The plethora of actors, the complexity of relationships and the variety of information and financial flows affecting the mobile entertainment arena today, have created a series of challenging business opportunities for entrepreneurs and key market players. The evolving and quite promising mobile music market, however, is suffering from the lack of integrated theoretical frameworks critical for the business activity acceleration and for the corresponding mobile music services diffusion. In this paper, we advocate the application of a business model change methodology for the purpose of transforming the current business models of the traditional and online music industry to a new business model appropriate for the mobile music industry. To do so, we are based on the results of a qualitative research study, which involved in-depth interviews with content providers, mobile operators and music consumers using semi-structured questionnaires. To that end, the present study applies the available business model theoretical insights to the music industry and depicts the current business practice in terms of: the content delivery channels employed (i.e. traditional, Internet, mobile), the participating actors; and the relative flows. Key business modelling issues are discussed and direct managerial implications to potential players are also provided. Finally, straightforward directions for further research are discussed.

**Keywords:** business models change methodology, mobile entertainment
from high auction costs—elaborates on these problems: (a) operators are faced with high debt levels, a situation that deters them from further investing on developing and marketing services of high value to consumers (b) leading 3G equipment and device manufacturers are reluctant to further invest on 3G technology (c) this reluctance delays the development of a high volume 3G equipment market with prices remaining high compared to 2.5G and 2G equipment and most importantly (d) end-users while not really knowing what to expect from 3G services, are currently being faced with low value services (namely low performance services at high prices), a situation that results in negative word of mouth communication. This business situation is further perplexed in the advent of a new mobile technology (4G) that despite the enormous technical and commercial/political challenges it faces it will essentially bring ‘Ubiquitous support for broadband-based media products, with adequate high performance and complete reliability at far lower cost per packet’ (Forge 2004: 14).

In parallel, the traditional music industry value chain is rapidly being re-engineered and many experts in the field support the belief that ‘business as usual’ in the music industry is over (Meisel and Sullivan 2002). Currently, a wide range of companies including Mobile Network Operators, record labels, computer software and hardware companies, as well as dot-coms, experiment on finding viable business models for delivering music via electronic channels.

Online music ventures are continuously reshaping their value propositions due to competitive reasons, rights management issues and evolving demands of the online music consumer. While the online music industry is close to a solid business and revenue model configuration, the same is not true for the mobile music industry. The fact is that research (both academic and structured questionnaires. This qualitative research enabled us to understand better the way the traditional and the online (fixed Internet) music industry to a new business model forming the current business models of the traditional online music industry business models operate, as well as capture requirements for the emerging mobile music industry business model.

SPECIFYING EMERGING MODES OF BUSINESS MODELS

Business model was one of the great buzzwords of the Internet boom. As Joan Magretta (Magretta 2002: 86) contends: ‘A company didn’t need a strategy or a special competence or even any customers – all it needed was a web-based business model that promised wild profits in some distant, ill-defined future’. After the renowned dot-com crash, it was inevitable for the term ‘business model’ to fall out of fashion. But as Joan Magretta puts it: ‘the fault lies not with the concept of the business model but with its distortion and misuse. A good business model remains essential to every successful organization.’

In order to describe and analyse a business model, several conceptual models and ontological frameworks have been provided in the literature (Osterwalder and Pigneur 2001; Weil and Vitale 2001). Some of them emphasize the revenue model followed and the value raised for the customer (e.g., Afia and Tucci 2003; Chesbrough and Rosenbloom 2000), while others focus on analysing the actors that participate in the model and their exchange flows (e.g., Gordijn and Akkermans 2001; Papakyriakopoulos et al. 2001). In this research, we adopt the view that a business model is a ‘collection of a series of bilateral relationships between players of the same or different industries, all participating in the creation of value’ (Rayport and Sviokla 1995). The term ‘value’ includes the service flow and the communication flow (Barnes 2001). Thus, the main components discussed in the business model analysis of the emerging mobile music industry include actors and value (service, communication, revenue) flows.

Under the influence of technology trends, most importantly information and communication technologies (ICT), many current organizational business models are being questioned, and companies are faced with the
challenge of business model change. However, creating a radically new business model is a high-risk strategy, as the probability of getting it right is acknowledged to be low (Kalakota and Robinson 2001). Companies typically choose to focus on an improvement strategy that is less risky and extends or renews their existing strategy and business model. The issue of business models is an emerging domain of research on business models, (Pateli and Giaglis 2005) with intense interest for further investigation, but only a few studies currently addressing it.

Among the few authors researching the area, Tapscott et al. (2000) have identified six steps for changing a business model to a b-web model. Naturally, the method is customized for the b-web concept and thus can hardly be thought of as a generally applicable change methodology.

Following a different approach, Linder and Cantrell (2000) provide a general framework that defines a set of change models, classified based on the level of change introduced by the new business model: realization, renewal, extension and journey models. The identification of four types of change models serves the organizations need for first identifying the level of change, and thus the change model, they want to introduce, and then building the organizational machinery required for executing their change model.

Petrovic et al. (2001) have made an attempt to introduce a generic business model change methodology grounded on a well-established theoretical framework. However, the steps of their methodology are described in quite general terms, and no guidelines or advice is provided for the core part of the methodology, which is the actual implementation of change.

Finally, Papakyriakopoulos et al. (2001) propose a step-by-step methodology for transforming a business model, responding to the need for changing the firm’s technology infrastructure. Again, the utility is restricted in the sense that it applies only to technology-driven business model change, as opposed to change driven by a new market or business opportunity. The analysis is also focused on industry-level (as opposed to firm-level) change.

Although all these methodologies provide valid starting points for addressing business model change, they all share a common drawback: they are quite monolithic, in the sense that they provide a strict linear sequence of steps that an organization should follow when approaching business model change as a result of a technology innovation. As such, these methods might be more appropriate in relatively stable industry settings where a lower level of risk might be associated with business model change. However, when considering more turbulent and complex contexts, such as the emerging market of mobile and wireless communications that is dealt with in the case study discussed later in this paper, such methods might not yield satisfactory results.

In this paper, we advocate the use of a methodology based on alternative business model configurations for approaching business model change. In the following section, we discuss the application of this methodology for drawing alternative business models for the commercialization of mobile music services.

ALTERNATIVE MOBILE MUSIC BUSINESS MODELS

The methodology consists of three phases, which are further decomposed into six steps. In what follows, we briefly discuss the primary mission and anticipated result of each phase and describe the steps included in it.

Phase I: Investigate existing configurations

The purpose of this study is to map a set of emerging mobile music business models. To do so, one should first map and understand the predecessors of the mobile music business model, namely the business models of the traditional and the online music industries.

Step I: Document the current business model. To develop the business models of the traditional and online music industries, we employed a qualitative research design along with an extensive literature review. In addition, we thoroughly examined a set of available current business practices (case studies). In terms of primary data collection, in-depth semi-structured interviews with three key players of the mobile telephony industry were conducted in Greece and in Finland. Next, 19 interviews with executives from music content providers in Greece and the UK were conducted. Music content providers interviewed were major labels affiliates and local independent music labels. Finally, 25 consumers in Greece and the UK were interviewed. Potential mobile music consumers were selected using a convenience sampling methodology, which is considered to be appropriate in exploratory research settings as the present one. Figure 1 provides a graphical illustration of the methodology employed for capturing information on the reference business models of the traditional and the online music industries.

The first step was to document the current business situation in order to define realistic business requirements for the design of the mobile application and to outline the business environment in which it will be introduced. This analysis included a detailed description of industry norms, types of stakeholders involved, partnerships, revenue-sharing agreements and so on. Due to space limitations, only the analysis of roles is presented in Table 1.
According to Table 1, the traditional music industry has eight key players, while the Internet music industry involves 11 actors. The information and revenue flows between these actors in each business model are illustrated in Figures 2 and 3.

**Phase II: Identify technology’s influence**

**Step 2: Assess the influence of technology innovation**

Following the specification of the two currently adopted business models for the delivery of music content, this step aimed to identify those business model elements that are most liable to change due to the introduction of the mobile network as alternative or advanced music delivery channel. Based on theoretical investigations in the area of technology innovation but also a series of discussions with the above presented music stakeholders, several effects of the mobile technology on the current way of providing music services have been spotted and are briefly described in Table 2.

**Step 3: Identify missing roles.** The roles identified in Step 1 have been found inadequate to supply the competencies required for the delivery of music via a mobile channel. More specifically, the need for one or more new player(s) accomplishing the following groups of activities has been identified:

- **Development and maintenance of the content storage and delivery platform:** This activity includes the tasks of development, implementation, configuration and administration of the mobile music platform, which is used to organize, store and manage music files.
- **Music content provision and syndication, management and delivery:** Syndication refers to ‘selling the same information to many different customers, packaging it with other offerings in uniquely valuable ways, and then redistributing it’ (Werbach 2000). In this case, syndication concerns creating personalized ‘music albums’, including audio and video clips that the music consumer has downloaded to its handheld device, or dynamically personalizing the music distributed to each mobile user, giving the sense of providing a personalized ‘mobile radio programme’.
- **Handset manufacturing and customization:** including tasks for collecting requirements for evolving the current mobile phones or the emerging smart phones, as well as designing a new type of handheld devices, that could be used as high quality mobile music players.
- **Mobile network operation and maintenance for music delivery:** including tasks for evolving the current network installation with 3G features, so that the delivery of music content (audio, video and news) and high quality services is assured.
Phase III: Change

**Step 4: Define alternative business model configurations.** Some of the above responsibilities can be allocated between two or more actors of the traditional and online music industries. For instance, the role of mobile platform development and maintenance can be played by either an application provider of the online music industry or, less possibly, by a media company, currently belonging to the traditional and online music industries. However, some responsibilities demand new players acquiring resources and skills that none of the current music stakeholders possess. Table 3 lists the set of key roles in the mobile music industry.

The alternative business models described hereinafter concern alternative allocation of the above responsibilities between the actors of the traditional and online music industries as well as newly introduced players belonging to the mobile industry. These alternative business models have been defined and discussed through the qualitative study, which was described in Step 1. Analysis of the results indicated three possible alternatives for further consideration:

1. The **Direct Sell** alternative: This alternative concerns the provision of a direct channel for delivery of music from the branded music retailer to the mobile consumer (e.g., i-mode site). It involves a loose ‘content–operator partnership agreement’ for the access to the music library of the branded music retailer by the subscribers of the mobile network.

2. The **Aggregator** alternative: According to this alternative, the overall responsibility for both technology infrastructure support and service provision and management belongs to the mobile network operator, who usually acts as a portal aggregating a set of mobile entertainment services (e.g., music, news, astrology, games etc.).

3. The **Hybrid** alternative: As inferred by its name, this alternative includes delivery of music content and services through a dual channel; the MNO’s (Mobile Network Operator) portal and the site developed by the branded music retailer (that being either a wholesaler, a record label and/or other traditional media delivering music content).

**Step 5: Analyse the key elements of alternative business models.** Each of the above alternatives can lead to the development of one or more alternative business models by assigning real-world players to the alternative’s roles and discussing in detail issues regarding the value proposition of each actor, the partnerships developed...
between them, the key resources contributed by each and their revenue-sharing agreement. Hereinafter, due to space limitations for analysing a set of alternative business models, the paper has focused on formulating three general but representative business models, naming each one based on the alternative that it implements (namely the direct sell, aggregator and hybrid alternatives).

The ‘traditional retailer’ mobile music business model. In this case, the MNO takes a less active role in handling mobile music content. This means that the mobile music service offered by branded content retailers (e.g., a CD retailer, a music channel) will be the one with which the music customer will interact. Obviously, there can be many mobile music retailers’ sites in the mobile portal of the MNO, who will compete for gaining mobile customers’ preference. These ‘retailers’ will be responsible for crafting the marketing mix of the music service offered to music customers, so as to be appealing to their predefined music customer target group. Music customers will select their mobile music retailer based on the offered marketing mix and most importantly based on perceived mobile music service quality (Vlachos et al. 2003). These mobile music retailers will exploit the music content and the mobile music platform offered from a service provider who will probably act as a content aggregator having deals with several content providers. Figure 4 maps the ‘Traditional Retailer’ mobile music business model.

While the value flow diagram, depicted in Figure 4, is somewhat simple, that is not true for the revenue flow diagram. We have hypothesized that consumers pay branded music retailers for the music content they buy (through their monthly phone bill or in a ‘pay as you go’ way – i.e., the reduction in the value of the prepaid mobile phone card). The fees of the MNO will probably
stem from: (a) the charges for the consumers’ usage of the mobile data network; and (b) a commission-based fee from the branded music retailer (Ratliff 2002). The fees for the music retailer come from charges on the music services (subscription-based) as well as charges on the music items sold (item or volume-based).

This specific business model includes also the case where record labels market their content directly to music customers (i.e., ‘disintermediation’ effect in e-commerce) (Turban et al. 2002). This strategic decision will be based upon two major factors: (a) the emerging channel conflict between the record labels and traditional retailers; and (b) the mobile users’ requirements; whether they prefer the one-stop-shop solution (provided by the MNO’s portal) or opt for buying their preferred music content directly from their producers or retailers.

The ‘mobile network operator dominated’ mobile music business model. In this case, mobile music services are solely offered by Mobile Network Operators (MNO). In other words the MNO takes the role of the mobile music retailer – i.e. the brand. The MNO gets the music content from a music content aggregator and offers it to its customers through an ‘own branded’ mobile music service. It is obvious that in this specific business model, the MNO takes a more active role in handling the mobile music service. Therefore, the MNO will be responsible for crafting the marketing strategy and the marketing mix of the offered mobile music service. Regarding the elements of the marketing mix, this business model assumes that the MNO will have to define them. For example, with regards to the product element of the mobile music service marketing mix, the MNO will be the one that should decide on the brand name and logo of the mobile music service, the music content depth and width, the user interface etc.

A strategic issue related to this model is whether the MNO will allow other branded mobile music services to be offered through its mobile music portal (see the traditional retailer mobile music business model). For drawing the business model example shown in Figure 5 it is assumed that the MNO will not allow other
branded mobile music services to be offered to its customer base.

With regards to the revenue flow model, the service provider pays a fee to the content providers for music content licences, and the MNO pays fees to mobile music service providers for music content aggregation services and for the mobile music platform. From the demand-side perspective, consumers pay fees to the MNO for accessing the mobile music service and for using the mobile data network.

The ‘Hybrid’ Mobile Music Business Model. In this mobile music business model, the service provider offers its platform and content both to the ‘branded music retailer’ and to the MNO. The end-user can subscribe (or choose the pay as you go payment scheme, if it is offered) both to the mobile music service offered by the ‘Traditional Retailer’ and to the mobile music service marketed by the MNO. Simply put, in this alternative business model the MNO decides to offer through his mobile portal his own-branded mobile music shop too (as is the case of ‘own label’ products in grocery retailing).

Figure 6 depicts the case where consumer C1 has preferred to get his/her pure mobile music directly from the Branded Music Retailers, while consumer Cn has chosen the mobile music service offered from the MNO.

**Step 6: Estimate the impact of technology innovation on the external environment.** The impact of the

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Benefits</th>
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</table>
| Record labels | • New distribution channel (another way to get to the consumer)  
• New revenue source  
• Gains in production, marketing and distribution expenses  
• New channel for promotions and offer making  
• Due to the inherent security characteristics of wireless networks – comparison to fixed networks – protection of copyrights is better |
| Technology providers | • Extra revenues from the licensing of the platform and services.  
• Differentiation from the market  
• Develop new value added services  
• Expand existing product portfolio |
| Network operator and service provider | • New value services offered through the existing network  
• New revenue source  
• New channel for promotions and offer making  
• Potential for ‘services bundling’ (e.g., bundle short message services with music content)  
• Offer real time video/audio/text (news), music-related content to its customers  
• Extend market position |
| User | • Easy access to music and music-related content (anytime-anywhere)  
• Personalized and contextual aware music content and information |

<table>
<thead>
<tr>
<th>Key player/actor</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The ‘Pure’ Mobile Music Industry</strong></td>
<td></td>
</tr>
<tr>
<td>Content providers</td>
<td>Sell music content to service providers at a profit</td>
</tr>
<tr>
<td>Application providers</td>
<td>Market to device manufacturers and wireless network providers applications required for delivering mobile music services</td>
</tr>
<tr>
<td>Handset manufacturers</td>
<td>Market mobile devices that will enhance user entertainment experience.</td>
</tr>
<tr>
<td>Service providers</td>
<td>Aggregate music content and offer the platform upon which music content will be delivered</td>
</tr>
<tr>
<td>Mobile network operators</td>
<td>Offer their subscribers mobile music services</td>
</tr>
<tr>
<td>Music collection societies</td>
<td>Protect music intellectual property rights and collect royalties</td>
</tr>
<tr>
<td>End-user</td>
<td>Experience music content anywhere and anytime.</td>
</tr>
</tbody>
</table>
proposed business models for the commercialization of the mobile music application was specified in terms of a number of direct or indirect effects, brought to bear on the emerging mobile music market based on Porter’s five forces model (Porter 1985). Thus, the implementation of a mobile music business model is expected to have the following impact on the music industry:

- Introduction of mobile operators in the role of music media channels or music content provider/aggregators.
- Due to the inherent security characteristics of wireless networks, compared to fixed networks, protection of copyright is better off. However, as technology matures these security characteristics may be more vulnerable to potential breaches suggesting a further risk for infringement of music copyrights.
- Rising interest by players in the horizontal music value chain (complementors or competitors) in offering complementary services (e.g., music collections, music portfolios with news, photos, and music from a specific singer, etc.), and thus fostering partnerships towards horizontal integration.

The commercialization and adoption of mobile music services is also expected to contribute to the growth of the mobile market by enhancing the public’s familiarization with wireless and mobile technologies and applications, encouraging development of more advanced mobile applications targeted to the public, and enforcing
the role of value-added content providers over the dominant mobile network operators.

THE CHOICE OF APPROPRIATE MOBILE MUSIC BUSINESS MODEL

The elaboration of viable mobile music business models has suggested the establishment of a new actor, called as mobile music service provider. This actor will undertake two major functions: (a) obtaining licences for distributing music content; and (b) creating, delivering and maintaining the mobile music platform that will support the downloading and/or streaming of music content (audio, video clips, news). In other words, this actor will assume an intermediate role between the content owners/providers and the mobile music retailer namely the ‘Traditional Music Retailer’ or the Mobile Network Operator.

A major issue to discuss is which one of the previously deployed business models (admittedly MNO business models) will prevail in the emerging mobile music industry. Predicting the future structure of an industry consisting of a variety of actors and roles is undoubtedly a very difficult task as it is dependent on many different factors. However, it is certain that the shape of the pure mobile music industry will be dependent upon the mobile music market dynamics. More specifically, our research findings indicate that a specific set of factors will determine which business model will be introduced in the emerging mobile music market. Table 4 summarizes these factors.

Based on these factors, one can say that, in general, the strategic objectives of the relevant actors, their business philosophy, the market power that each holds, and basically the consumer acceptance of the marketing mix (product/service, price/revenue model, promotion, place/mobile device) that will be derived from a specific business model, will finally determine and affect the prevalent mobile music business model. At this point, it is worthwhile noting that the three mobile music business models provided through the present study

Figure 5. ‘Mobile network operator dominated’ mobile music business model
Table 4. Factors affecting mobile music business model selection

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNO strategy</td>
<td>Will the MNO go for an 'open' and quite competitive mobile music market or will consider its customer base as a property that only he can capitalize on?</td>
</tr>
<tr>
<td>MNO assets and capabilities</td>
<td>Does the MNO perceives its assets (technological, human and marketing assets) as sufficient enough for offering an own branded mobile music service?</td>
</tr>
<tr>
<td>MNOs' perceptions regarding consumers' requirements</td>
<td>What are the perceptions of MNO's management with regard to the consumers' requirements for a mobile music service? Do consumers want many mobile music service retailers while accessing mobile music? Is it important who is going to offer a mobile music service (e.g., do they prefer a familiar music retailer brand over a mobile operator to offer mobile music services or do they not care?)</td>
</tr>
<tr>
<td>Music retailers' strategy</td>
<td>Will traditional and pure play fixed Internet music providers go for delivering their offerings to the mobile medium too? Will they be willing to interact with the end users or they would rather act as content wholesalers for the MNOs?</td>
</tr>
<tr>
<td>Competition</td>
<td>What will be the mobile music strategy of other Mobile Network Operators and other brick and mortar and pure play music retailers? Can the employed business model lock out competitors?</td>
</tr>
</tbody>
</table>

Figure 6. The 'hybrid' mobile music business model
are not mutually exclusive, meaning that they can coexist.

To demonstrate the difficulty in choosing the appropriate business model, consider the case of a mobile network operator who needs to choose among the three alternative business models proposed. Consistent with Faber et al. (2004), we argue that for choosing a business model the MNO should take into account possible trade-offs between supply and demand side criteria. Faber et al. (2004) report that for designing a viable business model, actors in value webs should balance requirements imposed from the ‘service’, ‘technology’, ‘organization’ and ‘finance’ domains. We utilize two criteria based on their so called ‘service’, ‘organization’ and ‘finance’ domains. These are the level of ‘consumer choice’ provided (service domain) and ‘transaction costs’ (organization and finance domain) inherent in each alternative. Regarding the ‘consumer choice’ criterion, Wind and Mahajan (2002) postulate that the emerging hybrid consumer – amongst other things – has a desire for being provided with many options (essentially exhibiting a variety seeking behaviour). In our case this may mean that the consumer would probably be better off if the hybrid alternative would take place since in such a case the consumer would have numerous music service providers/brands with which to experience music and music-related content. It is obvious that the ‘Mobile Network Operator Dominated’ business model is the one that least addresses the hybrid’s consumer’s need for variety in consuming music services across mobile data networks, since he/she will have access to music content only through one music service provider namely the MNO brand. On the other hand addressing the hybrid’s consumer variety seeking behaviour essentially means allowing many (or at least more than one) branded music retailer sites to operate in the MNO’s mobile portal. However in such a case utilizing a ‘transaction costs’ (a back-office/supply side) approach one could say that providing consumers with many branded music retailers through an MNO’s portal entails that the level of transaction costs needs to be taken into account. The term ‘transaction costs’ entails negotiation costs, information acquiring costs and the costs for developing and maintaining a mechanism for monitoring the performance of the music content retailers that are part of the MNO’s mobile portal (Zaheer et al. 1998).

In Figure 7, one can see that the ‘Hybrid’ mobile music business model is situated at the upper right corner of the figure, denoting that this specific business

![Figure 7. Categorization of the alternative mobile music business models](image-url)
model entails on the one hand, high transaction costs and on the other hand it seems as fulfilling consumers' desire for variety (a type of consumer value). Based on this classification the ‘Mobile Network Operator’ dominated business model is the leanest of all, since it entails the smallest number of total transactions between the actors and the smallest number of branded mobile music retailers. The ‘Branded Retailer’ business model is between the other two mobile music business models, since it entails medium to high transaction costs and a medium to high number of branded mobile music retailers, thus moderately satisfying consumers’ desire for variety seeking in consumption experiences.

The three previously discussed mobile business models try to predict the logic that will underlie the mobile music industry actors in their effort to generate revenue. Consumers’ needs and corresponding actors’ strategy will finally determine which will prevail.

CONCLUSIONS, IMPLICATIONS AND FURTHER RESEARCH

Business models research in the emerging mobile music industry has been somewhat neglected in digital music distribution research. Grounded on the business models literature and a qualitative research design we map alternative business models for the mobile music industry or more properly we discuss networks in which specific business models of certain key-actors can be described. Essentially we provide wireless network operators and potential mobile music service providers with three differing ‘methods by which [they can] build and use [their] resources to offer [their] customers better value than competitors’ (Afuah and Tucci 2003: 4). Using the method of in-depth interviews with major players in the music value chain as well as with several MNOs, and the method of secondary data (case studies) research, we documented the traditional and the online music industry business models, which act as the reference business models for the forthcoming mobile music industry. With the aid of a theoretically identified methodology for changing business models (Pateli and Giaglis 2005), we have drawn three alternative business model formulations.

According to Vaccaro and Cohn (2004: 56) we suggest that the music industry should ‘increase choice in regards to where and when consumers can acquire music’ via the mobile medium. This seems to warrant a win–win situation for both MNOs and the music industry. On the one hand, via mobile music services the MNOs have the potential for further commercial exploitation of the already expensively acquired (in terms of license acquisition and network equipment investments) 3G bandwidth (Forge 2004). On the other hand, the music industry has a potential delivery and promotional channel to deliver music content and music-related services in a more personalized and most probably in a more secure way than the fixed-Internet online music industry. However, discussions with industry practitioners point out that, unlike other mobile services, the bargaining power is in the hands of the record industry. This means that the record labels will probably get what they need in the end. However, we argue that in the pursuit of a viable business model, record companies should understand that abuse of their bargaining power could cause the potential mobile music market to collapse before taking off. Another issue, not addressed in the proposed alternative business models pertains to the role of handset manufacturers. As is the case with the gaming market, the handset manufacturers are keen on entering a promising market namely the distribution of music over mobile phones. If handset manufacturers succeed in having music repertoire embedded on mobile devices, mobile music service providers will face an emerging competitive threat.

It should be clarified that in this research project we utilize a conceptual framework based on analysing the actors that participate in a business model and their interaction exchange flows rather than a framework based on revenue flows and the value raised by the end consumer. Thus, we have not thoroughly addressed payment model and pricing issues (e.g., one-time access fees, time-of-usage in any increment, peak/off-peak times, per item based pricing), as well as technical content delivery options that seem to interact with the latter. (e.g., streaming versus downloading music content and charging issues that pertain to these two alternatives). For example, what would be the right level of pricing for bandwidth on the part of mobile network operators so as to have consumers willing to pay for mobile music services? Additionally, would it better to provide consumers and or music professionals downloaded songs for €1.5 per item (that is the price currently charged in Greece by a major mobile operator for downloading a music song to a 3G mobile device) or to go after a streaming model where the charging unit will be the times one experiences a music song, or both? In the latter case what would be the trade-off between increased choice to consumers and higher back-office administration costs? These and many more compelling questions point to the importance of conducting primary research for understanding consumer/end- user requirements.

The current work has opened up several opportunities for assessing and comparing the three business models for the mobile music industry through several real world case studies. A current research stream includes collection and examination of a number of case studies concerning provision of mobile music worldwide. As soon as a considerable number of case studies that match the alternative business models identified above have been spotted, a qualitative research, primarily using the method of in-depth interviews, will be initiated. The
investigation will include assessment of each mobile business model under a multidimensional evaluation framework, including criteria for all the primary stakeholders; music content providers (record labels, music retailers and media), application providers, mobile network operators, and music consumers. Key evaluation parameters on which such a research could focus include: (a) adoption from music consumers; (b) increase of revenue per mobile subscriber for mobile network operators; (c) gross profit from mobile services (news, audio files, streaming service); and (d) commission rates for content and application providers.

The above, or a similar, assessment framework could constitute the basis not only for assessing each instance of business model, but mainly for comparing the business models that they implement through the method of inference. Towards this direction, that is the comparison of the three theoretically developed business models, one should examine other environment and firm factors that can possible differentiate the evaluation outcomes of each business model instance. Such factors relate to the environment conditions (e.g., regulation, technology maturity), the industrial setting (e.g., number of music content providers, structure of the music value chain), the market requirements (e.g., technology profile of the market, penetration of mobile technologies) as well as the strategic orientation of the mobile operators in the investigated context.

To conclude, it seems that, so far, wireless content has been dominated by handset personalization – ring tones, wallpapers, screensavers and many more. Whatsoever, current activity is much broader. Java games are gaining in popularity, adult content, fun/comedy, TV-interactions, sports and of course music and music-related content all have potential. For example Vodafone CEO, Arun Sarin stated in Feb. 2004 that the next big thing for the MNOs will be music-related products. We argue that marketing will also play a major role in these ventures, not as pure advertising, but, for example, with promotions linked to music content. Marketing’s role will be to better understand consumer requirements and develop valid linear and non-linear cognitively and emotionally based mobile music service evaluation models. Finally it seems that 3G usually makes people think of futuristic services like streaming video and music clips. Taking on a more realistic position and in accord with Forge (2004) we strongly argue that: (a) for such services to take off, the demand and supply must be in sync; and (b) launching of mobile music services with poor reliability and performance will lead to poor consumer perceptions of service quality ultimately leading to negative word of mouth communication and degraded reputation. In essence, consumers still do not know what 3G can do for them yet, meaning that it will take them time to acclimatize to the potential consumption possibilities.

Notes
1. We thank an anonymous reviewer for pointing out this distinction.

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