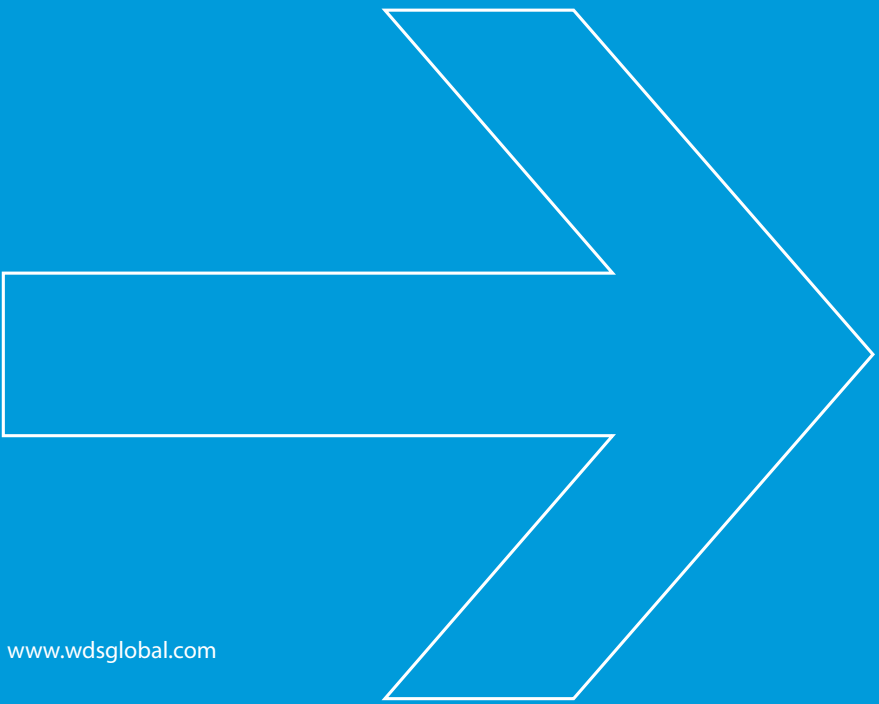


MOBILE CONTENT THE USER EXPERIENCE





INTRODUCTION

When it comes to overnight success stories, the mobile phone has other technologies beat. Since the launch of the Motorola DynaTac 8000x, which weighed in at 28 ounces when launched in 1983, the market for wireless technologies has grown at a rate that outstrips even that of the PC. Indeed there are now more mobile phones in the world than there are PCs, largely thanks to growth across Asia and Latin America.

The mobile phone, and the industry that has grown up around it, has undoubtedly had a profound effect on the lives of billions of people. One study by the UK-based Center for Economic Policy Research even suggested that developing countries with more than 10% handset penetration had 0.59% higher GDP than an otherwise identical country. However, such speed of development has led to enormous diversity across the industry; different operating platforms, network technologies, network and handset variants, even overlapping standards. These have all gone some way towards damaging the most vital and fragile component in the value-chain – the user experience.

One size doesn't fit all

Unlike other technologies, mobile experiences simply don't scale. A DVD manufacturer can be relatively confident that his product will deliver a consistent user experience on DVD players; likewise a broadcaster can be sure that their programming can be viewed by anyone with a TV receiver without any specialized configuration – regardless of whether it be a 20 year old CRT model or the latest plasma display. The same cannot be said for the mobile phone. What works on one device may not work, or be optimized, for another device even on the same carrier network, let alone a device in another country. Arguably, despite developments in form and functionality, the user experience has not evolved much in the last five years.

Today, as the industry focuses its efforts around the provisioning of mobile data services, the impact of a poor user experience is being magnified. Expensive, feature-rich devices are being used for little more than voice calls and the occasional SMS, all because the device is disregarded as dysfunctional or too complex, immediately inhibiting service adoption and consequently stifling revenue potential for the operator or application service provider.

It's time for change

WDSGlobal has more than a decade of experience, working with carriers, handset manufacturers and application / content providers to assure the user experience and ensure products and services meet end-users' expectations for service and quality. At the cusp of the mobile content revolution, WDSGlobal is perfectly positioned to support the needs of application and content providers looking to build long-term, sustainable growth. From device testing and service validation through to mobile device management and dedicated support centers, no one is closer to today's mobile consumers.

For more information about WDSGlobal, or to learn why many of the world's most recognized wireless brands trust us to develop the user experience and build brand loyalty, please visit us at www.wdsglobal.com.

***“The user experience is
the most fragile
component of the mobile
value-chain”***

BREAKING THE USABILITY BARRIER

Today's wireless services and device innovations are being unveiled at an exponential and unprecedented rate. The downside of this trend can be observed in less than adequate user experiences and the wake of customer service issues that inevitably follow the launch of any new product or service. As devices become inherently more complex, so too does the user-experience, leaving many users struggling to scale the technological learning curve.

And so, for the emerging mobile content and services market, an understanding that long-term profitability can be sustained through a commitment to the user experience is vitally important. This is a sensitive time for mobile content and services; less established in the US than most other markets due to a legacy of carrier controlled 'walled gardens', it is a market expected to generate more than \$150 billion in revenue by 2011. But meeting this target is not without its challenges.

The growth of mobile content and services

The relative immaturity of the mobile content market means it is difficult to predict the likely winners and losers. There's an almost gold rush mentality to the mobile content industry as each part of the value chain, from the handset manufacturers to content developers, tries to predict consumer trends. International success has also eluded many content providers who must battle not only cultural differences but also regulatory and technological variances. Factors such as penetration of feature phones and smart phones, frequency of device churn and pre-pay vs subscription all have a bearing on the success of mobile content.

When famed playwright George Bernard Shaw observed that the US and the UK are "two nations divided by a common language", he hadn't considered mobile content! Indeed, the US differs not just from the UK, but most of Europe. While Europeans have adopted the handset as a messaging center (nearly half of all Brits send an SMS every day compared to just 16% in the US says research firm M:Metrics), the US consumer shows a world-beating appetite for ringtones with nearly 10% of all consumers having downloaded at least one ringtone (against a European average of 6%). Even countries in close proximity show remarkable differences; nearly four times as many Brits have played a downloaded game than their neighbors in France (source: M:Metrics 2007).

But it's not just social tastes that differ between geographies. In the UK, 70% of mobile content revenues are derived from off-deck services; in the US it is less than 30%. That's because historically, US carriers have taken a 'walled garden' approach to content in which content and service providers distribute through the carrier's proprietary deck. However, many believe that direct-to-consumer business models are more favorable to consumer choice and that US carriers will soon adopt more widespread and open direct-to-consumer distribution and billing.

Certainly, many carriers have realized that they cannot provide the range of content necessary to satisfy the increasingly diverse consumer appetite. While many carrier portals have proven successful most will admit that managing mobile content is not core business and that time to market as well as content customization, sourcing and design can be improved by working closer with off-deck providers.

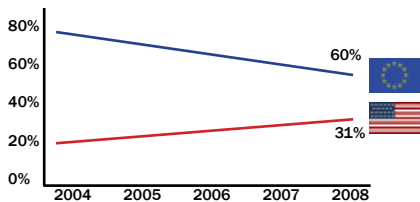


Fig 1: "Off-Portal" Revenue Share in Europe and the US
(Source: Yankee Group)

However, this isn't a change that'll occur overnight. US carriers' on-deck content remains strong, with media tie-ups helping some carriers realize billions of dollars in revenue from their portals annually. Moreover, the revenue share in the on-deck model can be as high as 50-60 percent of sales for the operator.

Revenue splits for the merchant using the off-deck model are currently at about 40-45 percent for the carrier and aggregator, and 55-60 percent for the merchant.

ON-DECK

Pro's – *Wide reach to millions, seamless billing*
Con's - *expensive pre-approval / testing process by carrier, lower revenue share, carrier controlled*

OFF-DECK

Pro – *fast to market, low cost of entry, creative freedom, higher revenue share*
Con – *Network restrictions / handset complexity can damage user experience if not effectively managed*

Fig 2: On-Deck vs Off-Deck

What can go wrong?

Irrespective of how the consumer finds the desired content, common challenges present themselves.

WDSGlobal runs specialized support centers for carriers, handset manufacturers and application / content providers around the world, including the US. This has allowed the company to analyze support trends, identify common usage barriers and help customers to overcome them.

From its work with content providers, WDSGlobal has been able to compile a list of the common support issues and user experience failures that plague consumers (Fig 3.). Interestingly, what the results demonstrate is that often it's not just a question of technical barriers, but industry best practice to educate and guide the user to the most appropriate piece of content for their needs, device, tariff and carrier.

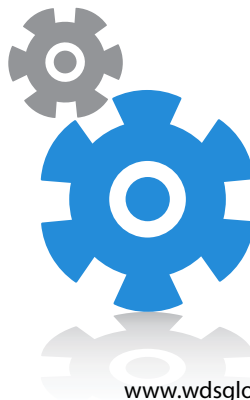
Of added concern is that the majority of consumers experiencing difficulty simply won't contact customer care or search the web for a resolution. In such instances, the consumer's faith in mobile content has been severely damaged and the likelihood of a repeat purchase is cut dramatically.

Using this information, and other intelligence gathered directly from its international business, WDSGlobal has compiled a four-point action plan for service and content providers looking to build profitable customer relationships and ensure services meet expectations for service and quality.

TOP FOUR SUPPORT ISSUES

- 1) **No Data Plan:** The consumer does not currently have a data plan in place that allows off-deck browsing.
- 2) **Can't Find Content On The Handset:** The consumer has downloaded content but is unable to locate it on the device.
- 3) **Device Does Not Support:** The consumer's device does not support the content type.
- 4) **Incorrect Configuration:** The consumer's handset contains incorrect data configuration settings, preventing downloads.

Fig 3: Four most common support issues presented by consumers





1) The importance of...Testing

Fact: Handset diversity will only get worse. The handset market is no longer dominated by a select group of manufacturers; increasing numbers of Asian manufacturers are grabbing market share, adding to the many hundreds of device and operating system variants currently available to the consumer. To compound the problem, carrier specific builds (which may lock certain features and functions, or reallocate device memory away from selected services eg: ringtones) and network restrictions cause variations between otherwise identical devices.

For off-deck content providers, testing against both device and carrier parameters offers an immediate insight into problematic services. Now is the time to identify issues and overcome them, prior to a service or piece of content being made commercially available. This helps to mitigate support inquiries and enables content providers to offer consumers alternative download methods or more suitable pieces of content.



2) The importance of...User Education

In the US, the number one mobile content support issue is consumers not having the correct data plan to access off-deck content. Unfortunately, this is often only evident after a failed download or billing attempt. By this point, the damage has been done and the consumer will approach content with added caution in the future. For off-deck providers who use web-based portals and stores to market their proposition, enabling accurate download processes to identify device type and network will serve to flag issues before the user experience has been damaged. Where issues are identified, the consumer can be guided to more appropriate content or redirected to their carrier for the provisioning of a more suitable data plan.

Another common call driver is consumers unsure where a piece of downloaded content has been stored on their device. This is a common issue for both on- and off-deck content and again relates to the diversity of device types and how they each handle content. Having undergone adequate device testing, and identifying the device type prior to download, content providers will be able to provide media-rich user guides, walking consumers through the download process and pinpointing the exact location of the content and how it is used.



3) The importance of...Optimization

What's the screen resolution? Does the device have a maximum ringtone file size limit? Are there DRM restrictions in place? These are just some of the factors that must be taken into consideration when delivering content to one of the many thousands of device variants currently in consumers' hands. By integrating accurate device profiling schemas into content optimization and delivery platforms, content providers can be assured that the correct piece of content for the connecting device is delivered, and through the most appropriate channel.



4) The importance of...Configuration and Support

In the US, carriers have (so far) retained control of the retail channel. This means that more often than not, devices are shipped with the necessary data connectivity settings or are able to retrieve the necessary settings from carrier support centers. However, in many parts of the world consumers have a wider choice of device retailers. This includes the ability to purchase devices free from any carrier connection; the consumer is simply able to insert a SIM card of choice and access the chosen network. However, such devices are usually devoid of any carrier-specific settings for data. Consumers must be offered self-care mechanisms through which to specify device type and connected network and retrieve the necessary settings over-the-air.

Such services can be integrated into content providers' online portals or customer care departments. By ensuring adequate testing to identify problem areas, optimizing content delivery and guiding consumers through the download process many of the support issues will have been removed. However, there must be adequate provision made for after-sale care. This can take the form of web-based self-care portals, email or IM support all the way to dedicated call centers to assure the user experience and drive repeat business.

CASE STUDY

The market for mobile content is booming with many industry analysts predicting a \$150 billion industry by 2011*. Often credited as one of the fastest growing areas in mobile, increasing service maturity and the entry of established media and brand owners has taken the industry mass-market. Whether it's to personalize their devices with graphics and ringtones, download mobile versions of their favorite games or simply use the handset as a media player for the latest chart hits, consumers continue to show an interest in extending the day-to-day functionality of their devices.

However, as the market accelerates so to does the realization that long-term growth will come from managing the user experience and meeting consumers' expectations for service and quality. Recent industry surveys have highlighted the shortcomings often suffered by the consumer. Up to a quarter of content transactions fail due to technological or user error while 64% of consumers would not try and repeat a download after two failed attempts. That's not just lost revenue, but significant brand damage.

One North American content provider, working in the direct-to-consumer market, understands the damage that a poor user experience can deliver. The company has made significant investments in the pre-launch testing of content as well as after-sales support, the belief being that a satisfied customer will be a repeat customer. Today, the company has achieved a leadership position in the field of direct-to-consumer mobile entertainment, offering over 60,000 pieces of mobile entertainment content under license, including ringtones, wallpapers, games and text-based services.

The company's continued desire to meet users' expectations for service and quality is supported by WDSGlobal who, since being appointed in August 2006, has been central in assuring a seamless user experience for consumers as they select, download and consume mobile content.

Validating mobile content and device diversity

WDSGlobal's involvement stretches across the lifecycle of both content and consumer. WDSGlobal was initially approached to help build self-help tools for the website and to provide after-sale customer care via dedicated call support and email channels. However, recognizing the importance of identifying problem areas as early as possible as a means of mitigating future supports costs, WDSGlobal's involvement began with the validation and testing of content against more than 1,300 mobile handsets.

Advancements in mobile device technologies may have revolutionized the way consumers interact with content, but each type of device has very unique characteristics. Whether it is streaming media content, wallpapers and ringtones or mobile games and e-commerce applications, different devices handle data in different ways. From network and connectivity settings, content rendering engines to DRM restrictions, understanding a device's capabilities and how it handles content is crucial.

With hundreds of manufacturers releasing thousands of feature rich devices into the market each year, the challenge of validating content can be overwhelming, but it's a problem that often contributes to an inconsistent user experience, poor service adoption and increased support costs.

WDSGlobal tested the content provider's portfolio of content against both devices and US mobile carrier networks. The accumulated data has enabled not only validation of content types against device types, but also the creation of detailed user guides. These step-by-step guides, available online as consumers make their purchase, offer detailed instructions on how to purchase content, download it and access it on the handset.

"Unfortunately, there are several barriers that exist between a consumer and their ability to

successfully download a piece of content. From device compatibility and settings to having the correct data plan in place; even knowing where your device stores a piece of content once it has been downloaded causes issues,” explains Doug Branson, senior account manager for WDSGlobal North America. “If the service doesn’t work as the user expects, they are unlikely to return. This was unacceptable to our customer. Deliver a compelling user experience from day one and you can establish a profitable relationship with the consumer. Get it wrong and your content or service is unlikely to realize its true potential.”

Delivering specialized support

Having guided the content provider’s consumers through the downloading process, WDSGlobal was keen to close the loop and apply its expertise in direct customer support. The company already operates specialized technical support centers for many of the world’s largest carriers and handset manufacturers, including several in the US. This gives WDSGlobal unrivalled knowledge about carrier restrictions for off-deck mobile content and the necessary data plan a consumer needs to have in place; an issue that is still one of the top three support drivers among US consumers.

Today, WDSGlobal handles calls from end-users 24x7x365 via telephone and email channels.

“Our customer’s content business has grown very quickly and it’s never going to be possible to anticipate every single problem ahead of time,” says Greg Carson who manages one of WDSGlobal’s support teams. “So the inclusion of a dedicated support center shows clear commitment to deliver the best user experience possible. It also highlights how mainstream mobile content has become in the last few years.”

WDSGlobal’s support environment delivers user experience data to help continually improve the service. Crucially, the support environment continually feeds the content provider with user experience data and also allows WDSGlobal to further develop user guides or apply workarounds to mitigate recurring issues. Call Handling Agents are tasked with identifying and tracking recurring issues; device-specific issues, carrier incompatibility and even website errors have all been traced and managed by applying fixes to mitigate future support calls and associated costs.

This repurposing of knowledge to continually improve the user experience forms the backbone of WDSGlobal’s offer. Average call handling times and speed of answer continue to fall as the support team becomes more succinct and streamlines data capture.

“It’s important that trends are captured and that the knowledge is applied earlier in the lifecycle, this may take the form of new user guides, revised call center scripts to reduce call handling times or a tweaking of the content. Most recently we identified a spike in calls from owners of a particular handset who could not download content; it was an issue that was impacting not just our customer but all direct-to-consumer content providers. However, thanks to our research, our customer was able to make the necessary adjustments to the content delivery platform while its competitors remain unable to service that device type,” adds Branson. “Several examples exist of supposedly ‘incompatible devices’ being successfully managed by understanding the technical barriers, for example maximum memory allocation for ringtones, and adjusting content accordingly.”

Summary

- Validation and testing of content against more than 1300 devices.
- Comprehensive user guides to walk consumers through the download / installation process.
- 24x7x365 support via telephone and email channels
- Trend analysis to identify recurring issues and work with customer on appropriate fixes
- Mitigates expensive ongoing support issues
- Builds brand loyalty through a positive user experience

*Informa Telecoms & Media’s “Mobile Content and Services” 2007

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There is a vast revenue opportunity out there and we have only just tapped the surface of what is possible. There are still many challenges to overcome, from pricing models to m-commerce security and DRM. However, over and above all of these factors is the issue of user experience optimization. The mobile device certainly has very unique portability characteristics that make it a compelling proposition; however with so much at stake the industry can't afford to get it wrong, the user experience is too fragile.

To learn more about end-user optimization, please visit us at www.wdsglobal.com where you can download solution information, read industry white papers and register to receive Wireless Informatics magazine - the industry's only publication dedicated to improving the end-user experience.



When it comes to the mobile user experience, no one sees more...

From product or service validation and readiness testing to mobile device management and end-user support, nobody gets a better view of the mobile user experience. That's why more than 100 carriers, handset manufacturers and application service providers trust WDSGlobal to drive down support costs, increase revenue and delight end-users.



WDSGlobal uses the power of information to help users get the most from their mobile devices and services. It's called Wireless Informatics and it's changing the way carriers, device manufacturers and content providers deliver compelling products and services.

Our position in the industry is unique. From handset and service validation and readiness testing to mobile device management and end-user support, no one gets a better view of the complete mobile user experience. Our experts apply this knowledge to our portfolio of solutions, allowing us to help our customers overcome many of the barriers that exist within the mobile ecosystem.

With nearly 1000 employees globally and dedicated support centers in the UK, USA, South Africa and Australia, we continually collect, validate and share data about devices, services and user behavior, using it to feed WDS GlobalMine™- the industry's most comprehensive knowledge base and foundation for the company's portfolio of carrier-grade products and services.

The company currently counts over 100 customers, including many of the world's largest handset manufacturer and mobile carrier brands, and is headquartered in Poole, UK.