	9.11	10.03	11.26	12.41	13.63	13.4%	11.6%	10.0%
Parking		29.2	30.7	33.6	36.4	39.4	42.58	45.78	50.14	53.03	7.5%	8.0%	7.6%
Electric vehicle charging		2.6	3.5	4.7	5.7	6.7	8.58	10.34	11.81	13.74	30.3%	22.2%	15.3%
Patient interactive		42.3	47.1	54.4	62.5	69.15	75.98	82.33	88.76	97.26	13.9%	9.6%	8.7%
Information		50.8	54.1	58.4	63.3	68.21	73.26	78.27	82.01	86.53	7.6%	7.3%	5.1%
Employment		27.8	29.6	32.4	35.9	38.54	41.82	45.78	48.05	51.85	8.8%	8.5%	6.4%
Check-in		59.8	65.2	71.3	78.7	84.41	91.11	98.02	103.75	110.79	9.6%	7.6%	6.3%
Automated teller machines		22.1	24.2	26.3	29.3	31.3	34.08	36.73	40.01	43.37	9.8%	7.8%	8.7%
Other		53.5	62.5	72.4	83.1	92.74	102.84	115.28	132.84	148.47	15.9%	11.5%	13.5%
TOTAL		533.4	584.8	646.5	717.0	778.7	849.9	923.0	992.8	1,073.5	10.4%	8.8%	7.8%

## THE RISE OF CASHLESS VENDING

The percentage of U.S. sales made with physical currency has declined over the last few years, but cash still maintains its title as the preferred payment method for low-ticket items, which make up the bulk of unattended retail sales. According to the Federal Reserve's 2015 "Diary of Consumer Payment Choice" report, cash share for transactions dropped from 40 percent in 2012 to 32 percent in 2015. Despite cash's popularity, debit and credit cards represented 48 percent of transactions in 2015, up from 42 percent in 2012.

<sup>&</sup>lt;sup>15</sup> Matheny, Wendy; O'Brien, Shaun and Wang, Claire. The state of cash: preliminary findings from the 2015 Diary of Consumer Payment Choice. Cash Product Office, Federal Reserve System. November 2016. available at: http://www.frbsf.org/cash/files/FedNotes-The-Stateof-Cash-Preliminary-Findings-2015-Diary-of-Consumer-Payment-Choice.pdf. Accessed November 2017.





The same report indicates cash made up 62 percent of transactions totaling less than \$10, and that debit and credit cards were used in just 34 percent of these transactions. For transactions of higher value — \$10 to \$24.99 — cash usage lowered to 42 percent and credit/debit card usage increased to 54 percent.

Meanwhile, the unattended retail market, famous for its cash use, is adapting to growth in alternative payment methods. The vending and kiosk industry is now enabled by a mix of technologies, with some players only taking cash while others also accept alternative payment methods such as debit/credit cards, contactless cards, EMV and mobile payment acceptance.

Payment, telecommunications and financial data solutions provider Transaction Network Services (TNS) offers a series of reports on consumers' perception of card payments in unattended retail. One such report, completed in February 2016, 16 sheds light on card-based payments and unattended retail in three countries. The survey polled 1,050 U.S. adults, 1,030 from Australian and 1,002 from the U.K. to achieve its findings.

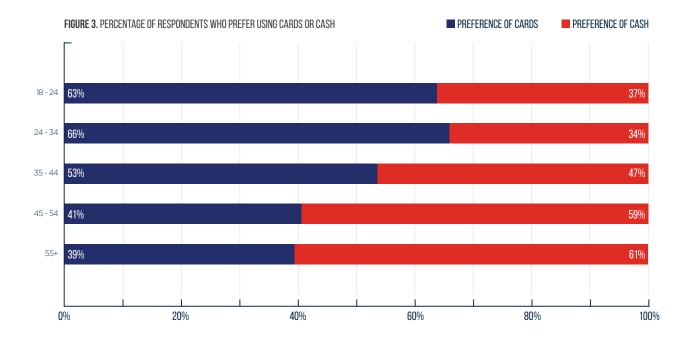
Overall, 67 percent of TNS survey respondents reported preferring unattended vending machines and kiosks that accept both cash and card payments. Despite this, the number of buyers who favor cards when buying low-cost items at vending machines comprised less than half the total respondents (49 percent). That is, when no fee for such payments is involved. If using a credit or debit card to make a purchase means being charged a fee, the number of people willing to use cards dropped to 29 percent — still a considerable portion.

The usage of card payments is not homogenous across regions, though. The percentage of users who use card payments at unattended locations is dependent on country and type of product. For example, when it comes to parking meters, kiosks and exit barriers, Australians favor card payment adoption, with a total of 48 percent stating they have used the payment method — compared to 46 percent in the U.S. and 38 percent in the U.K. For use of payment cards used to purchase food and drink items from vending machines, the U.S. takes first place at 44 percent, followed by Australians at 36 percent and Brits at 31 percent.

<sup>&</sup>lt;sup>16</sup> Author unknown. Consumers adopt card payments at unattended terminals. Transaction Network Services. Date unknown. <a href="https://www.tnsi.com/resource-center/infographic-page?mediald=3319">https://www.tnsi.com/resource-center/infographic-page?mediald=3319</a>. Accessed November 2017.

We also see regional differences in card adoption in the U.S. market, and the following data corresponds to a separate TNS report.<sup>17</sup> For example, 54 percent of people living in the Western U.S. have used their cards at unattended terminals, while just 38 percent of those located in the South have done so. The report also sheds light on how card preferences vary according to buyers' age.

The following graph represents the percentage of buyers who prefer to use either card or cash when buying low-cost items at vending machines if no fee charge is involved. This data is not available for kiosks alone, but consumer payment behavior in vending machines and kiosks can be thought to be similar, or at least positively correlated.



As seen in the chart, a preference for cards is higher among consumers aged 18 to 44, while cash appears to be favored by consumers over the age of 45. Overall, 31 percent of users still prefer cards over cash, even when charges apply.

The TNS report also examined consumers' perception of fraud in terms of card use at unattended machines. It concluded 69 percent of U.S. adults felt using cards at unattended machines or kiosks meant putting themselves at risk of card fraud.

The migration to contactless payments in unattended retail is evident in several deals occurring across the industry.

For example, the usage of contactless payments in self-service laundry has been documented by cashless payments acceptance technology firm USA Technologies Inc. (USAT) and coin-operated laundry equipment provider Setomatic Systems. The companies noted that between April 2016 and April 2017, Setomatic saw a 150 percent increase in contactless payments for laundry services. <sup>18</sup> In fact, the Coin Laundry Association estimates the self-service laundry industry represents a nearly \$5 billion market which saw an average increase in gross dollar volume of 11.2 percent, up from 9.6 percent in 2015.

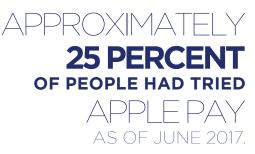
<sup>&</sup>lt;sup>17</sup> Author unknown. US want to use cards at unattended terminals. Transaction Network Services. Date unknown. <a href="https://www.tnsi.com/resource-center/infographic-page?mediald=3466">https://www.tnsi.com/resource-center/infographic-page?mediald=3466</a>. Accessed November 2017.

<sup>&</sup>lt;sup>18</sup> Author unknown. Cashless payments for self-serve laundry locations more than doubled over past year. PYMNTS.com. June 6, 2017. <a href="https://www.pymnts.com/news/payment-methods/2017/contactless-payments-and-cashless-payments-for-self-serve-laundry-locations-double-over-past-year/">https://www.pymnts.com/news/payment-methods/2017/contactless-payments-and-cashless-payments-for-self-serve-laundry-locations-double-over-past-year/</a>. Accessed November 2017.

Last year, self-service key duplicating kiosk firm minuteKEY sealed a deal with USAT to join its list of ePort Connect customers. As part of the agreement, 3,400 of minuteKEY's kiosks migrated to USAT's Quick Connect API, a solution designed to allow the company to process cashless transactions and track acceptance of cash, credit/debit cards and mobile wallet payments such as Apple Pay and Android Pay. The deal also gives minuteKEY access to USAT's support service and loyalty programs.

Three Square Market also made worldwide news this year when it took cashless payment to a new level by proposing microchips inserted in buyers' hands as a payment method — and testing the technology on company volunteers. <sup>20</sup> The microchips, which use radio frequency identification (RFID) and NFC technology, allow employees to make purchases in the company's break room, open doors or access computers without typing their password.

What about mobile wallets? Mobile wallet adoption data from PYMNTS noted that approximately 25 percent of people had tried Apple Pay as of June 2017, with other mobile wallets seeing smaller adoption, including Samsung Pay (15 percent), Walmart Pay (19 percent) and Android Pay (11 percent).<sup>21</sup> For the portion PYMNTS surveyed in the report, approximately 5.5 percent used Apple Pay



and 5 percent used Walmart Pay, while Android Pay and Samsung Pay usage rates were 1.8 percent and 2.8 percent, respectively.

While it's true mobile payments adoption is less prevalent than cash or cards, the kiosk and vending retail industry has taken note of them. As such, various companies are supporting their inclusion as alternative payment methods that can also be paired with loyalty and rewards program offerings for their customers.

USAT is one company showing interest in mobile payments, adding Apple Pay, Google Wallet and Samsung Pay to its roster.<sup>22</sup> Earlier this year, USAT and Apple deepened their relationship, recently announcing the integration of Apple Pay into USAT's loyalty and payroll deduct program



<sup>&</sup>lt;sup>19</sup> Author unknown. USA Technologies adds minuteKey to ePort connect customers. PYMNTS.com. October 25, 2016. http://www.pymnts.com/news/payment-methods/2016/usa-technologies-adds-minutekey-to-eport-connect-customers/. Accessed November 2017.

<sup>&</sup>lt;sup>20</sup> Author unknown. Embedded chips lend a hand to unattended retail. PYMNTS.com. August 16, 2017. http://www.pymnts.com/unattended-retail/2017/microchip-hand-implant-technology/. Accessed November 2017.

<sup>21</sup> Author unknown. Mobile wallet adoption: where are we almost 3 years in? PYMNTS.com. http://www.pymnts.com/mobile-wallet-adoption-2017. Accessed November 2017.

<sup>&</sup>lt;sup>22</sup> Author unknown. USA Technologies announces support for Apple Pay. PYMNTS.com. January 27, 2015. <a href="http://usat.client.shareholder.com/releasedetail.cfm?ReleaseID=892997">http://usat.client.shareholder.com/releasedetail.cfm?ReleaseID=892997</a>. Accessed November 2017.



by including it at approximately 300,000 machines nationwide.<sup>23</sup>

The digital payment revolution has even impacted traditional items like jukeboxes. Entertainment equipment provider AMI Entertainment Network has been experimenting with the interaction between the classic jukebox and new available technologies, <sup>24</sup> developing jukeboxes with digital integrations. By downloading the BarLink app, patrons can find and play music without leaving their seats at the bar, and with no need for coins or bills as payments are completed through their mobile devices.

Beacon technology has also found its way into the unattended retail market. Last year, wireless proximity technology provider Netclearance released mBeaconVend, a mobile-agnostic beacon technology giving vending machines the ability to accept mobile payments.<sup>25</sup> Netclearance technology allows buyers to make purchases by simply waving their phones over a smart beacon and confirming the transaction — all initiated via a customized app.

Even if it's true that cash is still quite prominent as a payment method for low-cost transactions, at the end of the day, the role of cards is growing. The unattended industry is adapting to this reality, and many kiosks are already accepting cashless payment options. Though mobile payments are far from mainstream in the U.S., some companies providing payment services to unattended machine providers are catching onto them in advance.

In a world in which payment data leaks are growing and users perceive fraud risk around every corner, payments may be one of the most complex and complicated sides of unattended retail. As such, being aware of payments innovation needs to be an important agenda item for kiosk providers.

Author unknown. USA Technologies, Apple expand partnership. PYMNTS.com. January 5, 2017. http://www.pymnts.com/apple-pay-tracker/2017/usa-technologies-apple-expand-partnership/. Accessed November 2017.

<sup>&</sup>lt;sup>24</sup> Author unknown. Jukeboxes take digital for a dance. PYMNTS.com. June 16, 2016. <a href="http://www.pymnts.com/news/omnicommerce/2016/ami-jukeboxe-innovation-omnicommerce/">http://www.pymnts.com/news/omnicommerce/2016/ami-jukeboxe-innovation-omnicommerce/</a>. Accessed November 2017.

<sup>&</sup>lt;sup>25</sup> Author unknown. New beacon from Netclearance ends the requirement for cash payments in vending machines. Netclearance. September 23, 2016. <a href="http://www.netclearance.com/">http://www.netclearance.com/</a> press-release-archive/new-beacon-from-netclearance-ends-the-requirement-for-cash-payments-in-vending-machines. Accessed November 2016.

### OTHER USE CASES

The world of kiosks also presents plenty of other opportunities for implementation, even reaching industries like jukeboxes and entertainment.

"Going back 100 years ago, the technology was really a player piano with a coin box attached and, in some ways, the sort of payment options and collection options haven't changed that much, believe it or not," AMI Entertainment chief technology officer Ron Richards explained.<sup>26</sup>

But, with both kiosks and the demand for mobile payments on the rise, times are changing.

AMI's BarLink mobile app, for example, allows users to load money into their accounts for use as a wallet to pay for music selections. This mean change not only in payments, but also in the intelligence of the machines.

"It gets us more than just payments," Richards said. "It gives our patrons the ability to make selections at the bar stool, and it gives us more consumer profile data." 27

With cashless payment options come security concerns, though, and the company has partnered with USAT to encrypt payment data at the card reader. USAT also manages the security and tokens used for decrypting consumers' payment data.

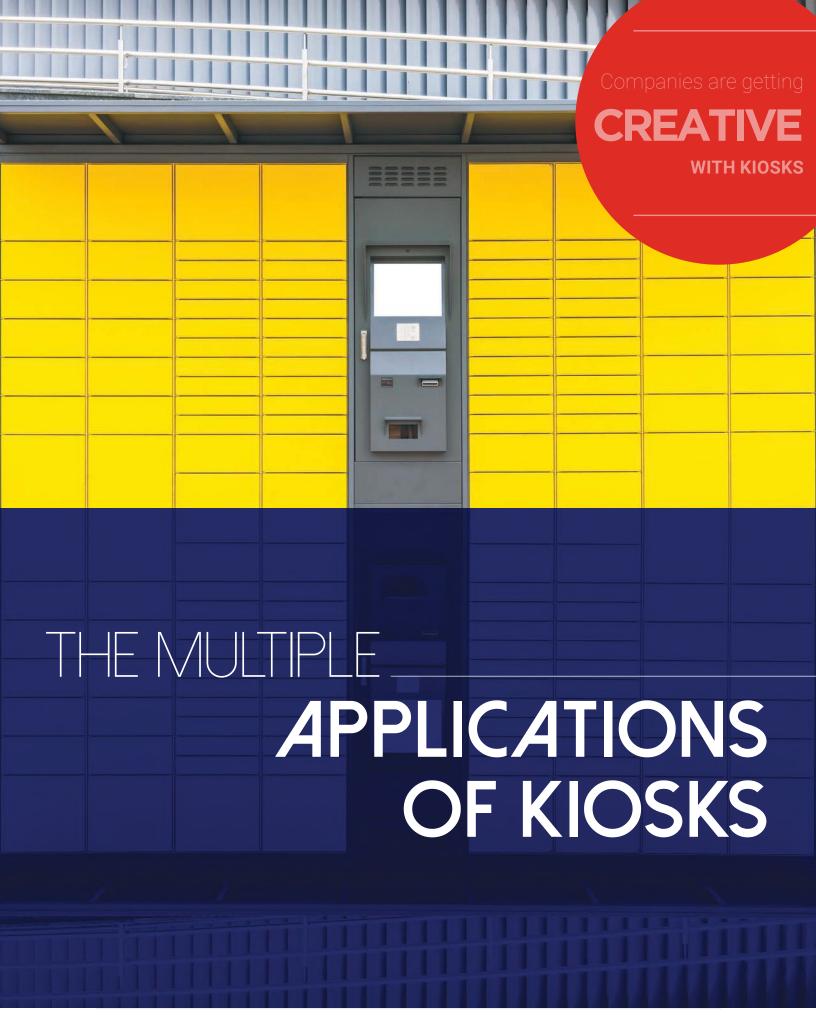
AMI is also considering NFC and EMV-enabled payment options, but, as Richards explained, "I can't predict when we'd adopt it, [and] I think it's really a question of where things go in the consumer space in terms of demand for that kind of technology versus the cost aspect."

Kiosks even reach points that could be considered bizarre. One example is a Russian kiosk allowing Instagram users to purchase likes. Located in a shopping mall close to Moscow's Red Square, the machine allows users to buy 100 Instagram likes for \$0.89 or obtain 150,000 followers, and a corresponding 1,500 likes per post, for a price of \$850. It also allows customers to print out photos from Instagram.



<sup>&</sup>lt;sup>26</sup> Author unknown. Jukeboxes take digital for a dance. PYMNTS.com. June 16, 2016. <a href="https://www.pymnts.com/news/omnicommerce/2016/ami-jukeboxe-innovation-omnicommerce/">https://www.pymnts.com/news/omnicommerce/2016/ami-jukeboxe-innovation-omnicommerce/</a>. Accessed November 2017.

<sup>&</sup>lt;sup>27</sup> Author unknown. Jukeboxes take digital for a dance. PYMNTS.com. June 16, 2016. https://www.pymnts.com/news/omnicommerce/2016/ami-jukeboxe-innovation-omnicommerce/. Accessed November 2017.



iosk usage is already reaching a variety of industries and is expected to grow to a market value of \$1,073.54 million by 2021.<sup>28</sup> Kiosks are helping users buy tickets in cinemas and giving commuters a place to charge their transport cards in train stations. The world of kiosks has many uses in the retail industry, too, allowing shoppers to buy phone chargers, makeup and even Instagram likes through unattended retail solutions. The table below presents a brief description of many current applications of kiosks.

Table 4. Applications of Kiosks

USE	CASE	APPLICATION						
FOOD SELF-SERVICE		Include not only snack vending machines but also point of order and payment terminals for restaurants and fast food chains						
BEVERAGE SELF-SE	RVICE	Dispense cans and bottles of beverages; one of the most classic kiosk cases and can be found almost everywhere						
	РНОТО	Allow users to take photos or have photos printed; another classic kiosk						
NON-FOOD	TICKETING	Allow users to obtain tickets for transport and entertainment, among other services						
	ELECTRONIC PRODUCT CHARGING	Allow people to charge their phones and other rechargeable battery-powered electronic devices						
	CLOTHING RETAIL	Apparel and accessory retail companies dispense items through kiosks; an additional unattended sales channel						
PARKING		Allow users to pay for parking; another classic kiosk application in everyday life						
ELECTRIC VEHICLE	CHARGING	Users can plug in their electric cards to recharge them. , This type of kiosk has grown more popular, given the rise of car-sharing programs around the world						
PATIENT INTERACTIVE		An unattended channel in the healthcare industry to engage with patients and hele them check in for appointments without waiting in line, among other services						
INFORMATION		Provide information to users, from guiding shoppers through a mall to displaying promotions in a retail shop						
CHECK-IN		Allow users to check in at various establishments and arrangements, mainly in the hospitality and travel industries						

<sup>&</sup>lt;sup>28</sup> USA interactive kiosk market. (2017). BisReport Electronic Research Center.



hough retail companies are beginning to see kiosks as a new opportunity for sales, clothing retail kiosks do not represent much of the total kiosk industry. In 2016, some 21,000 were shipped to the U.S., representing just 0.4 percent of shipments. Nevertheless, their shipments grew 50 percent between 2013 and 2016, representing one of the largest growth rates in the market.<sup>29</sup>

One of the companies making its first steps in the kiosk industry is Japanese retailer Uniqlo, owned by parent company Fast Retailing, which also owns J Brand, GU, Theory, Princesse tam.tam and Comptoir des Cotonniers. Fast Retailing opened its first Uniqlo shop in 2016, its New York City Soho Store, and followed five years later with a second shop on Fifth Avenue. The brand has since expanded to New Jersey, Boston, San Francisco and Los Angeles, and boasted 42 stores at the end of August 2015.<sup>30</sup>

Despite its initial growth, Uniqlo sales began to slow down, casting doubts on the company's plan of expanding its U.S. storefronts into hundreds of locations. The Japanese retailer pivoted its strategy, instead rolling out 10 retail kiosks in airports and malls throughout the United States. The kiosks provide clothing items such as heat-retaining shirts and lightweight down jackets, and returns and exchanges are processed in-store or by mail.<sup>31</sup>

The Uniqlo case shows how kiosks can be central to a company's marketing campaign. Marisol Tamaro, U.S. chief

of marketing at Uniqlo, told the Wall Street Journal that the vending machines were relatively affordable compared to operating a storefront and have the unique ability to reach a substantial number of travelers.<sup>32</sup>

Some retailers have been using kiosks since their respective companies' inceptions. Flat Out of Heels sells roll-able flats in its kiosks. Though the company started out focusing on unattended retail, it is now channeling its online presence to boost sales at its unattended kiosk locations.

"If anything, our online presence really drives people to purchase at vending machines," said Dawn Dickson, the company's founder, in a recent interview with PYMNTS. "The vending machine is really where the demand is. Our customers' feet hurt, and they need new shoes now."

- <sup>29</sup> USA Interactive Kiosk Market", BisReport Electronic Research Center, October 2017.
- <sup>30</sup> Author unknown. Company Information page. Fast Retailing. Date unknown. http://www.fastretailing.com/eng/group/strategy/usa.html. Accessed November 2017.
- <sup>31</sup> Author unknown. Uniqlo launches clothing vending machines. PYMNTS.com. August 3, 2017. https://www.pymnts.com/news/retail/2017/uniqlo-launches-clothing-vending-machines/. Accessed November 2017.
- <sup>32</sup> Wahba, Paul. Uniqlo to sell clothing via vending machines. Fortune. August 2, 2017. http://fortune.com/2017/08/02/uniqlo-vending-machines/. Accessed November 2017.





osmetics companies have also joined the kiosk trend, with participation from firms like acne treatment and prevention products producer Proactiv Company, which boasts approximately 1,000 kiosks in the U.S., Canada and Japan. Proactiv's executive vice president of brand and product marketing, Kimber Maderazzo, noted the unattended retail side of the business is just a part of its bigger marketing and selling strategy.

Maderazzo explained that 15 years ago, when the internet was smaller and marketing online was more difficult, unattended retail helped raise consumer awareness of the Proactiv brand. Today, its self-service kiosks work together with online sales, physical brick-and-mortar stores, word-of-mouth marketing and celebrity endorsements. And, as Maderazzo said, even if the company spends "a large amount of money" on raising brand awareness, incorporating vending machines into the mix has already paid off.<sup>33</sup>

Pharmacies are also trying to fit into the unattended retail market. Drugstore and wellness goods chain CVS announced in September that its retail division, CVS Pharmacy, was introducing automatic retail kiosks. These machines dispense several items, including over-the-counter health products and "better-for-you" snacks. For CVS, as for many companies opting into unattended retail, the idea of being able to reach consumers in high-traffic sales points was a large driver behind the decision.

"We are always looking for new ways to combine convenience and innovation to help better serve our customers," said Judy Sansone, senior vice president of front store business and chief merchant at CVS Pharmacy. "Our new CVS Pharmacy vending machine program allows us to extend that convenience beyond our brick-and-mortar locations to offer customers on-the-go essentials in the locations where they often need them most, like airports, hotels and other transportation hubs." 34

<sup>&</sup>lt;sup>33</sup> Author unknown. How unattended kiosks are connecting consumers with cosmetics. PYMNTS.com. April 20, 2017. https://www.pymnts.com/unattended-retail/2017/kiosks-consumers\_cosmetics-beauty-products/. Accessed November 2017.

<sup>34</sup> Author unknown. CVS Pharmacy thinks outside the box with introduction of health and wellness vending machines. CVSHealth. September 7, 2017. https://cvshealth.com/newsroom/press-releases/cvs-pharmacy-thinks-outside-box-introduction-health-and-wellness-vending. Accessed November 2017.

CVS released 25 kiosks between the beginning of September and the end of October, all located around New England and in New York. The machines are strategically placed in airports, public transit locations, office parks and college campuses, accept credit and debit cards and will be equipped with  $\Omega R$  code readers.<sup>35</sup>

Unattended retail technology can also help solve practical problems. Students from UC Davis in California now have access to a kiosk providing the "morning-after pill as well as condoms, pregnancy tests, tampons and over-the-counter medication such as Advil," the Los Angeles Times reported. The Wellness to Go machines' availability was promoted by Parteek Singh, a former university student, who reported feedback has been largely positive, though the kiosk has both support for it and people against it.

"I really value the anonymity of having a vending machine," said Georgia Savage, a UC Davis student, in an interview with the Sacramento Bee. "Obviously, we have health services on our campus that students can go to. But, a lot of students like the judgment-free space and don't have to feel the pressure of interacting with people. I think that increases accessibility." 37

On the other hand, not everyone supports the new unattended retail machine.

Whether one is for or against Wellness to Go, the innovation represents a prime example of how an unattended experience can act as an alternative way to provide necessary services.

<sup>37</sup> Lambert, Diana. Morning-after pill now available through vending machine at UC Davis. The Sacramento Bee. April 21, 2017. <a href="http://www.sacbee.com/news/local/article146099749.html">http://www.sacbee.com/news/local/article146099749.html</a>. Accessed November 2017.



<sup>&</sup>lt;sup>35</sup> Author unknown. CVS Pharmacy thinks outside the box with introduction of health and wellness vending machines. CVSHealth. September 7, 2017. <a href="https://cvshealth.com/newsroom/press-releases/cvs-pharmacy-thinks-outside-box-introduction-health-and-wellness-vending-Accessed November 2017">https://cvshealth.com/newsroom/press-releases/cvs-pharmacy-thinks-outside-box-introduction-health-and-wellness-vending-Accessed November 2017</a>.

<sup>&</sup>lt;sup>36</sup> Parvini, Sarah. This California university has a vending machine that sells the morning-after pill. Los Angeles Times. April 25, 2017. http://www.latimes.com/local/lanow/la-me-In-morning-after-pill-machine-20170425-story.html. Accessed November 2017.

# THE IMPACT ON THE AUTOMOBILE INDUSTRY

n addition, unattended retail innovation is already impacting the automotive industry. Self-service technology is not only transforming the way people are purchasing cars, as companies like Carvana and Alibaba are showing, but is also making its way into other services associated with automobiles, such as car sharing.

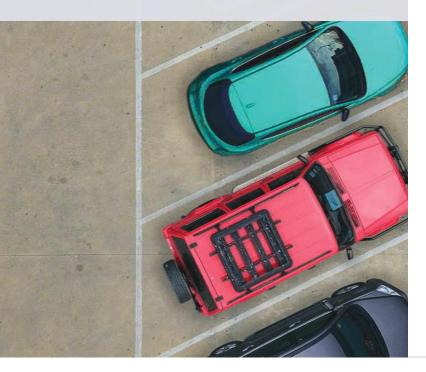
Car kiosks are being explored by various companies, including Carvana. A buyer begins online, selects his desired car, accesses financing options and finally makes a purchase. He can then choose to have the car delivered to his door or pick it up at one of six Carvana car vending machines available around the U.S.

A similar model was implemented in Singapore by luxury car seller Autobahn Motors.<sup>38</sup> The company's

working model differs from Carvana, as buyers can go through the whole buying process directly from the car kiosk touchscreen located in the building from which a car can be chosen. The car then arrives in front of the buyer in one to two minutes.

Though the Carvana experience resembles a car kiosk, it is not completely unattended. China-based Tmall, the business-to-consumer (B2C) shopping site owned by the Alibaba Group, wants to take this idea a step further and, as in words of the company's automotive division general manager, "make buying cars as easy as buying a can of Coke." The automotive vending machine would allow consumers to browse and choose a car stored in a building similar to those of Carvana and Autobahn Motors, make the payment and receive the car at ground level — and the buyer can handle all necessary steps from his or her smartphone.

Service providers have also been investing in unattended retail possibilities. Ford Motor Company introduced its Smart Service Kiosks in Michigan earlier this year, developed in collaboration with electronics company Panasonic.<sup>40</sup> The new kiosk enables customers to have their cars serviced in a more convenient way.



<sup>&</sup>lt;sup>38</sup> Author unknown. Car vending machine: we try out the novel Singapore dealership. BBC. May 22, 2017. http://www.bbc.com/news/av/world-asia-39971442/car-vending-machine-we-try-out-the-novel-singapore-dealership. Accessed November 2017.

<sup>&</sup>lt;sup>38</sup> Chou, Christine. Tmall wants to bring 'car vending machines' to China. Alizila. August 2, 2017. <a href="http://www.alizila.com/china-vending-machine-future-sells-cars/">http://www.alizila.com/china-vending-machine-future-sells-cars/</a>. Accessed November 2017.

<sup>&</sup>lt;sup>40</sup> Author unknown. Ford Introduces smart service kiosk to make car maintenance easier. PYMNTS.com. March 15, 2017. <a href="http://www.pymnts.com/innovation/2017/ford-introduces-smart-service-kiosk-to-make-car-maintenance-easier-auto/">http://www.pymnts.com/innovation/2017/ford-introduces-smart-service-kiosk-to-make-car-maintenance-easier-auto/</a>. Accessed November 2017.

"The kiosk allows customers to come to the dealership at any time to drop off and pick up their vehicle key or obtain keys to a loaner vehicle, select needed services from a quick-pick menu, and pay for service using a credit or debit card," according to a company statement.

The usage of kiosks has not only modified the way cars can be purchased or serviced, but is also playing a role in the expansion of car sharing programs. In fact, one of the most popular ways in which kiosks are transforming driving is through their role in such offerings.

Indianapolis has its own car sharing program, offered by Bluelndy, and its users must follow a few steps to ride in one of the company's electric cars. First, a subscription can be completed either online or through one of the company's enrollment kiosks. Once the user has a membership card, he or she approaches a Bluelndy kiosk, holds it over the reader and an available car will become ready for use. Cars can also be reserved in advance. Users can drive the cars and leave them at any convenient charging station. Bluelndy currently reports up to 200 stations, 500 planned cars and 24/7 non-stop self-service as perks of paying the fixed monthly membership fee, plus a cost of \$4 for 20 minutes and \$0.20 for every extra minute after that, when one purchases an annual membership.

Behind the BlueIndy program is French transportation company Bolloré Group, which is already running similar programs in France. The BlueIndy project investment costs are funded by the Bolloré Group, which provides the cars and infrastructure, and by the Indianapolis Power & Light Company, which installed the charging stations, according to Forbes.<sup>41</sup>

Bolloré's Paris-based car sharing service Autolib' launched in 2011 under a two-month trial period<sup>42</sup> and with 66 ultracompact Bluecars — all with Bolloré providing the vehicles and batteries and the City of Paris covering most of the costs required to establish the charging stations.<sup>43</sup> The company's planned 4,000 electric Bluecars represent a

THE EXPANSION IN

## CAR SHARING PROGRAMS HAS

## POSITIVELY IMPACTED

## THE ELECTRIC VEHICLE CHARGING KIOSKS INDUSTRY

reduction in private vehicles and an estimated 36,361 miles (165,000,000 kilometers) driven per year by combustion engine vehicles.

Autolib' works like Bluelndy. The driver approaches one of the kiosks, passes a badge over a sensor, unplugs the car from its charging station and is ready to go. Bolloré has already launched similar programs in Bordeaux and Lyon under the brands Bluecub and Bluely, respectively. It also boasts a car sharing program in London under the Bluecity brand.<sup>44</sup>

The expansion in car sharing programs has positively impacted the electric vehicle charging kiosks industry. Some 18,000 were built in the U.S. by 2013, a number that reached 45,000 in 2016. That represents 153 percent growth and increased market value of 121 percent between 2013 and 2016, up from \$2.56 million to \$5.66 million.

<sup>4</sup> Robehmed, Natalie. French billionaire Vincent Bolloré launches electric car sharing service in Indianapolis. Forbes. May 20, 2014. https://www.forbes.com/sites/natalierobehmed/2014/05/20/french-billionaire-vincent-bollore-launches-electric-car-sharing-service-in-indianapolis/#ed9eaa3e1b56. Accessed November 2017.

<sup>&</sup>lt;sup>42</sup> Jolly, David. Paris tests short-term rentals of electric cars. The New York Times. October 3, 2011. http://www.nytimes.com/2011/10/04/business/global/paris-tests-short-term-rentals-of-electric-cars.html?\_r=1&src=recg. Accessed November 2017.

<sup>43</sup> Author unknown. All charged up for sharing. The Economist. September 10, 2011. http://www.economist.com/node/21528681?frsc=dg. Accessed November 2017.

<sup>&</sup>quot;Smith, Rebecca. Bluecity is expanding its electric car sharing service across London after successful Hammersmith and Fulham pilot. City A.M. June 14, 2017. <a href="http://www.cityam.com/266620/bluecity-expanding-its-electric-car-sharing-service-across">http://www.cityam.com/266620/bluecity-expanding-its-electric-car-sharing-service-across</a>. Accessed November 2017.

## A FEW WORDS ON

## THE CURRENT STATE OF THE KIOSK INDUSTRY

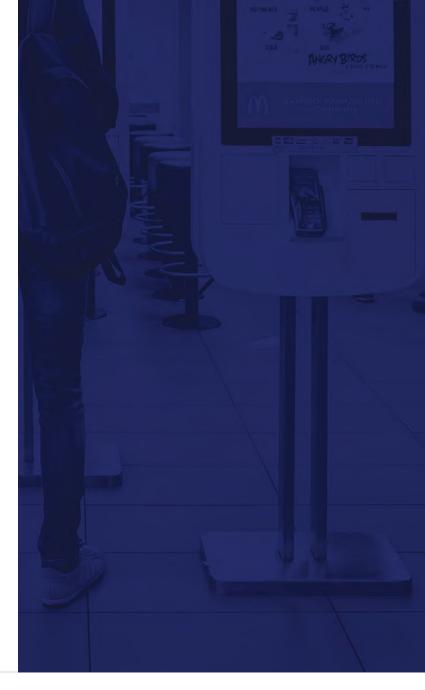
rom a product bought on Amazon to the interactive mall kiosks that guide shoppers to their favorite stores and the self-checkout stations where people pay for groceries, retail automation is becoming common in customers' shopping experiences. Unattended retail in the form of kiosks is also part of this transformation.

Kiosks can be a cost-effective solution for retailers, an affordable way of delivering sales at high-traffic areas — such as malls and airports — on a 24-hour basis, 365 days per year. But, they can also be much more than that.

Kiosks can provide an answer to a generation that accepts self-service as a normal part of their shopping experiences and their lives. With 61 percent of surveyed consumers reporting they are open to engaging in a shopping experience with a fully automated shop, 45 there is no lack of demand for these kinds of solutions. Kiosks are a response to a demand, and also serve as a new marketing tactic for brands and method of engaging with buyers.

Take the case of Snapchat's Spectacles. The company's smart-sunglasses, which featured a small camera in the corner allowing users to record 10, 20- and 30-second videos and upload them to their Snapchat accounts, were particularly interesting because of the marketing that trumped their arrival.

<sup>&</sup>lt;sup>45</sup> Author unknown. Self-service shopping grows in popularity, according to Cisco study. Cisco. June 5, 2013. https://newsroom.cisco.com/press-releasecontent?articleId=1200551. Accessed November 2017.



Spectacles were initially released through Snapbots, yellow kiosks that would pop-up in various locations, and were debit and credit card compatible. The decision to release them via kiosks created a storm of media and consumer attention, if not sales.

It's impossible to know if Snapchat Spectacles would have received as much attention from the public if the Snapbot kiosks had not been a fundamental part of their sales strategy. But, it has been proven that interactive kiosks allow companies to bring innovation into the buying experience. It's not only the product catching people's interest, but the purchasing event as well.

And, when it comes to paying, innovation plays a fundamental role. Cash acceptance is becoming less and less important every day. Sixty-seven percent of consumers prefer unattended vending machines, and kiosks are accepting both cash and card payments<sup>46</sup> — falling short of those expectations can result in severe losses for brands. If users want options when paying, going beyond cash and cards can be a wise choice. A six-month study by USA Technologies showed that when Apple Pay was highlighted as a payment method, sales increased by 33.5 percent and mobile payment usage by 135.2 percent.<sup>47</sup>

Self-service technology has already dramatically transformed the way some industries work. It may have even created new industries. The car sharing and bike sharing programs that have slowly popped up around the world have a common denominator, and technology is a key element. Kiosks have allowed car sharing companies to provide users with multiple areas in which they can not only get a car and drive it away, but also pay for its rental and even subscribe to recurring use — and all in a self-service way.

Retail is continuously being shaped by self-service technologies. Kiosks today offer a range of products from bizarre to extremely useful, and that diversity is expanding. Innovation has become a fundamental element in the design and functionality of these machines, from the software powering their interactive screens to the payment infrastructure allowing consumers to purchase a phone charger at the airport with Apple Pay.

With companies finding new and creative ways of using kiosks as more than just a cheap sales point, the changes to come in the industry are more exciting than ever.



<sup>46</sup> Author unknown. Consumers adopt card payments at unattended terminals. Transaction Network Services. Date unknown. https://www.tnsi.com/resource-center/infographic-page?mediald=3319. Accessed November 2017.

<sup>&</sup>lt;sup>47</sup> Author unknown. Apple Pay messaging at point-of-sale drives 135% increase in mobile payments usage. BusinessWire. November 21, 2016. http://www.businesswire.com/news/home/20161121005359/en/. Accessed November 2017.

# FIXING FOOTIVE AR BLUES, THE UNATTENDED WAY



## FEATURE STORY

ho couldn't use a change of shoes after 10 hours of standing in a convention center or four hours of dancing in a club?

Well, that's a problem that Miami, Florida-based shoe startup Flat Out of Heels is hoping to solve. The company designs, manufactures and distributes rollable flats out of vending machines, an offering targeted toward women who can't spend another second in their heels.

In a recent interview, company founder Dawn Dickson discussed how Flat Out of Heels and the unattended retail sector as a whole have each evolved since their inception.

Thanks to business growth, the company is working in collaboration with PopCom Kiosk by Solutions Vending to revamp its kiosks and better understand its customers. Solutions Vending is a smart vending company also founded by Dickson.

"We wanted to be able to collect more customer data and accept more forms of payment," Dickson told PYMNTS. "So, we developed software to make the machines more intelligent."

Last year, Flat Out of Heels extended its eCommerce presence to help expand its business. Dickson believes that while online sales may provide an additional revenue stream for her company, the platform mainly serves to improve and promote the firm's vending machine business — and that there is still more opportunity to be realized in an unattended retail distribution model.

#### Simple beginnings

Flat Out of Heels' shoe-selling vending machines first made their debut in 2013 at the Hartsfield-Jackson Atlanta International Airport and Club LIV, a popular Atlanta nightspot. The company was hoping to reach customers who needed new, comfortable shoes after a long flight or night on the dance floor.

The machines were a hit with women across Atlanta who needed a fast footwear change, and Flat Out of Heels has since expanded its presence to more than 250 locations.

But Dickson wasn't satisfied, despite the growth and popularity. The vending machines could only accept basic credit and debit card payments, but were unable to process payments from mobile wallets or even from many new chipenabled credit and debit cards.

As such, PopCom and Flat Out of Heels created a new payment acceptance system to address this issue — a system that was far more, well, accepting, than the previous machine.

"The new machines will accept all forms of cards, and all digital wallets," Dickson said, and that isn't all.

"[The new machines] will also accept Pay By Face from Samsung, and cryptocurrency," she added, noting cryptopayment methods like bitcoin are "very popular" right now.

Payments weren't the only problem, however. Flat Out of Heels wanted to provide a more personalized experience, which meant it needed to know its customers better than

But the kiosks could not even ask a customer to enter an email address, and that made customer data collection impossible. To solve this issue, the companies also collaborated to introduce new data collection capabilities to the kiosks, Dickson explained.

The kiosks can now collect customers' email addresses and other contact information, along with information like approximate age. Through facial recognition technology, they can also recognize and read consumers' emotions as they engage with the machine. Dickson said the upgrades will bring Flat Out of Heels' unattended locations up to speed with the capabilities of the company's full-fledged eCommerce store.

"

WE WANT PEOPLE TO OPEN UP THEIR MINDS TO THE FACT THAT MULTIPLE PRODUCTS CAN BE SOLD IN **VENDING MACHINES,** 

"

BECAUSE WE HAVE REALLY REDESIGNED THE MACHINES.

"On our eCommerce [website], we're able to clearly understand how we're converting customers [by] how they're purchasing and their behavior and activities on the site," she said. "But I really wanted those kinds of metrics on machines to understand what kind of venues are performing the best. Without some kind of software to help with that data collection, it will be really hard for me to grow the businesses."

#### Getting smarter — and bigger

For Flat Out of Heels, overhauling the infrastructure meant temporarily readjusting its sales strategy. As the company upgrades its kiosk infrastructure, it's currently employing just two of the old-style kiosk machines and has removed the rest from the field.

Removing the machines has meant relying on the company's eCommerce sales to do much of the heavy lifting in the interim, but that won't be the case for long.

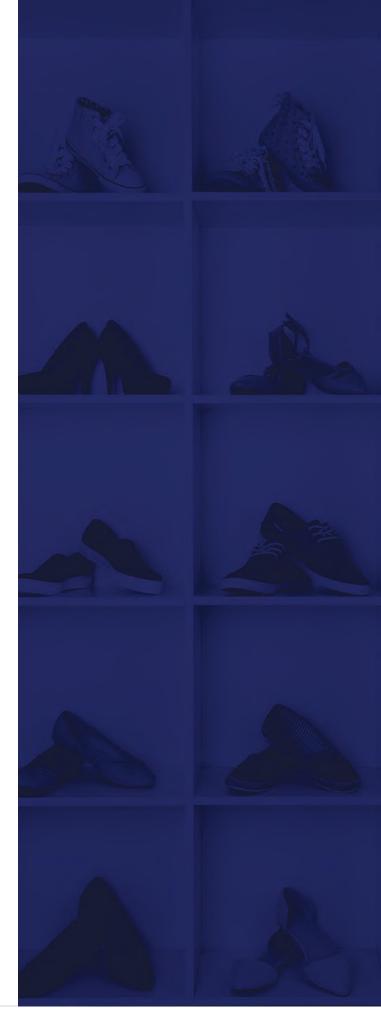
Dickson noted that with the new machines already on the way, the company is looking to get more of them into the field — and more shoes onto the feet of its consumers. If things go as planned, she anticipates her company's vending machines and eCommerce store to become equally important sources of revenue.

"If anything, our online presence really drives people to purchase at vending machines," Dickson said. "The vending machine is really where the demand is. Our customers' feet hurt, and they need new shoes now."

She has faith in the future of selling shoes — as well as other items not typically associated with vending machines or kiosks — in an unattended setting, too. That faith, in large part, comes from the technological strides the industry has made in recent years.

"We want people to open up their minds to the fact that multiple products can be sold in vending machines, because we have really redesigned the machines," Dickson said. "These new designs can be very attractive and engaging."

With improved technology, it seems more and more consumers will turn to unattended retail for a quick dose of comfort.





### PYMNTS.com

PYMNTS.com is where the best minds and the best content meet on the web to learn about "What's Next" in payments and commerce. Our interactive platform is reinventing the way in which companies in payments share relevant information about the initiatives that shape the future of this dynamic sector and make news. Our data and analytics team includes economists, data scientists and industry analysts who work with companies to measure and quantify the innovation that is at the cutting edge of this new world.



USA Technologies, Inc. is a premier payment technology service provider of integrated cashless and mobile transactions in the self-service retail market. The company also provides a broad line of cashless acceptance technologies including its NFC-ready ePort® G-series, ePort Mobile™ for customers on the go, ePort® Interactive, and QuickConnect, an API Web service for developers. Through its recent acquisition of Cantaloupe Systems, Inc., the company also offers logistics, dynamic route scheduling, automated pre-kitting, responsive merchandising, inventory management, warehouse and accounting management solutions. Cantaloupe Systems is a premier provider of cloud and mobile solutions for vending, micro markets, and office coffee services. USA Technologies and Cantaloupe Systems have 85 United States and foreign patents in force; and have agreements with Verizon, Visa, Chase Paymentech and customers such as Compass, AMI Entertainment and others. For more information, please visit the website at www.usatech.com.

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 <a href="mailto:unattendedretail@pymnts.com">unattendedretail@pymnts.com</a>.



The Kiosk and Retail Report may be updated periodically. While reasonable efforts are made to keep the content accurate and up-to-date, PYMNTS.COM: MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, REGARDING THE CORRECTNESS, ACCURACY, COMPLETENESS, ADEQUACY, OR RELIABILITY OF OR THE USE OF OR RESULTS THAT MAY BE GENERATED FROM THE USE OF THE INFORMATION OR THAT THE CONTENT WILL SATISFY YOUR REQUIREMENTS OR EXPECTATIONS. THE CONTENT IS PROVIDED "AS IS" AND ON AN "AS AVAILABLE" BASIS. YOU EXPRESSLY AGREE THAT YOUR USE OF THE CONTENT IS AT YOUR SOLE RISK. PYMNTS.COM SHALL HAVE NO LIABILITY FOR ANY INTERRUPTIONS IN THE CONTENT THAT IS PROVIDED AND DISCLAIMS ALL WARRANTIES WITH REGARD TO THE CONTENT, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT AND TITLE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF CERTAIN WARRANTIES, AND, IN SUCH CASES, THE STATED EXCLUSIONS DO NOT APPLY. PYMNTS.COM RESERVES THE RIGHT AND SHOULD NOT BE LIABLE SHOULD IT EXERCISE ITS RIGHT TO MODIFY, INTERRUPT, OR DISCONTINUE THE AVAILABILITY OF THE CONTENT OR ANY COMPONENT OF IT WITH OR WITHOUT NOTICE.

PYMNTS.COM SHALL NOT BE LIABLE FOR ANY DAMAGES WHATSOEVER, AND, IN PARTICULAR, SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, OR DAMAGES FOR LOST PROFITS, LOSS OF REVENUE, OR LOSS OF USE, ARISING OUT OF OR RELATED TO THE CONTENT, WHETHER SUCH DAMAGES ARISE IN CONTRACT, NEGLIGENCE, TORT, UNDER STATUTE, IN EQUITY, AT LAW, OR OTHERWISE, EVEN IF PYMNTS.COM HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

SOME JURISDICTIONS DO NOT ALLOW FOR THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, AND IN SUCH CASES SOME OF THE ABOVE LIMITATIONS DO NOT APPLY. THE ABOVE DISCLAIMERS AND LIMITATIONS ARE PROVIDED BY PYMNTS.COM AND ITS PARENTS, AFFILIATED AND RELATED COMPANIES, CONTRACTORS, AND SPONSORS, AND EACH OF ITS RESPECTIVE DIRECTORS, OFFICERS, MEMBERS, EMPLOYEES, AGENTS, CONTENT COMPONENT PROVIDERS, LICENSORS, AND ADVISERS.

Components of the content original to and the compilation produced by PYMNTS.COM is the property of PYMNTS.COM and cannot be reproduced without its prior written permission.

You agree to indemnify and hold harmless, PYMNTS.COM, its parents, affiliated and related companies, contractors and sponsors, and each of its respective directors, officers, members, employees, agents, content component providers, licensors, and advisers, from and against any and all claims, actions, demands, liabilities, costs, and expenses, including, without limitation, reasonable attorneys' fees, resulting from your breach of any provision of this Agreement, your access to or use of the content provided to you, the PYMNTS.COM services, or any third party's rights, including, but not limited to, copyright, patent, other proprietary rights, and defamation law. You agree to cooperate fully with PYMNTS.COM in developing and asserting any available defenses in connection with a claim subject to indemnification by you under this Agreement.