



The Definitive Guide to Kiosk Management

Part 1: Why and How Kiosk Management Matters

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Introduction

The Definitive Guide to Kiosk Management by 42Gears- Part 1: Why and How Kiosk Management Matters is the first of a two-part series that provides a definitive guide to kiosk management. In Part 1, you will learn why kiosks benefit from modern cultural trends, what considerations are necessary for building a device ecosystem around kiosks, and how 42Gears can help you thoughtfully implement kiosks.

This white paper contains four sections, each covering a different aspect of the kiosk industry

Section 1. An Introduction to Digital Kiosks and Kiosk Management

Section 2. Why Do Kiosks Matter in the Early 2020s, and Why Should You Care?

Section 3. Kiosk Design Challenges

Section 4. Make the Right Choices with SureMDM by 42Gears

Section 1. Why Digital Kiosks and Kiosk Management Matter

What is an interactive digital kiosk?

Of course, any discussion of kiosk management should begin by explaining why a kiosk is worth managing.

According to kiosk manufacturer **Meridian Kiosks**¹, "*interactive kiosks are self-service solutions that provide audiences with engaging digital content and information through a user-friendly interface.*" This definition contains a few important components- by looking at them one-by-one, we can understand why kiosks serve a unique role in many enterprises.

"... Self-service solutions..."

At the most basic level, the utility of self-service kiosks is letting an establishment run more efficiently. If customers can place orders independently, or visitors at non-retail institutions (such

¹ <https://www.meridiankiosks.com/kiosks/>

as schools) can find information without the need for a staff member to assist, staff can be redistributed more efficiently.

When implemented well, kiosks are more than just a substitute for staff; they actively elevate the customer experience. Mark Eastwood, CPO of the point-of-sale company Appetize, notes that *“self-service kiosks are reducing friction and time within the ordering process”*².

Eastwood’s assertion aligns with research conducted by Tillster³, which found that more than a quarter of respondents prefer to order from self-service kiosks as compared to in-person ordering, assuming equal wait times for each. If lines for in-person ordering get long, a vast majority of patrons prefer self-service kiosks.

“... That provide audiences...”

It should go without saying that you need to know what audience you hope to serve by implementing kiosks. This process doesn’t end when you install kiosks; in fact, having kiosks in place makes it easier to find out who your audience is, and what your audience needs. As kiosks can record and compare data across periods of time, they can provide insights that you might otherwise not discover.

For example, Eastwood writes that *“self-service kiosks provide advanced customer insights for restaurants to better understand what their most popular menu items are, the busiest time of day, and even their most popular order modifiers and add-on items.”*

“... Engaging digital content and information...”

Not only can kiosks help you identify your audience, but they can also engage your audience more than would otherwise be possible.

Why is this the case? At least part of the reason is kiosks’ ability to convey more information in a more engaging way than traditional retail signs. Showing information in novel ways has major economic benefits. For example, as reported by Vanessa Wong of *Bloomberg.com*⁴, Taco Bell saw major revenue improvements from implementing self-ordering service on phones, as well as an

2 <https://modernrestaurantmanagement.com/reasons-why-your-restaurant-needs-self-service-kiosks/>

3 https://static1.squarespace.com/static/55d63b21e4b042e96ce8f926/t/5d28cc4c6032bb000138753e/1562954839032/Tillster_Self_Service_e_Kiosk_Index_Q3_2019.pdf

4 <https://www.bloomberg.com/news/articles/2015-02-04/how-taco-bell-s-ordering-app-turns-extra-onions-into-real-money>

explosion in the sales of otherwise-underselling items; the menu interface allowed users to discover items that they had never seen before. (Although this example included phones, rather than kiosks, the same principles apply to self-ordering in both circumstances).

“... through a user-friendly interface.”

No matter how useful a kiosk might be, a good user experience requires a clean user interface that lets customers navigate easily across a range of choices. User interface design will be discussed at length in Section 3.

What is a digital sign?

Many economically-minded companies will use standard (off-the-shelf) tablets as interactive self-service kiosks and digital signs- but kiosks and signs need to be managed in different ways.

Digital signage serves a different role than do kiosks. Bradley Cooper⁵, editor of kioskmarketplace.com, distinguishes between kiosks and digital signage by considering the intended audience of each. Cooper identifies kiosks as “one-to-one”- a single kiosk serves a single customer, or a single party of customers, in each interaction. However, signage serves as “one-to-many,” given that many people might see a sign at the same time.

Kiosk management focuses on optimizing user interfaces and customer interaction, dedicated digital sign management focuses on safeguarding those signs against customer tampering.

Digital signs are displayed in prominent locations, making them targets for tampering- and especially humiliating ones if malicious actors succeed. Whereas kiosk management focuses on optimizing user interfaces and customer interaction, dedicated digital sign management focuses on safeguarding those signs against customer tampering.

Digital signage is still evolving, and even non-interactive signage can integrate cutting-edge technology. For example, a recent white paper by digitalsignagetoday.com notes that “a company could integrate facial recognition technology to capture a customer’s demographics or

⁵ <https://www.digitalsignagetoday.com/blogs/kiosks-versus-digital-signage-101/>

mood when they approach the display. They could also use internet-of-things beacons to analyze customer's paths throughout the store and see how long they look at a display.”⁶

Digital Signage Kiosks

The divide between digital signs and kiosks has grown less distinct. Many digital signs now incorporate some degree of interactivity. For instance, digital signs have used camera tracking to simulate an on-screen dog watching the *viewer*⁷. On the flip side, kiosks can serve as digital signs when no one is currently using them.

Meridian Kiosks recognizes the concept of “*digital signage kiosks*”⁸ as distinct from digital signage, and we believe that this is an important distinction. After all, digital signage kiosks face the same kinds of stressors as dedicated kiosks, such as providing information to customers as efficiently as possible. If digital signage kiosks have all the same rewards and risks as dedicated kiosks, we can functionally consider digital signage kiosks to be kiosks and signs at the same time- which means digital signage kiosks face the management challenges of both signs and kiosks.

Section 2. Why Kiosks Are Especially Relevant in the Early 2020s

Kiosks align with millennial demands and trends

Businesses of all sizes in every industry want to increase their relevance for millennials, the much-discussed but little-understood group of consumers born between approximately 1981 and 1996.⁹

A major trend that researchers have identified in relation to millennial culture is a desire for autonomy- and the affinity that millennials have for technology-driven experiences. As noted in a report released by PwC, “*This is the first generation to enter the workplace with a better grasp*

⁶ <https://www.digitalsignagetoday.com/articles/digital-signage-drives-retail-sales/>

⁷ <https://www.trendhunter.com/trends/adoption-initiatives>

⁸ <https://www.kioskmarketplace.com/blogs/digital-signage-kiosks-and-digital-displays-whats-the-difference/>

⁹ <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>

*of a key business tool than more senior workers.”*¹⁰ Forbes additionally notes that millennials crave autonomy, flexibility, and continuous *feedback*¹¹ - and these are all things that self-service kiosks can offer.

According to the firm OEMKiosks, self-service kiosks match millennial desires: *“In this age of independence, self-confidence and entrepreneurship, self-service has been changing industry and business. The Millennials generation has been the number one supporter of personalized and autonomous service.”*¹²The kiosk industry has the data to back this up; for instance, the Tillster study cited in Section 1 found that over fifty percent of customers ages 18-34 would be more likely to visit restaurants if they had self-service kiosks in place.

Kiosks can bolster safety in busy non-commercial environments

When implemented across school and hospital campuses, kiosks can display emergency notifications and ensure everyone stays informed and updated. Writing for *retailcustomerexperience.com*, Kisha Wilson, marketing manager at SlabbKiosks.com, notes that education-oriented kiosks can even shape good habits. According to Wilson, schools like Texas A&M University utilize recycling kiosks that track and reward student recycling activity. In hospitals, schools, libraries, and other non-commercial settings, the need to relay information in a hurry is essential. In the wake of over two decades of mass shootings in schools across the United States and elsewhere, non-commercial organizations must ensure that everyone stays informed in the event of a crisis. Unfortunately, institutions cannot guarantee that everyone has a smart device (or, in the case of schools, smart device use may be actively discouraged).

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¹⁰ <https://www.pwc.com/co/es/publicaciones/assets/millennials-at-work.pdf>

¹¹ <https://www.forbes.com/sites/larryalton/2018/01/17/millennials-are-ready-to-be-leaders-heres-how-theyre-doing-it/#36570a2936f9>

¹² <https://oemkiosks.com/blog/relation-millennials-self-service-kiosks/#.W92Lv1NUk0M>

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Kiosks can provide personalized help for staff behind-the-scenes

Kiosks typically play the role of frontline workers, but the potential value of kiosks *“behind-the-scenes”* should not be underestimated. *“Kiosks can provide employees with personal training or review”*¹⁵ - crucial for employees that are afraid to admit they need help. This is especially crucial for organizations that want or need to keep their training materials confidential. In this situation, organizations cannot simply load training videos onto forums like YouTube.

Writing for the kiosk software firm KioWare, Laura Miller suggests that because *“kiosks are not tied to any one specific user, they may also represent a best practice for anonymous reporting”*¹⁶. If placed in a private location, kiosks can accept worker inputs without tying those inputs to any specific individual.

13 <https://www.retailcustomerexperience.com/blogs/interactive-kiosks-are-making-an-impact-in-schools/>

14 <https://mhealthintelligence.com/features/potential-for-healthcare-kiosks-in-improving-care-delivery>

15 <https://www.staples.com/sbd/cre/retail/4-new-ways-use-retail-tablets/>

16 <https://www.kioware.com/resources.aspx?resID=65>

Section 3. The Challenges Facing Kiosk Managers: The User Experience

Kiosk management needs to provide the target audience with an intuitive (and potentially even enjoyable) kiosk interface. Here are two of the most major challenges associated with kiosk design and reaching the optimal user experience.

Balancing Information Density with Ease-of-Use

It's important to convey the right information to kiosk users, whether your company designs its own kiosk interfaces, purchases pre-made interface software, or uses the standard tablet interface of Apple, Android, and Windows devices.

Many businesses know the value of “upselling”- expanding upon the customer’s request to compel them to purchase more than they initially intended. Kiosks can explicitly ask customers about augmenting orders (and many do), but it requires a fine balance. As noted by self-service device provider NEXTEP SYSTEMS, *“It’s a tricky balance. You don’t want to bombard guests with every upsell question you’ve got at your disposal, but you also don’t want to miss a chance to get a ‘yes.’”*¹⁷

It's important to recognize that kiosks can upsell implicitly. By showing a range of additional options, a well-designed interface can lead customers to place bigger orders. This kind of upselling requires a balance between information density and ease of use.

On one hand, customers need to know about all options available to them. As with the example of Taco Bell in Part 1, customers can use interactive interfaces to discover items they've never seen before. This would incentivize including as much information as possible into a single screen.

On the other hand, customers who are overwhelmed with options are unlikely to have a good experience, as they may get lost; even if they do navigate successfully, kiosk interfaces that take a long time to navigate result in long lines and inefficient service.

¹⁷ <https://www.nextepsystems.com/blog/3-keys-to-the-optimal-kiosk-menu>

The ideal kiosk interface provides compelling options without overwhelming the user.

The ideal kiosk interface, therefore, provides compelling options without overwhelming the user. For companies that custom-design their own interfaces, this is hard- but for those who use off-the-shelf tablets with default interfaces, this might seem almost impossible.

Holistic Kiosk Design and the Internet of Things

The impact of the Internet of Things (IoT) on enterprise is undeniable, for both customer engagement and intra-company communications. Between the introduction of “Amazon’s Alexa for Business program”¹⁸ and the use of IoT devices for *personalizing consumer experiences*¹⁹, one could reasonably say that the enterprise of the future is an “Enterprise of Things.”²⁰

For companies who are beginning to implement and manage kiosks, now is the time to consider the way that your kiosks interface with the overall experience your space creates. For instance, if you would like for customers to indicate what they respond to best prior to making a purchase at a kiosk, you could provide them with IoT-enabled wristbands, as Disney Parks does with its *MagicBands*²¹. The wristband could record what components of a retail space customers explore most, relay that information to a kiosk, and then upsell them on merchandise related to the sections of the store they examined most thoroughly.

IoT management isn’t easy, especially in ambitious scenarios like the one described above. Unless companies are purchasing every component of an “Enterprise of Things” at once, some components will be outdated. Especially if IoT networks rely on older printers without traditional operating systems, meshing state-of-the-art technology with pre-existing frameworks can cause headaches.

18 <https://aws.amazon.com/alexaforbusiness/>

19 <https://readwrite.com/2019/09/02/iot-and-personalization-a-marriage-made-in-heaven/>

20 <https://www.42gears.com/blog/enterprise-of-things-the-next-wave-that-enterprises-need-to-deal-with/>

21 <https://www.wired.com/2015/03/disney-magicband/>

Section 4. Make the Right Choices with SureMDM by 42Gears

42Gears is well aware of each of the challenges addressed up to this point, and is prepared to help with kiosk management through its flagship product, [SureMDM](#).

What is SureMDM?

SureMDM is a [unified endpoint management](#) solution. This means that it includes mobile device management tools (hence the name) and additional management capabilities for every device in your network. SureMDM lets you manage kiosks remotely, using the same tools that you employ to manage all of your other devices. This means that even if you include devices from different manufacturers in your kiosk deployment, you can manage them all from the same place.

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SureMDM includes a component (or “agent”) installed on the kiosk, and a powerful central command center that can monitor, manage, and secure kiosks from an admin device. At a glance, IT admins can assess a range of device metrics, including key indicators of device health that let them make sure devices keep working successfully. SureMDM even features Remote Control functionality to view and control kiosks remotely, keeping the need for in-person repairs to a minimum.

SureMDM licenses also include access to [SureLock](#), a world-class kiosk lockdown solution. SureLock gives you the power to control what users can access on kiosks, and what their experience looks like. You can restrict devices to a single app, or a few apps, and rearrange interface elements to suit your needs.

(SureMDM licenses also include [SureFox](#), a secure kiosk web browser solution, and [SureVideo](#), a secure video-looping tool for digital signage. The second white paper in this series will explore SureFox and SureVideo in more detail.)

Balancing Information Density with Ease of Use

SureLock allows you to insert company logos into kiosk interfaces, ensuring that users remain aware of your brand at all times. By blocking access to all but a few apps and customizing the interface with SureLock, you can lower information density and ensure ease-of-use. You can even disable child windows and other app features that could potentially distract users.

Another important element of lowering information density is minimizing the number of possible inputs at the user's disposal. Complex virtual keyboards with a range of non-standard characters (like emojis) can quickly overwhelm users. To address this, SureLock includes SureKeyboard, a simple and streamlined virtual keyboard that restricts user inputs to standard alphanumeric characters.

SureLock is able to send analytics reports to the SureMDM console, and you can analyze data to optimize your upselling strategy. By cross-referencing user engagement statistics with orders and other customer outcomes, you can determine the presentation that most effectively upsells without overwhelming the user.

Holistic Kiosk Design and the Internet of Things

It is not difficult to have kiosks relay commands to IoT devices, but it can be difficult to regulate this process and ensure that problems do not occur. SureMDM can facilitate the process of managing kiosks and Internet of Things devices to ensure that every component functions smoothly.

The first step in doing this is managing kiosks and IoT devices in one unified network, and SureMDM makes this possible. SureMDM has taken a major step towards managing every enterprise device with its [Things Management technology](#). 42Gears defines "Things" as both IoT devices and other devices like printers that do not inherently have IoT functionality.

If IoT devices (like sensors and speakers) have been built with IoT integration in mind, SureMDM can easily manage them. If devices like printers, charging cradles, and light fixtures have simple electronic components without operating systems, SureMDM can still manage them through its Things Connector technology. Things Connectors are custom programming extensions that let “not-so-smart” devices communicate with the central SureMDM console. From there, administrators can monitor metrics like toner level and battery level.

With SureMDM, you can ensure the “Enterprise of Things” that you construct functions at all times and features the latest security updates, catalyzing holistic kiosk design.

Conclusion

Now is the right time to solidify your kiosk management approach- whether that means buying kiosks for the first time or finding new ways to maximize the benefit of the ones you have. As you’ve seen, kiosks can connect with modern millennial desires for self-sufficiency and agency, and can expedite crowdfund substantially.

SureMDM and SureLock maximize the benefit of having a kiosk (or interactive digital sign). SureMDM lets you monitor, manage, and repair devices remotely, while SureLock lets you precisely control what users can and cannot access.

Even if kiosk managers succeed at negotiating all of the challenges related to kiosk management, their effort is for nothing if kiosks are hacked, show the wrong content, or stop working. In Part 2 of *The Definitive Guide*, we will look at the technical issues that kiosk managers will face, and how best they can take action to prevent those issues.