

Mobile Content Market: an Exploratory Analysis of Problems and Drivers in the U.S.

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Abstract

This paper aims at filling the vacuum in the mobile content¹ literature addressing the following two macro-topics: the identification, classification and assessment of problems and inhibitor factors thwarting players involved in the mobile content market in the U.S.; second, the analysis of drivers that companies along the mobile content value chain may harness for breaking such challenges down.

In the end, the research study provides a set of levers which companies can take advantage of for increasing their performances as well as meeting critical success factors.

To accomplish our objectives, we have employed the multiple case studies methodology and performed a multi-criteria analysis along the value chain position (e.g., content provisioning, content aggregation) and types of content offered (e.g., video, music). Specifically, the sample of analysis comprises 67 companies throughout the value chain and offerings.

We have identified, at an industry level, six problems hampering the mobile content market in the U.S.: customer awareness and education as well as user habits and acceptance; pricing strategies; regulations; platform's standards and solutions; OffDeck underdevelopment; economics and monetization opportunities.

For each of them, we have delineated a set of levers which players have started taking into account for overcoming such inhibitor factors (e.g., social network mediums, smartphones and new distribution channels, pricing plans).

Introduction

Although the United States is a strong player in the entertainment and communication industries (Kangas 2004), over the years academic journals and practitioners have highlighted how the U.S. lags behind many countries regarding the mobile communication market as well as the mobile data and mobile content segments.

Despite such status, conditions are rapidly changing.

In fact, according to Chetan Sharma Consulting (2008), mobile data revenues grew in 2007 and 2008 at a staggering pace, and were projected to exceed, in the last quarter of 2008, the 25% threshold of the overall industry turnover; furthermore, Chetan Sharma Consulting consistently ranks the four major U.S. carriers among the top 10 worldwide data-generator mobile operators.

A few factors are leading the mobile data taking off.

First, 3G diffusion has finally gained some traction. In fact, according to comScore (2008), during 2008 28.4 percent of U.S. subscribers owned a 3G device (representing an 80 percent year over year lift) versus 28.3 percent in the five largest European countries.

In addition, some carriers have already (or are in the process to) embraced 4G technologies, based on either WiMAX or Long-Term Evolution standards, thereby driving a faster transition toward more advanced networks and services compared to many other countries.

¹ There are many, somehow related, definitions for Mobile Content, Mobile Commerce, and Mobile Entertainment. In this paper we refer to Mobile Entertainment Forum's definition: "Mobile Entertainment refers to entertainment related activities performed by end users over a mobile network and using mobile equipment such as handsets. This can include things like mobile games, media content consumption such as icons, ringtones, music, images or movie clips, chat and information services on relevant entertainment events."

Other factors at play are the increased adoption of smartphones and flat-rate data plans.

Although these conditions are – to some extent – also bolstering the mobile content market, research analyses do not envision a rapid achievement of the tipping point, while many factors are spurring a delayed taking off.

For example, according to Analysis Mason (2008), the mobile content industry is expected to grow in the U.S. at a compound 16.3 percent annual growth rate from 2008 through 2013; however, the most significant uptake will occur only after 2010. In accordance with CTIA, in 2007 the growth had been already lower (15%), and expectations for the following years were uncertain.

Consequently, we aim to fill the vacuum in the mobile content literature by addressing two topics: first, the identification and assessment of inhibitor factors thwarting players involved in the mobile content market in the U.S.; second, the analysis of drivers that companies may take advantage of for overcoming such challenges.

The paper is organized into four sections. In the first one, we review the literature contributions on the mobile content market in the U.S. The second part explains the methodology employed – an exploratory research based on the multiple case studies method involving 67 companies throughout the value chain and offerings. In the third section we discuss the empirical findings, identifying and assessing the main barriers and drivers. Finally, we conclude discussing implications for future research initiatives.

Literature review

Research studies on the U.S. mobile content market have primarily paid attention to user behavior, while little has been investigated at both a firm and industry level.

Such research projects convey within the Information System studies predicting users' acceptance of a technology or innovation by assessing interrelations among user beliefs, attitudes, and intentions. The three widely accepted models, outlined, for example, by Fife and Pereira (2005), Pereira et al. (2008), Pagani (2004), Venkatesh et al. (2003), are: the Technology Acceptance Model (Davis et al. 1989), the Diffusion of Innovation Model (Rogers 1995) and the Unified Theory of Acceptance and Use of Technology (Venkatesh, Morris, et al. 2003).

These models have been applied to the mobile data and content markets as well.

Among others, Fife and Pereira (2005), Pereira et al. (2008), J.P. Shim and J.M. Shim (2003), Zhang and Prybutok (2005), and Malhotra and Segars (2005) carried out multinational-wide survey geared toward comparing the mobile data adoption in American, Asian, and European markets.

Overall, results show an uptake among U.S. users way lower compared to internationally.

For example, according to Fife and Pereira (2005), the majority of respondents (53%) had never sent, at that time, any SMSs: demographic factors and the cultural context underlie such a result.

In a later study, Pereira et al. (2008) found higher usage rates for a variety of mobile data services in Korea compared to the U.S., partially explained by social and cultural differences (e.g., Koreans use mobile devices on long commutes) as well as the technology adoption catalyst.

J.P. Shim and J.M. Shim (2003) stated that over 90 percent of respondents in Japan, Finland, Korea, and Hong Kong experienced m-commerce services, whereas in the U.S. only 65.1 percent of people surveyed were somehow engaged in the same activities.

Zhang and Prybutok (2005) found that Americans use mobile phones primarily for spoken communications; on the other hand, alternatives to SMSs (such as emails) are more viable in the U.S. than Europe (where users are more accustomed to sending SMS messages).

Finally, Malhotra and Segars (2005) claimed unlikely a “big bang” in mobile data adoption within the U.S. market, following, by contrast, a linear adoption pattern.

In spite of studies pointing out the (low) uptake of mobile data and content services by U.S. users, the literature review shows a vacuum in research projects aiming to gain deeper knowledge, from an industry perspective, about two topics: first, *problems* thwarting players involved in the value chain; second, companies’ strategies explaining such a delay compared to internationally.

According to Bullen and Rockart (1981), *problems* are one of the six key areas of an organization’s management, alongside with Critical Success Factors, Strategy, Objectives, Goals, and Measures. Bullen and Rockart define problems as “specific tasks rising to importance as a result of unsatisfactory performance or environmental changes. Problems can affect the achievement of goals or performance in a CSF area.”

In the past years, several papers addressed some issues connected to the mobile content market. The majority, however, approached the topic primarily with a technological, instead of managerial, viewpoint. Moreover, no one has specifically addressed problems preventing the mobile content market in the U.S. from taking off.

A comprehensive picture of technological constraints hampering the delivery of multimedia content services to mobiles is provided, for example, by Arreympi and Dastbaz (2002), Tarasewich et al. (2002) and Olivares et al. (2006), with the analysis spanning from display and resolution to input devices, CPUs, memory, battery life, and wireless networks.

In other cases, besides the analysis of barriers to the mobile content delivery, technical solutions are proposed (e.g. Piyasena and Chan 2008; Olivares et al. 2006).

In addition to limited or absent analyses of problems hindering the U.S. mobile content market, very few and partial views about the structure of the mobile content industry in the U.S. and players’ strategies have been provided.

Ziv and Mulloth (2007) outlined, supported by the case study analysis of an U.S. mobile content service provider, the shifting power balance from carriers toward users as well as among value chain players.

Dennis et al. (2006) investigated digital strategies of major U.S. media companies, their organization and internal operations in the context of convergence. Landers and Chan-Olmsted (2004) applied the resource-based approach for assessing which broadcast television networks’ resources and capabilities might become prevalent and lead to superior performances amidst the new landscape shaped by the Internet’s surge, the digital television’s arrival, etc. On the other hand, in both studies the attention is mainly on challenges prompted by the digital environment and convergence phenomena, while impacts stemmed from the mobile channel are barely cited.

Finally, Storsul and Sørgaard (2006) pointed out some characteristics of the U.S. mobile content market, such as the heavy emphasis on the walled-garden approach and technical heterogeneity; they provided, however, only a preliminary view with limited insights from an on-field analysis.

Empirical analysis

Research goals

This study aims at accomplishing two objectives:

- The identification, classification and assessment of inhibitor factors, at an industry level, thwarting players involved in the mobile content market in the U.S.²

² The results pinpoint the vision of companies engaged in the U.S. mobile content industry; other viewpoints (e.g., from final users, regulatory entities, etc.) may prompt different results.

- The analysis of drivers which companies in the mobile content industry may take advantage of for overcoming the aforementioned challenges. Most levers represent actions that players have already taken into account and harnessed, although in many cases employed only on a limited basis.

Methodology

In order to achieve the research objectives, we have employed the case study methodology.

The case study approach is often utilized in two situations (Yin 2003): first, little has been researched on a topic; second, an industry's structure or firm's strategy is taken into account, as opposed to predict user behavior.

These two conditions completely fit with the scope of our study. Further, we have chosen the multiple case study methodology and performed a multi-criteria evaluation along two variables, both covering the entire mobile content industry: the value chain position and types of content offered.

Such variables have been chosen since combined they make possible getting a whole picture of the mobile content industry through the analysis of every value chain stage as well as product supplied. As a result, the sample of analysis has been selected to cover each quadrant of the matrix pictured in figure 1, carrying out, within every quadrant, multiple cases as long as new findings were revealed and saturation was reached (Yin 2003). The two evaluation variables have been split up as follows:

- Mobile content value chain (Bertelè and Rangone 2005; Barnes 2002): Content Provisioning, Content Aggregation, Application and Infrastructure Provisioning, Retailing, and Billing Integration.
- Types of mobile content services (Bertelè and Rangone 2008): Video, Music (primarily full track services), Infotainment (e.g., Browsing or SMS services about news, sport, and finance), Personalization (e.g., mastertones, wallpapers), Communication & community, Gaming, Interaction with media (e.g., voting, sweepstakes).

This methodology aims at separating problems at an industry level, affecting every (or almost) value chain stage and type of offering (perceived in each – or almost – quadrant of the matrix of reference), from inhibitor factors linked to a specific player's position in the value chain or type of content (perceived in a limited number of quadrants).

The focus at the industry level is justified by:

- The exploratory nature of our work.
- The final aim of our research project, which is providing a set of drivers in order for companies to increase performances and meet the industry's critical success factors. Bullen and Rockart (1981) define Critical Success Factors (CSFs) as “the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization.” Specifically, they identify five sources of CSFs: Industry, Competitive Strategy and Industry Position, Environmental Factors, Temporal Factors, and Managerial Position. As such, apart from environmental and temporal factors, successful performances are influenced by industry, competitive position, and managerial factors; in this paper we have taken into account primarily the first one.

The sample of analysis comprises, overall, 67 companies throughout the value chain and offerings, identified via secondary sources (i.e. search engines, specialized journals, press reviews, conventions, associations, etc.) and relying on company managers' availability. Figure 1 pictures the split among each quadrant³.

³ Since a company can occupy more than one quadrant (it may offer different types of service or be involved along various value chain stages), the summation exceeds 67.

		Value Chain Activities				
		Content provisioning	Content aggregation	Application & infrastructure provisioning	Retailing	Billing integration
Types of Content	Video	16	19	12	18	7
	Music	9	12	12	9	7
	Infotainment	8	13	8	12	6
	Personalization	12	17	11	14	7
	Communication & community	3	4	11	11	6
	Gaming	8	10	10	15	7
	Interaction with media	4	4	3	8	6

Figure 1 – Methodology and sample of analysis: the assessment of problems throughout the value chain and offering

The interviewee panel spans through three managerial levels with the following breakdown:

- C-level (CEOs, CMOs, CTOs, etc.): around 33% of participants.
- Senior and Executive Vice Presidents: 39%.
- Directors and Middle executives: 28%.

Interviews were performed via telephone following a set of open-ended questions (available to interviewees by request) customized depending on the company's role and position. Each interview lasted between 30 minutes and 1 hour. To triangulate information, by the time of the interview additional documents were gathered or requested, including press releases, annual reports, news on dedicated websites, etc.; in addition, in some cases follow-up actions for collecting additional information had been taken.

Interviews were held during the summer and fall 2008.

Research results

We have identified six barriers, at an industry level⁴, hindering the mobile content market in the U.S.: customer awareness and education as well as user habits and acceptance; pricing strategies; regulations; platform's standards and solutions; OffDeck underdevelopment; economics and monetization opportunities.

The following paragraphs describe in details the aforementioned hurdles and, for each of them, outline levers that players have started taking into account for overcoming such inhibitor factors.

⁴ As described in the methodology, we have focused the attention on issues affecting every (or almost) value chain stage and type of offering (perceived in each – or almost – quadrant of the matrix of reference); conversely, inhibitor factors linked to a specific player's position in the value chain or type of content have not been taken into account (e.g., content proposition in the case of video services, rights management for content providers, low uptake of personalization services compared to internationally, etc.).

The majority of drivers has been already, to some extent, harnessed, even though in many cases only on a partial basis.

Out of the six problems identified, two of them – customer awareness/education and pricing strategies – have been evenly perceived by players regardless the value chain stage and type of offering (see the representation in figure 2); they have been, therefore, described at first.

The other ones, although recognized by players at almost every value chain stage and type of content, present peculiarities depending on specific factors; as a result, their analysis follows the former.

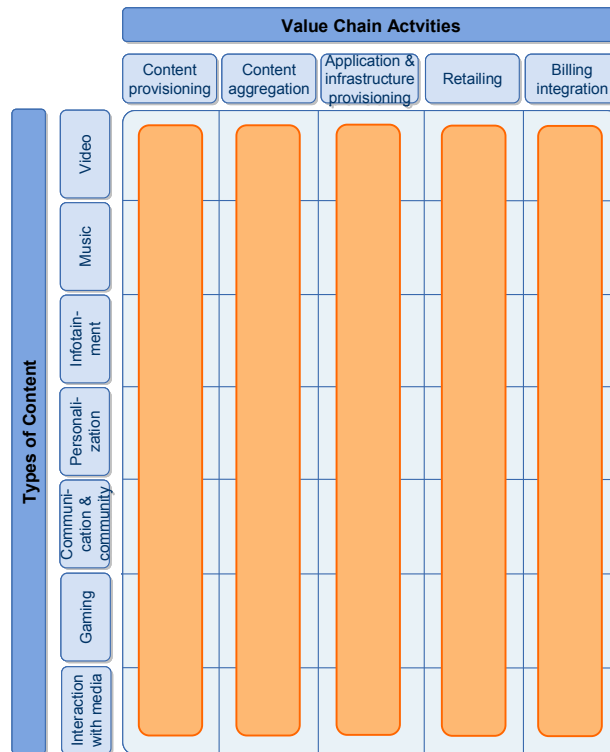


Figure 2 – The perception of problems linked to Customer Awareness and Pricing Strategies

Customer awareness and education as well as user habits and acceptance⁵.

As a result of few promotion activities on mobile content services and a fiercer competition, compared to other countries, from other delivery channels (such as the Internet), most companies are struggling with a low customer awareness and education as well as acceptance of mobile content services.

For example, during the last two years carriers had been committed to fostering the adoption of data plans, heavily promoting them, and obtaining remarkable results. Conversely, direct efforts on mobile content services accounted for a tiny percentage of their promotion mix⁶.

Moreover, the greater competition from the Internet and other alternative and free delivery channels has hindered the uptake of various types of service, while users are more accustomed to the Internet and side-loading mechanisms instead of the downloading or streaming of content services over the air. For example, ringbacktones have not grown as projected because of very low knowledge and

⁵ Although this problem involves primarily Retailers and the final users, it has been perceived as affecting players' strategies and actions throughout the value chain.

⁶ Mobile data promotion is – somewhat – fostering the mobile content business as well (see the next paragraph dedicated to pricing policies and strategies for details); it is, however, only a result of the attention toward the overall mobile data business rather than a direct action for promoting content services.

acceptance by users, with results varying depending on carriers' ability to bundle, promote and market them effectively. With regard to full track services, many players are recording a side-loading usage way higher than the over the air downloading (e.g., a service provider is seeing a 75-25% ratio). In fact, the business is challenged by difficulties at getting users accustomed to purchasing and listening to music outside the Internet and PCs mechanisms.

Drivers

Besides the need of collaboration throughout the value chain for appropriately communicating and promoting mobile content services, the main factors which players are taking into account or are planning to leverage are:

- Social network mediums, viral effects and word of mouth.
First, widgets multiply touch points with users. A few players have already rolled out solutions that let – via widgets and an html code associated to a piece of content – almost everyone offer content services to mobiles through users' social network home pages. Such a strategy has been already employed for personalization services, but it will be soon extended to other interactive applications. In addition, the usage of viral tools such as “send to a friend” will harness even more widgets' effectiveness.
Second, some players are blending communities (on both mobile and web) with some types of content (e.g., games and music) aiming to entertain users, increase traffic and time spent on mobile/web sites and, in the end, make a transaction and retain the customer.
Finally, some mobile retailers are taking advantage of strategic relationships with recognized brands (e.g., exclusive deals, storefronts' empowerment) for building around such properties multiple micro-destinations with a customized offering depending on a player's customer base (contextually integrating offerings with a property's users).
- Services tighter coupled with other channels and environments where people are used to accessing to services, aligning the correspondent user experience and habits. For example, in the case of music services, a couple of mobile application providers have rolled out solutions aiming at synchronizing songs between PCs and mobiles and managing them where users are more comfortable to (usually on PCs).
- Pre-loaded applications. Such a model contributes to raising discoverability and awareness. For example, an application provider is recording the 40 percent of its overall traffic from a client pre-loaded on a few carriers' devices.
- New featured smartphones and delivery platforms. These new channels are arising more consciousness about mobile browsing and media, leveraging tech-savvy users comfortable with application and content usage. The U.S. device base has dramatically changed starting 2008. In fact, looking at the smartphone subset, the penetration in the U.S. is as high as in Europe⁷; moreover, some mobile content players recorded a 5X increase of smartphone users within their customer base in 2008.

Pricing strategies.

For accessing to mobile content services, users have to, depending on the carriers, preliminary buy a subscription data plan. This represents a huge barrier to consumer adoption, driving users to seek out other ways for getting mobile content (such as side-loading), customer service management problems, and failed transactions, keeping many users (particularly “casual” ones) away from mobile content services.

The second component of this barrier is carriers' inability to offer, within a one-stop experience, all contents available around a show or artist, as well as bundle, promote, cross and up-sell such

⁷ According to Nielsen Mobile, while in 2007 6% of Americans purchased smartphones, that number rose to 16% in early 2008, while over the same period in Western Europe the jump was smaller, from 11% to 17%.

services. Telcos are currently struggling to enable this strategy due to technological constraints as various players manage different components of the content business and the separation between the Portal⁸ and Storefront⁹ (see the paragraph dedicated to platform standards and solutions for details)¹⁰.

Drivers

Mobile retailers, primarily carriers, should come out with clearer and more flexible pricing models, thereby attracting the mass market and, in the end, up-selling to acquired customers flat-rate data plans. Some avenues to take into account are: the combination of data traffic costs with the sheer price of a piece of content or application; bundling content services and applications with data, connectivity and voice plans; day pass or day charge solutions. The U.S. currently lags behind with regard to the first and third path, while a few carriers have started to heavily bolster “all-you-can-eat” packages, bundles of data services with some types of content (e.g., unlimited SMSs, data access and VOD streaming services), or unlimited content plans.

As a first result, the mobile browsing, particularly through the OffDeck channel, has seen remarkable growth rates. In fact, some mobile web publishers – supporting third parties in the development of mobile web sites – recorded in 2008 a 2 digit month over month traffic rise.

As regards bundle strategies, the focus should evolve from selling a single piece of content to the entire either artist or show-related content catalog, capitalizing on cross-selling opportunities. However, as already mentioned (and deeply analyzed in the next paragraphs), Telcos are struggling to enable it because of technological platform constraints.

Results recorded by one carrier – which is effectively leveraging bundling functionalities across personalization and music services – show a 20-30% content sale’s lift. Conversely, similar initiatives conducted by other carriers did not obtain any relevant results because of the lack of commitment and appropriate platforms.

Regulations.

The majority of players, except for content aggregators, throughout any types of offering perceives legal and regulatory aspects as a relevant problem (see figure 3).

These issues have hampered both the OnDeck and OffDeck markets. In fact, carriers have rolled out stringent guidelines for both channels in regard to – for example – content allowed to be sold (e.g., adult services are banned) and price limits.

In addition, other regulatory aspects are thwarting the OffDeck market.

In the case of rich media content, such as videos and full tracks, policies are still unclear.

Second, some Telcos do not allow the content downloading unless users subscribe to a data plan.

Third, the access to “scarce” resources (such as Premium SMS short codes) is a very complex process. In fact, the approval process for a Premium OffDeck campaign is constituted by multiple steps, with each carrier having differing guidelines which increase risks and costs for both content providers and aggregators. Moreover, when a campaign is on air, carriers, through audit agencies, continue to tightly oversee it; in 2008, for example, a mobile billing integrator recorded a 100% increase of carriers’ audit actions while campaigns were on air.

Additionally, carriers have tightly monitored devices, as well as features and applications running on them; some mobile operators have blocked for a long time the access to OffDeck services modifying handsets before releasing them, or not implementing web adaptation for the OffDeck browsing.

⁸ It refers to the pure browsing environment.

⁹ It refers to the downloading, streaming, etc. fruition.

¹⁰ By contrast, OffDeck retailers have heavily pushed the subscription and bundle models.

Finally, pending litigation has led carriers to be even more concerned and cautious about this market since they are not willing to lose high margin customers for issues linked to the mobile content business, still a tiny fraction of their overall turnover. In fact, during 2007 and 2008, some carriers and mobile content and service providers had been sued for misleading advertising practices exploiting the usage of the word “free”, unauthorized charges or inadequate controls. This is affecting the reputation of the mobile content Premium market, particularly the Premium SMS, with impacts on both revenues, such as ringtones or interaction with media (sweepstakes) services, and players that fairly rely on an ad-supported model.

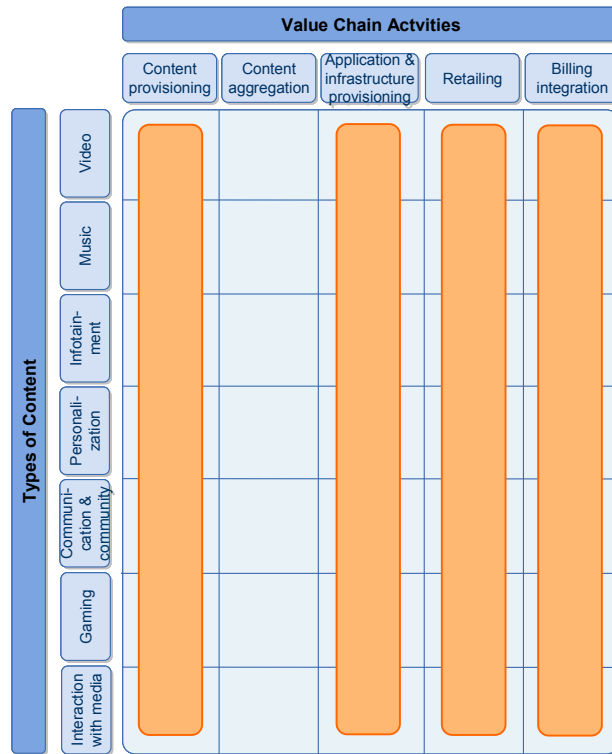


Figure 3 – The perception of Regulation problems

Drivers

The entire value chain needs to collaborate for raising the bar. In light of case study outcomes, players are taking into account three main directions.

First, misleading companies approaching the U.S. market (an appealing one for spending capacity, size, and stage of development) with a short term investment outlook are to be excluded. Besides legal actions, players should develop reward systems based on refund ratings, billing process mistakes, etc., incentivizing companies with a fair conduct and punishing “rotten apples.”

Second, clearer, more effective, and standardized guidelines should come out. As already mentioned, diverse guidelines, at different stages, regulate the premium market. For example, the Mobile Marketing Association (MMA) has developed a set of rules in order to standardize them, but Telcos still have their own guidelines for some aspects. Moreover, lawsuits in place are adding even more complexity to the market, with new rules not perfectly aligned with the MMA and carriers’ ones. A situation where a compliance board has the authority to audit for all the carriers through a single set of rules would be helpful from a consumer and compliant management costs prospective; it represents, however, a chimera at this time since each carrier is structured in a different way in terms of customer service.

Third, the diffusion of new billing mechanisms would allow overcoming Premium SMS shortcomings, such as difficulties to explain terms and conditions, handsets enabled to download or play content services, etc. Starting the second half of 2007, some carriers have opened their WAP

billing systems to third parties, with a web-like sign up process, giving consumers a payment experience they are already familiar with. Some players are eager to lead the transition toward the WAP billing mechanisms and they are already recording remarkable results (aligned with the mobile internet taking off) although there are not so many players ready to embrace it yet. Moreover, the rapid shift from WAP to a consistent mobile Internet experience brings to envision changes in the billing mechanisms as well, with e-wallet solutions that might take off in the U.S. faster than in other countries.

Platform's standards and solutions.

This problem is perceived particularly by content providers, application & infrastructure providers, and retailers, while it does not heavily affect content and billing aggregators (see figure 4).

The mobile market has been traditionally characterized by multiple platforms and standards. The U.S. mobile content industry stretches this aspect through the coexistence of a plethora of differing standards with conditions becoming exponentially fragmented instead of simpler.

With regard to cellular networks, several standards, such as GSM, CDMA, iDEN, etc., are in place. From a content fruition standpoint, besides the coexistence between Java and BREW, new platforms and environments, such as Blackberry, Android, etc., have gained traction. Furthermore, players working globally are forced to deal with solutions adopted almost only in the U.S. (such as MediaFLO and BREW).

Therefore, in order to reach scale effects, content and application providers have to be more flexible at developing solutions working throughout the differing platforms and technological configurations. As a result, a lot of artificial costs for porting, content ingestion and adaptation activities challenge the delivery of many types of mobile content services, whether building more versions of a mobile site or optimizing videos and games to carriers' platforms (for example, a company involved in the gaming business recorded fivefold porting costs compared to production costs), etc.

From a content provisioning platform standpoint, the division between the Portal and Storefront environments has prevented a pleasant and unified user experience as well as cross and up-selling opportunities. In fact, for accessing to different types of content, users have to start off various applications, whether a browsing session to check text information, a media player for watching Mobile TV channels or a client for accessing to a social network site.

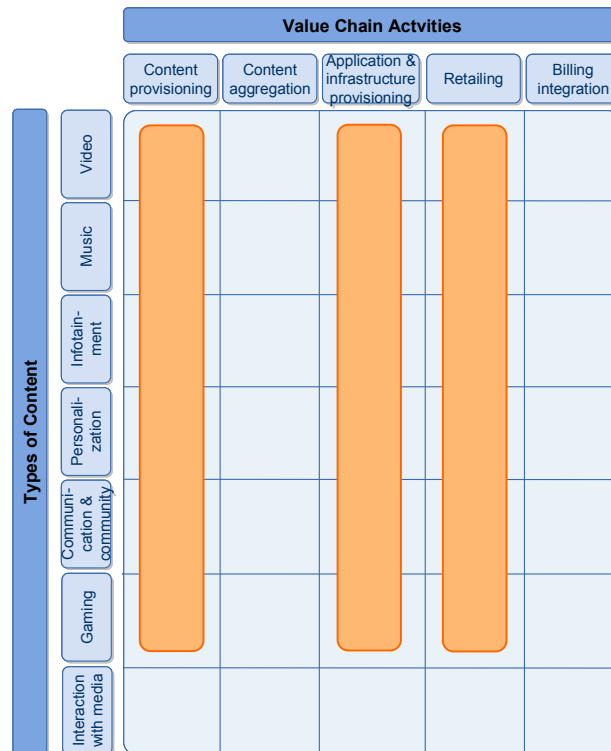


Figure 4 – The perception of problems linked to Platform Standards and Solutions

Drivers

The critical areas which players should divert quite a few efforts for removing the aforementioned hurdles are:

- Evolution toward a blended, convergent storefront-portal environment thereby integrating browsing, downloading, streaming, etc. sessions; in the end, the turning point is harnessing the concept of “total package presentation,” being able to offer, within a one-stop experience, all contents available around a show or artist, and enabling a smooth experience without any side-loading interaction.
- Migration toward web-centric tools (such as RSS feeds and readers) as the key technology interface for content ingestion harnessing the smartphones diffusion.
- Development of “adds-on” functionalities in order for users to access, buy and share and for retailers to promote and bundle services easily in a win-win relationship. In 2008 carriers introduced interfaces within the Portal and Storefront environments, via both web and mobile, for improving customization features, discoverability and ease of use. For example, users can set up – through widgets – in which order sections and information appear within the home page and inner sections as well as organize and add shortcuts to preferred information and mobile sites.

Economics and monetization opportunities.

Monetization is perceived as a challenge at many levels of the value chain and types of offering, although not evenly distributed throughout the matrix of reference (see figure 5).

This problem can be split along three directions.

First, revenue shares across the value chain are not always equally distributed. For example, OffDeck retailers can get as low as 10% of full track price; infrastructure providers are struggling to recover platform costs in the case of video services because of revenue shares and scale limitations.

Second, the higher complexity of the mobile channel challenges monetization aspects. For example, games require heavy investments for both development and porting activities, costs emphasized in the U.S. due to the rapid device transition and plethora of platforms.

Finally, among factors specifically connected with the characteristics of the U.S. mobile content market, the most relevant refers to Premium SMS drawbacks. In some cases players are forced to rely on a standard rate model since less strict regulations and fewer risks of incurring in legal challenges for example, with regard to interaction with media services (such as voting and sweepstakes), some players are struggling to monetize the engagement and going beyond an experimentation stage, while the ad-supported business is still at an infancy stage.

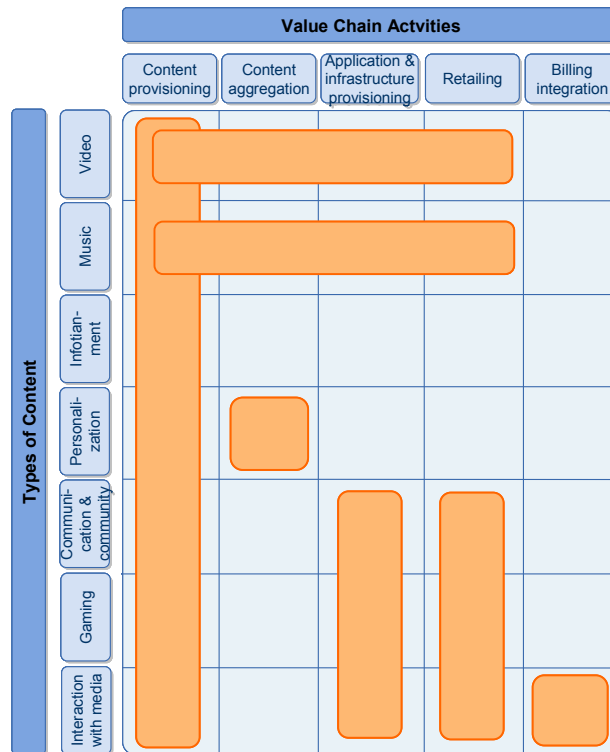


Figure 5 – The perception of problems connected to Economics and Monetization Opportunities

Drivers

In light of insights from the case study analysis, the main levers players should harness for overcoming this barrier are:

- Pricing strategies. The more flat-rate data plans and clearer pricing models will enter the market, the sooner users will massively adopt mobile content services and the market will reach scale effects for monetizing investments.
- New billing mechanisms. The more billing systems outside the OnDeck channel will thrive, the more carriers will be forced to re-think revenue shares (for details about billing mechanisms see the paragraph dedicated to regulation problems).
- Development of a viable mobile advertising model. So far, the majority of revenues and investments has come from display advertisements, as a result of the active role taken on by web companies and the transposition of such model, based on display and search advertising, from web to mobile. Starting 2008, however, besides display advertisements, experimentation in other fields has been conducted, such as: full screen images, videos,

scrolling banners at the beginning, end, or interstitially of a game¹¹; pre/post/mid-roll advertisements for video offerings; location-based display advertisements; sponsorships along different types of services, such as video, audio and interaction with media campaigns; leveraging smartphones, new distribution platforms, and relative features such as larger screens, more animations, built-in GPS chipsets, etc.

OffDeck underdevelopment.

This problem is thwarting the majority of players regardless the value chain position and offering, with a representation similar to the one in figure 2. By contrast, it is not perceived affecting critical success factors by players focused on the OnDeck market not willing to play a preeminent role on the OffDeck channel as well.

The OffDeck premium market started pretty late (in 2004) in the U.S. In addition, some carriers – particularly those BREW-based – opened up the channel even more recently (in 2006 and 2007).

Compared to other countries, the OffDeck incidence is by far lower. In Italy, for example, its weight was, in 2008, as high as 53% (Bertelè and Rangone 2008). Conversely, the majority of players claims an incidence in the U.S. around 20% (or lower).

As the market in the U.S. primarily relies on carriers' decks (with lack of viable alternative distribution channels), the mobile content industry is a very competitive arena for getting a good placement.

A lot of players are still struggling to develop an effective OffDeck proposition due to:

- Barriers raised by carriers in terms of regulations and scarce attention to the channel (described previously in the regulation paragraph).
- Customer acquisition challenges: the customer unconsciousness is emphasized in the OffDeck channel, a high-spending segment in terms of marketing cost whilst returns are uncertain. As a result, some players have moved away from a Direct-to-Consumer involvement, not deliberately taking the B2B avenue but spurred by market conditions.

Drivers

Despite the rough current status, findings from the case studies analysis outline that many factors will foster the OffDeck market taking off, with the division between the OnDeck and OffDeck channels blurring. The main levers are:

- New delivery channels. Starting with the App Store, the traditional mobile distribution channels are going to be turned upside down, while a new concept of delivery channels and stores has gathered significant momentum. For example, a player has recorded 5 times higher downloads on the App Store than on the traditional carriers' decks. In such a new scenario, despite diverse models in place (in terms of revenue shares along the value chain and control by retailers), carriers will not oversee any application delivered to users and will be completely – or partially – cut out of the revenue stream; on the other hand, opportunities for minor mobile publishers/developers and new (ad-supported) business models may thrive.
- New billing mechanisms: billing systems outside the OnDeck channel (such as the OffDeck WAP billing) will convey more attention to the OffDeck market and greater monetization opportunities (for details about billing mechanisms see the paragraph dedicated to regulation problems).
- Social network mediums, viral effects and word of mouth (already described in the paragraph dedicated to customer awareness).

¹¹ There have been a lot of concerns about offsetting gaming costs. From data recorded by one player, when users have a data plan such problem is overcome, while there are still some frictions because of traffic data costs if a user is not subscribed to a data plan.

- Pricing mechanisms: as already mentioned, clearer and more flexible pricing policies, such as bundling the data traffic cost with the sheer price of a piece of content, enabling content downloading for both users without a data plan and pay-as-you-go customers as well as flat-rate data plans, can boost the OffDeck taking off. In fact, in 2008 many players have recorded a three digit year over year growth for the OffDeck mobile browsing (e.g., a media company has reached an incidence of the OffDeck browsing as high as 40%).
- Addressing regulation aspects (already discussed in the relative paragraph).

Conclusions

This paper has presented the main results of an exploratory analysis performed on the mobile content market in the U.S. Specifically, the research study accomplishes two objectives:

- The identification, classification and assessment of the main problems, at an industry level, thwarting players involved in the value chain.
- The analysis of drivers for breaking such inhibitor factors down.

The final goal has been the provision of a set of levers in order for companies to increase their performances and meet the industry's critical success factors.

A sum-up of our findings is presented in figure 6.

We have identified six problems hindering the mobile content market in the U.S. at an industry level: customer awareness and education as well as user habits and acceptance; pricing strategies; regulations; platform's standards and solutions; OffDeck underdevelopment; economics and monetization opportunities.

For each of them, we have analyzed levers that players have started taking into account, or are planning to harness, for overcoming such inhibitor factors. In particular, some drivers are leveraged through different problems; a few examples are: social network mediums, smartphones and new distribution channels, pricing plans, new billing mechanisms, and standardized guidelines for the premium market.

Further research projects may capitalize on this study for providing an in-depth analysis at a firm level, taking into account barriers specifically connected with a company's position in the value chain, supporting players in identifying, handling and meeting not only Industry but also Position-related Critical Success Factors.

		Problems					
		Customer awareness	Pricing policies and strategies	Regulations	Platform standards	Economics	OffDeck Underdevelopment
Drivers	Social network mediums	■					■
	Coupling mobile with other channels	■					
	Pre-loaded applications	■					
	Smartphones and new delivery channels	■			■		■
	Pricing plans		■			■	■
	Bundling strategies		■				
	Billing mechanisms			■		■	■
	Convergent Storefront-Portal environment				■		
	Web-centric tools				■		
	Customization features				■		
	Reward rating systems			■			■
	Standardized guidelines			■			■
	Advertising model					■	

Figure 6 – The Problems/Drivers matrix

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- Fox Mobile Group
- GoTV Networks
- Greystripe
- Hearst Magazines Digital Media
- Intercasting Corporation
- IODA
- IRIS Distribution
- Lionsgate
- Loopt
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