INMOBI

Through the Mobile Lens:

A Modern Perspective On Consumer Behavior

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WHY MOBILE?

Alexander Graham Bell patented the telephone in 1876 as a means of "transmitting vocals and sounds telegraphically." Almost 150 years later, Bell's original purpose for the telephone remains at the heart of the modern smartphone. Yet for most consumers, the phone functionality of the device is not the primary use, it's merely one of hundreds of possible applications the smartphone provides.

Through the evolution of the telephone, consumers have come to depend on mobile as the most essential tool for everyday life. Originally restricted to in-home communication, the introduction of mobility tethered devices to people, making users accessible anytime, anywhere. As mobile phones transitioned to smartphones, the application and immediacy of the device widened exponentially. The app store transformed the telephone to the go-to, catch-all consumer technology, introducing functionalities such as messaging, gaming, social media management, banking, photography, media consumption, fitness tracking and a plethora of new opportunities.

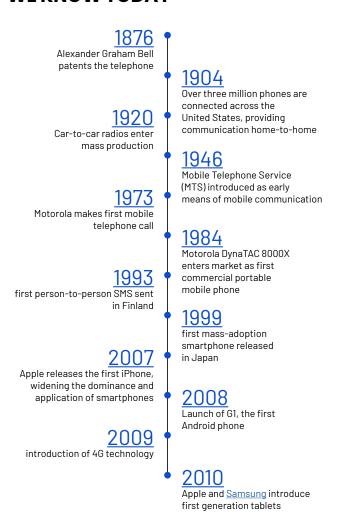


It's at this point, when the smartphone made the jump to an all-purpose device, that consumers began to influence the product evolution. User preference was now informing the size, power and feature set of next-gen technology, continually evolving the optimal device for personal use. With an excess of user-produced content now entering the ecosystem, the smartphone became a communication hub, and moreover a rich mine of unaided consumer behavior.

Because of its omnipresence, the smartphone is a reliable, vital source of ground truth consumer data. The "alwayson" persistency of mobile captures the searches, interests, behaviors and mindsets of users all day, every day, providing unique insight into the cultural trends and future of modern society.

Through the Mobile Lens offers unique insight into the progression of consumer behavior, mobile technology and sociological trends – all through the perspective of how consumers interact with and depend on their mobile device.

EVOLUTION OF THE MOBILE DEVICE WE KNOW TODAY



UNTETHERING VIA THE INTERNET OF THINGS

Connected devices were fully adopted by the early majority in 2017, increasing the prevalence and affordability of smart technology. Consumer perspective on the market has shifted, no longer perceived as niche luxury items but as purposeful life integrations. A <u>Park Associates study</u> predicts that nearly 55 million homes will be integrated with smart devices by 2020.

Once thought of as future–state, the actualization of the Internet of Things (IoT) is reflected in all walks of life. Services such as Nest and Ring provide home management and security while away. Household AI assistants like Amazon Echo, Google Home and the recently introduced Apple Homepod are becoming a fundamental yet playful mainstay in millions of homes. Smart appliances are reaching a tipping point, providing integrated services such as recipe suggestions or shopping notifications based on ingredients in the kitchen. Outside of the home, intelligent devices in automobiles ease maintenance and analytics for drivers. Wearables created with a sole purpose (e.g. fitness) now provide a variety of services, capturing a wealth of personal data along the way. And they're not just for humans anymore.

Beyond the consumer market, smart devices have invaded most business sectors. IoT technology is utilized to support city planning and infrastructure, informing the methodology and efficiency of urban planning, environmental science, energy management, agriculture and civic automation. Healthcare and transportation have seen significant jumps in efficiency and observation thanks to IoT integration.

One of the many benefits of smart tech is its ability to learn user behavior and habits, therefore predicting future action. For most, it's a welcome introduction as it offers a transition to untethered management. This assistive ability can be exhibited in many ways. Alexa offers recommendations based on previous commands, even those outside its capability. A smart refrigerator might know when to add eggs to the shopping list based on contents. Nest knows when and how to adjust the thermostat based on observed routine. Predictive behavior not only minimizes the time needed to manually manage services, it also breaks down the physical barrier that the mobile device creates.

Yet as it exists today these integrations are singular, leveraging the smartphone as the hub of the personal ecosystem, and often requiring their own specific app or portal for management. For users to see the greater benefit of smart technology, connected devices must communicate with one another and learn not only from the user, but from each other. In doing so, smart tech can piggyback on these learnings, providing the consumer with a more efficient, accurate and cohesive management of their environment.



In an ideal scenario, the predictive nature of smart devices would completely remove the management burden from the user, minimizing the needed inputs for manual interfacing. Consumers could focus more of their time and energy on what's meaningful to them - an untethered, unworried, autonomous experience. However, to reap the full benefits, consumers must be comfortable with handing control over to smart technology.

With personal management in the virtual hands of adaptive technology, at what point is the user no longer dictating behavior to the device but instead following its direction? "For users to see the greater benefit of smart technology, connected devices must communicate with one another and learn not only from the user, but from each other."

The potential result is a loss of control for consumers, or at least a source of frustration as what should be a service is now an obstacle as technology continually fights to keep up with human behavior. With a large amount of personal data now being virtually shared and managed, it also makes the user and their data prone to manipulation and theft.

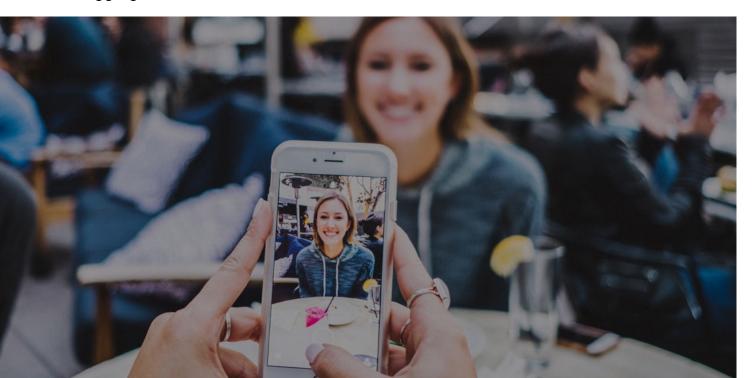
Can IoT devices keep up with the moment-to-moment fluidity of consumer behavior? Is there an opportunity for smart devices to learn, observe, adapt and relearn in relatively real time? If there's any central source that can accomplish this, it's the smartphone. It's the only object that's with an individual from the moment they wake to the moment before bed. Utilizing not only its proximity and persistency to the user, but also the wealth of data it provides (location, web behavior, app usage, top-of-mind intents and purchases), there is potential for mobile to dictate and manage the personal ecosystem of smart devices.

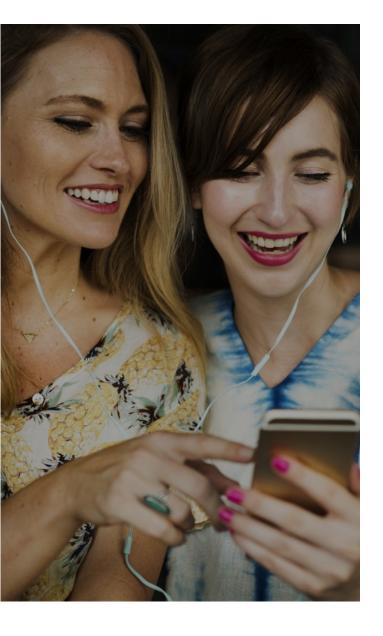
Decades from now we'll undoubtedly look back at the manual manner in which we interface with our devices as clunky and archaic. As consumers continue to hand over control of smart tech to adaptive beings, we must understand and feel comfortable with the direction, security and purpose of intelligent automation.

THE NORMALIZATION OF PERSONALIZATION

Thanks to the connectivity of the internet, the velocity of communication has increased exponentially over the past three decades. Immediacy was introduced to the mix with the creation of the smartphone, delivering instant communication and gratification in a pocket-sized device. Yet because of its ubiquity, the power of the smartphone is something we often take for granted. As of 2017, over <u>% of Americans own a mobile phone</u>, a noticeable bump in prevalence – particularly across age demographics – even when compared to 2016. On a micro level, the smartphone increases the communication we have with the individuals in our network. At a macro level, it provides the history of human knowledge at the swipe of a screen.

When used appropriately, there is no question of the benefits that are delivered via mobile connectivity on a daily basis, even moment-to-moment. Breaking news and cultural events are communicated in near real time. The ability to share ideas and content around the world in a matter of seconds has inherent value. As a response, consumers have adapted to "trending" consumption, utilizing select sources as a means of ingesting fresh content (news and culture applications, social media, digital aggregators, etc.).





In this context, it can be argued that the immediacy of content has in a sense normalized the idea of uniqueness or personalization. Content is aggregated and ingested by the masses, taking unique user attributes and transforming them into a commonality. With the endless amount of digital content that is produced, it makes it that much greater for consumers to sift through and identify relevant information. What should be a tailored service is instead an action placed on the user.

This broad-stroke treatment of interests is a natural byproduct of mobile culture. The flow of trends is no longer hindered by communicative, geographic or other barriers; niche interests are shared instantaneously despite language or location. This connective mentality combined with the speed at which content is produced and ingested has changed the way consumers as a whole process news. With an unending stream of social and cultural content, stories are perceived as temporal or of-the-moment. No matter the context or specificity, it is for the majority.

It begs the question: what is a personalized experience? When users log in to Facebook, purchase something on Amazon or browse Netflix, there is an expectation that these experiences are in a general sense tailored to the user based on observed action. It's an understood attribute of the digital experience. Yet what's often perceived as tailored must still be broad enough to drive return on the delivered content. Even relatively automated experiences such as a "Twitter Moment" or Netflix recommendation must have wide enough appeal to be worth the screen space. The one-to-one connection does not exist; relevance is a continual battle based on interpreted behavior.

If technology has become the driving force for what is personalized and presented, through this selection have "The one-to-one connection does not exist; relevance is a continual battle based on interpreted behavior."

consumers ultimately lost the ability to choose? The result is a normalized version of personalization where interests and behaviors are served by inexact recommendation. The good news is consumers are still in the driver's seat when it comes to tailoring the experience. But in order to connect and cut through the sheer amount and velocity of content, brands and publishers must utilize real-time insights to deliver authentic one-to-one experiences that mirror the rhythm of micro-moment consumers.

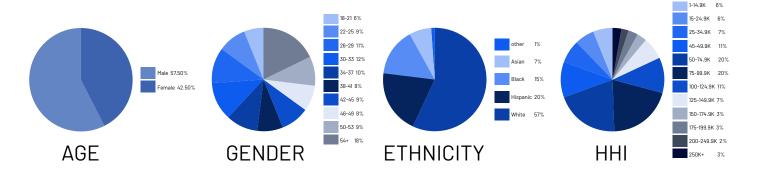
THE INTRODUCTION OF EVENT-BASED MOBILE CONTENT

The viral boom of HQ Trivia in late 2017 changed the way many marketers, publishers and brands perceive engagement on mobile. Predominantly seen as an on-demand "right here, right now" platform, HQ leverages the live micro-moment nature of mobile and integrates an event-based platform, demanding users play on a set schedule. The app has wisely taken a classic trivia game aesthetic and blended it with an interactive format that resonates with today's mobile user. The model has caught on with a wide majority, converting everyday consumers into trivia junkies. While the future of the game remains to be seen, one thing is certain: HQ has proven consumers still crave event-based programming in an on-demand world.

What is it about HQ that transcends generation, interest or lifestyle? The potential of winning a portion of the daily prize is more than enough incentive to give it a try, but what keeps users coming back for more?

Utilizing insights derived from our carrier-level mobile data, we performed an analysis of HQ Trivia users to gain a better perspective on the demographics, psychographics and behaviors of these self-proclaimed "HQties."

SNAPSHOT OF AN HQ USER



Demographically, HQ's audience skews heavily toward white males, making up over a quarter of the entire user base. Age is fairly evenly distributed, with the heaviest concentration of users between 26–37. Primarily millennials, these singles and young couples are seeking cultural enrichment both on-device and out of the home to stay at the peak of the latest trends. Popularity is particularly strong with middle-income suburbanites, indicated by the distribution of users across income brackets.

For many, being a part of the cultural conversation surrounding HQ is equal to the gameplay. The water cooler chatter that has developed is akin to must-see television. "How far did you get yesterday?" "Did you know question seven?" "I couldn't believe how many people missed it!" This sociological element to the game is a part of the audience's need to stay in-the-know and on top of cultural trends.

TREND INNOVATORS











This "tipping point" behavioral trait is a key identifier of HQ's audience. Feedly, a trend-based smart reader, is one of the top installed apps among HQ users. By utilizing applications like Feedly, users stay on the cusp of trends related to their business, personal interests or lifestyle. And the need for news is exhibited in many forms. HQties are extreme audiophiles. Podcasting clients (Pocket Casts, Blubrry, Acast, PodOmatic, Podcast One, Stitcher, Podbean) are by far the most popular application and mobile web category, supplemented with local and public radio services (WBEZ Chicago, This American Life, Public Radio Exchange, WNYC Public Radio).

PROGRESSIVE FINANCIERS



When it comes to finances, HQ users are forward-thinking and heavily invested in mobile management. Splitwise, Binance and Coinbase all indexed within the top fifty apps for the user base. For many of these consumers, it's not about the actual investment but rather being involved in the conversation around what's new and noteworthy (Bitcoin, cryptocurrency, etc.). That's not to say they don't dabble in longterm investments, as stock applications (Robinhood, Trader, Stockpile, Stocktwits) are also highly prevalent.



Beyond staying at the cusp of cultural trends and managing their finances, HQ fans are mobile power users. They have distinct taste and interests when it comes to food delivery services (Caviar, Seamless), sports (Rotowire, Barstool Sports, Deadspin) and dating (Jswipe, Hinge). Those who could be perceived as traditional trivia junkies are revealed to be cultural influencers. They're trendy, progressively minded mobile users who yearn for the "next big thing." Even while playing along with 1.4 million other HQties, the gameplay has a uniquely personal touch, similar to that of Snapchat or a Facetime video call. The one-to-one gameplay provides an intimate, content-driven

experience, creating the type of cultural buzz these users thrive on.

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In the months since release, HQ has shattered perceptions of what can be achieved with

event-based mobile content, although it is yet to be seen how the HQ team plans to retain the buzz, convert new users and plan for the long term (the founders have stated their ambitions to build "the future of TV"). Now that HQ has proven what is possible, it's time for marketers, brands and publishers to elevate the status quo.

WHAT'S NEXT?

In the on-demand mobile world of right here, right now, consumers are still searching for direction. Whether it be smart devices that offer insight and guidance to everyday life, in-the-moment trending content, or the evolution of an event-based live experience, users are hungry for the next unforgettable micro-moment that changes how they perceive the digital world. Yet for these discoveries to resonate and have a lasting impact with consumers, they must feel authentic and speak to a segment of one. It's a concept that's easier said than done. For one-to-one engagement to succeed, brands and marketers need to understand not only who their customers are, but how they behave, where they spend their time and most importantly: what drives action.



Jim Porterfield

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Jim Porterfield is a creative leader with a passion for data-driven marketing. With more than 25 years of experience in the advertising industry, Jim has worked with some of the world's largest brands. As the Director of Marketing & Insights at InMobi, Jim directs the company's product and brand market strategy related to its telco and Insights offerings.

Prior to InMobi, Porterfield served as the vice president and general manager of Bernstein-Rein Advertising. He worked together with Walmart as they grew from a regional Arkansas retailer to one of the largest retailers in the world, as well as directing the relaunch of the iconic snack brand Hostess.

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