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The Emergence of a Digital Ecosystem in the Music Industry

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Sommario

FOREWORD

In a Macro Environment characterized by deep Socio-Economic changes, phenomena such as the Globalization, the Financial and Human Values Crisis and the Technological Innovation produced a new Structural Configuration in several Society's Spheres.

The global transformation Process is particularly relevant for Business Management because it impacted Consumer Needs and **Industries Structures** supporting the Emergence of Clusters of Needs and weakening Industries Boundaries.

This Phenomenon produced a **Convergence** process between Industries previously separated and supported the consequential birth of new Competitive Environment Structures **Business Ecosystems** and **Meta-Markets**.

In a Business Ecosystem the traditional Industry's Value Chain is replaced by the **Value Network**

Several Players, coming from different Industries, co-operate to **co-create Value** and delivery it to the Costumer.

The Competition game is played around **Platform's Leadership:**

There is a central Company in a given industry of the Ecosystem producing the key Platform around which all the Network Produces Complementary Products/Services.

The **Value Appropriation** process and the **Revenue Distribution** in the Ecosystem are defined through the Platform's Leadership so, if they want to survive and to appropriate of a Share of Value, Companies operating in the Ecosystem have to develop a **Proactive approach** to **co-evolve** with the other members and to define their role in the Network.

Companies, in particular, have to identify the key areas of the Ecosystem's Leadership and, in order to appropriate of a Higher Share of Value, they have to develop **Innovative Strategies** beyond Industry's boundaries involving **Corporate decisions**, such as in which Business they have to enter and which kind of Hybrid Business Models they have to adopt.

This Thesis describes **the Value Creation/Appropriation processes and the Strategic Leadership's dynamics in a Digital Ecosystem Context**, in order to give Managers a useful tool to identify the Key Leadership Areas of a Digital Ecosystem and the Innovation Strategies to adopt.

The Thesis, in particular, is divided in three Parts:

The first part explains the **Business Ecosystem Structure**, its new **Value Creation/Appropriation dynamics** and the **Innovation Strategies** useful to compete in this kind of Environment, with a particular attention to the Business Ecosystem born from the Convergence between the ICT industry and the Media Industry.

The second part illustrates the objectives of this thesis and the research design. We introduce the research question drawing on How the Digitalization Process changed the Value Creation and Appropriation processes in the Music Industry and we motivate the choice of the Musical Digital Ecosystem as the ground for empirical investigation on these matters.

The **third part** focuses on the birth of the Music Digital Ecosystem, as a result of ICT-Media Convergence. This part is a chronological analysis of the Digitalization process describing step-by-step all the **Value Network transformations**, the changes occurred in **Value Creation and Appropriation dynamics** and in **Platform's Leadership equilibria.**

The Aim is to give **Record Labels** a useful tool to understand **the Past Strategic Myopia** and the **Present and Future Key Leadership Areas**, in order to develop **Innovative Strategies** to reconquer the Ecosystem Leadership.

1: BUSINESS ECOSYSTEMS

1.1 BUSINESS ECOSYSTEM DEFINITION

In the traditional Management doctrine, the Competitive Environment in which Companies operate is represented by the **Industry Structure** described by the Porter 5 Forces Model.

In this Structure the Market Power is a resultant of the number and dimensions of Competitors Manufacturing Products and Services, the number of buyer and suppliers and their dimensions, the level of Entry Barriers and the Threat of Substitutes Products.

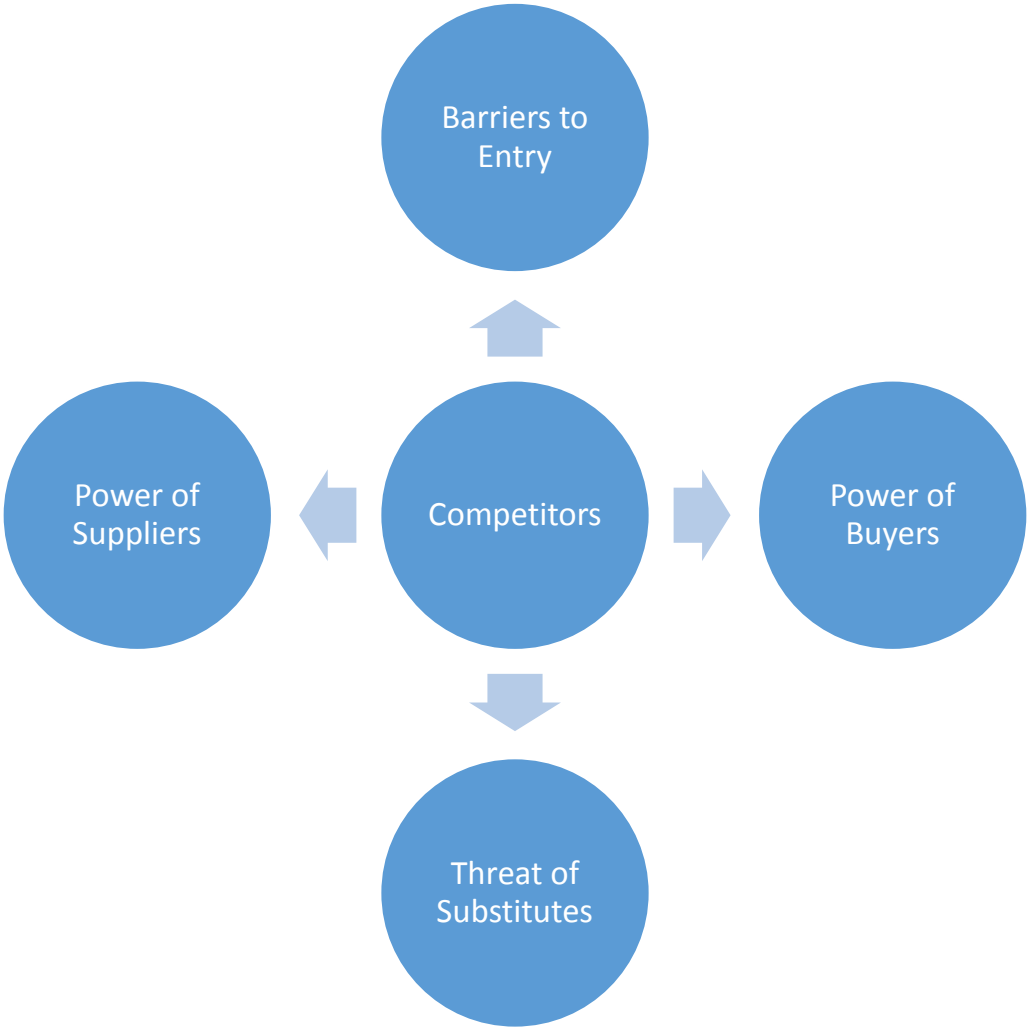


Fig.1: Porter 5 Forces Model

In this kind of Environment, a Company operates in a given Industry and its Market Power is a result of these 5 forces.
The Value Creation process in a given Industry is described by the Industry's **Supply Chain**.
The traditional Supply Chain starts with Raw Materials procurement, proceed with Semi-Finished Goods and Final Product Manufacturing and it's finalized by Distribution activities.

Each Company in the Industry operates in a given Step of the Supply Chain, extracting Raw Materials, Manufacturing Intermediate or Final Goods or distributing them to the Consumer and Create Value through its own **Value Chain**, described by the Porter's Model.

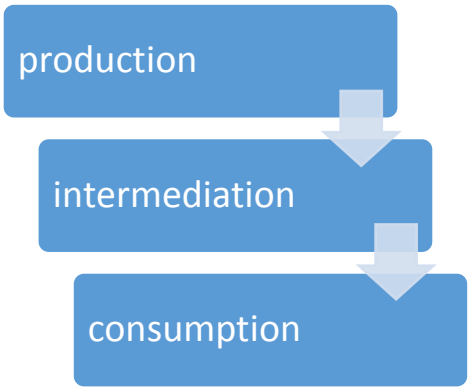


Fig.2: Generic Supply Chain

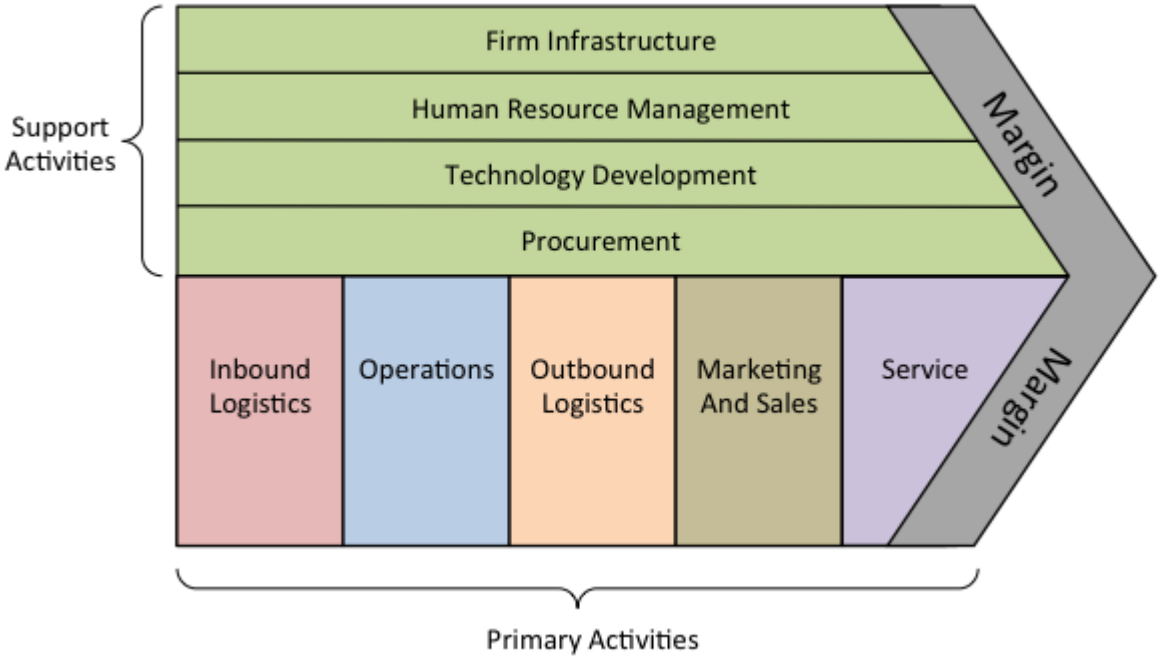


Fig.3: Porter's Value Chain (http://www.businesssetfree.com/porters-value-chain/)

Once the Value is created the Company sells it to the next Actor in the Supply Chain in return for a Price and concludes its own **Value Appropriation** Process.

In order to appropriate of a higher share of Value, Companies develop two different kinds of Strategies:

Corporate Strategies deals with Strategic Business Units (SBU) in which the Company have to operate. They are divided in **Vertical Integration** Strategies, related to entry decisions in downstream or upstream Steps of the Industry's Supply Chain, and **Horizontal Integration** Strategies, related to entry decision in other Industries.

Corporate Strategies are developed to appropriate of a higher Market's Power, to get Cost Competitive Advantages or to Diversify the risk.

Competitive Strategies deals with Competition decisions related to a single SBU and they are divided in **Cost** and **Differentiation** Strategies.

In a traditional Management Approach Companies go head-to-head in a given Industry's Market competing each other in order to conquer a higher share of existing Demand:

They try to evolve solely in order to innovate and get a Differentiation or Cost Competitive Advantage before the Competitors do.

The Business Ecosystem theory it's a new Strategic Management Approach to look at the Competitive Environment and to the Value Creation and Appropriation Processes.

The concept of Business Ecosystem was proposed for the first time by James F. Moore in his 1993's paper for the Harvard Business Review, titled "Predators and Prey: A New Ecology of Competition".

Moore defines the Business Ecosystem as a continuous-innovation Environment ruled by **Co-Evolution**, **Complementarity** and **Co-petition**:

According to the Business Ecosystems Theory, due to the **Convergence** Process between Industries, a Company can't be viewed as a member of a single Industry, but as part of a Business Ecosystem that crosses a variety of industries.

The Ecosystem replaces the Traditional Industry's Structure and it's a new Unit of analysis characterized by wider Boundaries and composed by all the Companies, Costumers, Suppliers and other Stakeholders formerly operating in each one of the Converging Industries.

Moore also explains that, in an Ecosystem Context, Successful businesses are those that evolve rapidly and effectively and that in order to evolve an enterprise has to co-evolve with other actors.

Co-Evolution means that an enterprise has to innovate to attract Capital, Suppliers, Partners and Customers in order to create/maintain/enter in a Cooperative Network/Community that Co-Creates Value through developing Complementary Products and Services that satisfy a given Need or Bundle of Needs.

Using this point of view, we can look at a Business Ecosystem as the complex of Networks that compete each other through innovation to satisfy the same Need or Bundle of Needs and in which Producers, Suppliers, Partners and Costumers of the same Network cooperate each other to Co-Create Value.

So the difference between Industries and Business Ecosystems also deals with the way in which the competitive problem is set: While The Competition problem set in the old way deals with "Companies go head-to-head in an industry, battling for existing market share" The Competition (Co-petition) problem set in the new way deals with using Innovation and Complementarity to catch different Market Creation opportunities.

1.2 BUSINESS ECOSYSTEMS STRUCTURE

All the Business Ecosystems features described above implies Managers of Companies operating in an Ecosystem Context have to deal with another kind of **Structural Analysis** in order to develop efficient Strategies, looking at the Wider Boundaries Ecosystem's Structure instead of looking at the Originating Industry's Structure.

This Paragraph explains the **Business Ecosystem Structure** and **its Value Creation/Appropriation processes** in order to give Managers of Companies competing in an Ecosystem Context a useful tool for the Ecosystem Structural Analysis on which they have to base their Value Creation/Appropriation Strategies.

The first aspect of the Business Ecosystem Structure we will analyze is the **Value Network:**

In an Ecosystem context, Enterprises do not deal with Markets; they deal with **Meta-Markets**.
In his 2001's book titled "Convergenza: Nuove traiettorie per la competizione" Valdani explains the concept of Meta-Markets, by defining the Convergence process as "The evolutionary process by which a progressive melting of industries and technologies, operating independently before, is generated".

Due to the Market Convergence in Meta-Markets Industries boundaries weaken and Business Ecosystems Structures replace Traditional Industries ones.

Business Ecosystems presents **Network Structures** in contrast with the traditional Hierarchical Structures:

The **Value Network** is the Ecosystem's Co-opetition Structure that replaces the Traditional Industry's Competition Structure described by the 5 Forces Porters Model (Fig.1) and that describes the Value Creation Process for a given Meta-Market.

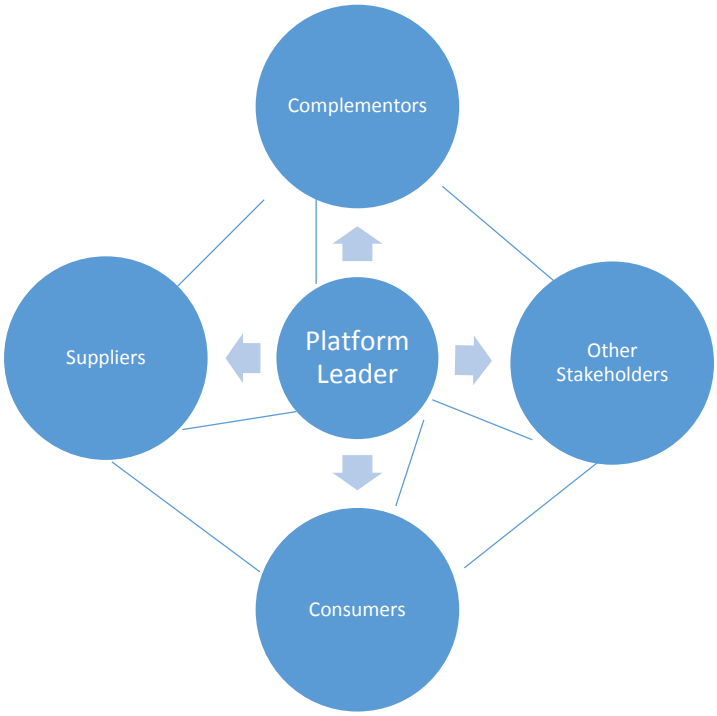


Fig.4: Business Ecosystem Structure: The Value Network

The Value Network is composed by all the Stakeholders coming from the different Industries Converged in a given Business Ecosystem.

The Co-opetition game is played around the concepts of Complementarity and **Platform Leadership** and each member of a given Ecosystem have to define its role in the Value Network to participate to the **Value Co-Creation Process**.

The Value Network is driven by a **Platform's Leader** who is the Producer of the Value Network's Core Product/Service that enable other actors to create Complementary Products/Services for the Platform. The Platform's Leader heads the Network's Continuous-Innovation Process and takes the Complementary Products'/Services' Outsourcing/Insourcing decisions.

Complementors produce Complementary Products/Services, expand the Meta-Market and enhance the Value of the Platform through their Supply.

Suppliers produce Intermediate and Semifinished Products/Services for the Platform Leader and/or for Complementors.

Consumers are the Final Products'/Services' Users. They pay for the Value and participate to the Value Co-Creation Process through Feedback and Prosumption activities in a Bottom-Up Production Approach.

The Hierarchical Supply Chain of a single Industry represented in Fig.2 is now replaced by a **Supply Network** that is the result of the Convergence of different Industries' Value Chains.

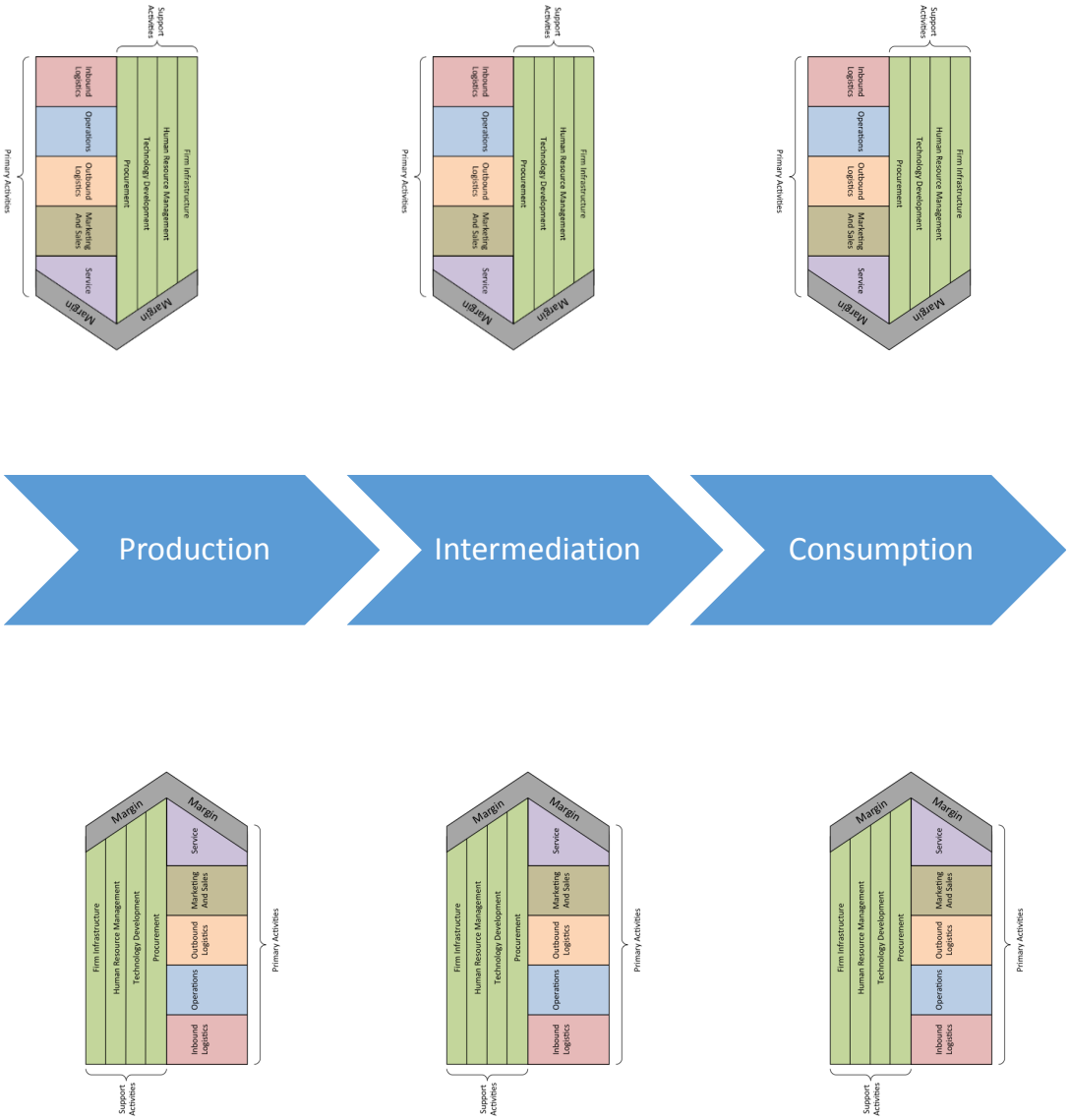


Fig.5: Business Ecosystem Structure: The Convergence of Different Industries' Value Chains in a Supply Network

This new configuration of the Competitive Environment implies the Value Creation process is no more forced to a model in which each member transmit the Value created to the closest member in the Supply Chain, but each member is linked to each other and everyone can transmit and extract Value to and from everyone.

In this context the **Value Appropriation Process** is ruled by Platform's Leadership instead of Market's Power, this means Companies have to identify the **Key Leadership Areas** in the Supply Network if they want to appropriate of a higher Share of Value.

Once Key Leadership Areas are identified Companies have to take **Corporate Decisions** relative to the entry opportunity in a different Supply Network phase, but this kind of decisions could even be no more simply Vertical Downstream or Upstream Integration decisions as for the traditional Supply Chain: They could involve Horizontal Integration Decisions implying an entry Strategy in another Industry, due to the Convergence process.

Looking at the Competitive Environment with this point of view it will be simpler to develop Cross-Industries Innovation Strategies as we will describe in paragraph 1.4.

1.3 DIGITAL ECOSYSTEMS

A particular Convergence process interested the Media and the ICT Industries and produced the birth of a new Digital Ecosystem. How Karakas explains in a Paper for the Journal of Business Strategy, titled "Welcome to World 2.0: The New Digital Ecosystem", *"Convergence is the principle that the various media (radio, TV, newspapers, CD players, video recorders, telephones, mobile devices, and the internet) are all coming together to form one global information channel. More than one billion people are connected to the internet and the VoIP phenomenon is growing exponentially. We are living in a global village where the collapse of national economic boundaries, the bridging of distances through telecommunications, rapid technological changes, workforce mobility and cultural diversity, the spread of wireless, fiber-optic and broadband technologies, and the increasing convergence of digital technologies pose new challenges and opportunities for professionals and managers throughout the world. These technologies, termed information and communication technologies (ICTs), make it possible to use different media (cable networks, satellite systems, televisions, computer terminals, mobile devices) to carry and process all kinds of information and services, including sound, images and data. This type of convergence is due to a series of revolutions and innovations in technology, such as digitization. One of the implications of this convergence is the shift from e-commerce to m-commerce, illustrating the potential and power of the mobile internet (Tan and Teo, 2002). Over 45 percent of people in the world have telephones, and 27 percent have mobile phones. Global e-commerce is growing about 175 percent annually. Internet access, tele-education, and tele-medicine are becoming free and available universally, as projects like MIT's ''one laptop per child'' attempt to shrink the digital divide. Convergence enables computers, telecommunications devices and networks to work together locally, regionally and globally to share and exchange content or information. As ubiquitous computing connects people, ideas, resources, and markets; the Internet is becoming the most powerful force for globalization, democratization, and social innovation".*[1]

In this Context, The Music Industry is a sector particularly interested by the disruption process caused by Digitalization. How Moreau explains in his Paper for the International Journal of Arts Management, titled "The Disruptive Nature of Digitalization: The case of Recorded Music Industry", the Recorded Music Industry was an Oligopoly characterized by High Entry Barriers and "Disruptive Technologies" or "Disruptive Innovations" reshaped the Product nature transforming Key Processes like Distribution and Promotion. The new Digital Distribution system is analyzed in depth by Ericsson in his paper for the George Washington Law Review, titled "The Recorded Music Industry and the Emergence of Online Music Distribution" with a particular focus on a Copyright Reform Need.

[1] Journal of Business Strategy, "Welcome to World 2.0: the new digital ecosystem", Fahri Karakas

In this paragraph we will go deeper in our analysis describing Digital Ecosystems and in particular the Digital Ecosystem resultant from the Convergence between the Media and the ICT Industries, in order to identify the Value Network Structure that will characterize the Music Ecosystem after the Digitalization process we'll analyze in Chapter 2.

In a 2010 Research Commentary for "Information Research", titled: "New organizing logic for Digital Innovation: An Agenda for Information Systems research", Yoo, Hanfridsson and Lyytinen explain how Digital Technology Innovations reshaped Industries Boundaries through Product Innovation:

Since the Toffler's Third Wave, Hardware miniaturization, always more powerful and little Microprocessors, Free or Low Cost Memory and Broadband Connection permitted the digitalization of products key functions and capabilities causing deep mutations in industries boundaries and Convergence processes.

Digital Products themselves present some features that imply the birth of Business Ecosystems and the Convergence of Companies, formerly operating in different industries, in Value Networks:

Digital Products are made up of different **Layers**: A **Network** allowing the connection, **Contents** produced both by several Companies and Users, **Services** that represent theirs Functions and **Devices** on which they are transmitted. Digital Products, furthermore, are **Reprogrammable**, so one Device can be programmed to execute several services, and through **Homogenization** processes a single Device can transmit, store, modify and show several kind of Contents and a Content can be managed from several devices.

Contents deployed on I-Phone Device for example could come from the Music Industry as from the Gaming one.

The fact that different layers can be produced by companies operating in several industries implies the development of Digital Ecosystems and a Value Co-Creation process organized in the form of Value Networks.

A particular kind of Digital Ecosystem is the one resultant by the **Convergence of the Media Industry in the ICT Industry.**

Valdani explains this Convergence process identifying two different steps:

The first step is represented by the progressive integration of **IT** and **Telecommunications** Technologies in the **ICT Ecosystem**. This process started with the commercialization of Mainframes and Minicomputers in the 60's, continued with the progressive Enterprises use of EDI (Electronic Data Interchange) for data exchange and finalized with the gradually integration of LAN (Local Area Network) that caused the Internet and the World Wide Web birth.

The second step is represented by the progressive convergence of the Media Industry in the ICT Ecosystem. By the development of new **Broadcasting systems** such as Internet and the **dematerialization of Media Contents** through Digital Technologies Innovation, Traditional Media Broadcasters, such us Television, Radio Stations, Cinema, Newspapers and Magazines are no more the only Channels able to transmit contents: New devices such as Computers and Smartphones enable now a new way of Media Contents Fruition.

This phenomenon causes the development of a **Digital Media Ecosystem** and the consequential birth of several Meta-Markets such as **E-Music**, **E-Movies**, **Web-Tv**, **Web-Radio, E-Gaming** and **E-Publishing**.

The result is an Ecosystem counting today a **Global Value** of US **$ 1.6 Trillion** (McKinsey Global Media Report 2015 – Total Global Spending)[2].

The most important aspect we have to focus on, analyzing this new Digital Ecosystem, is the impact it had on Media Companies Value Creation and Appropriation processes. While the Convergence was finalizing its process, **since 2000**, Companies operating in the traditional Media Industry, such as Broadcasting Media and Contents Producers, started to show **High Drops in Revenues** interesting all the Markets and this phenomenon continued for at least a decade, so much that it was defined the **Media Industry Crisis**

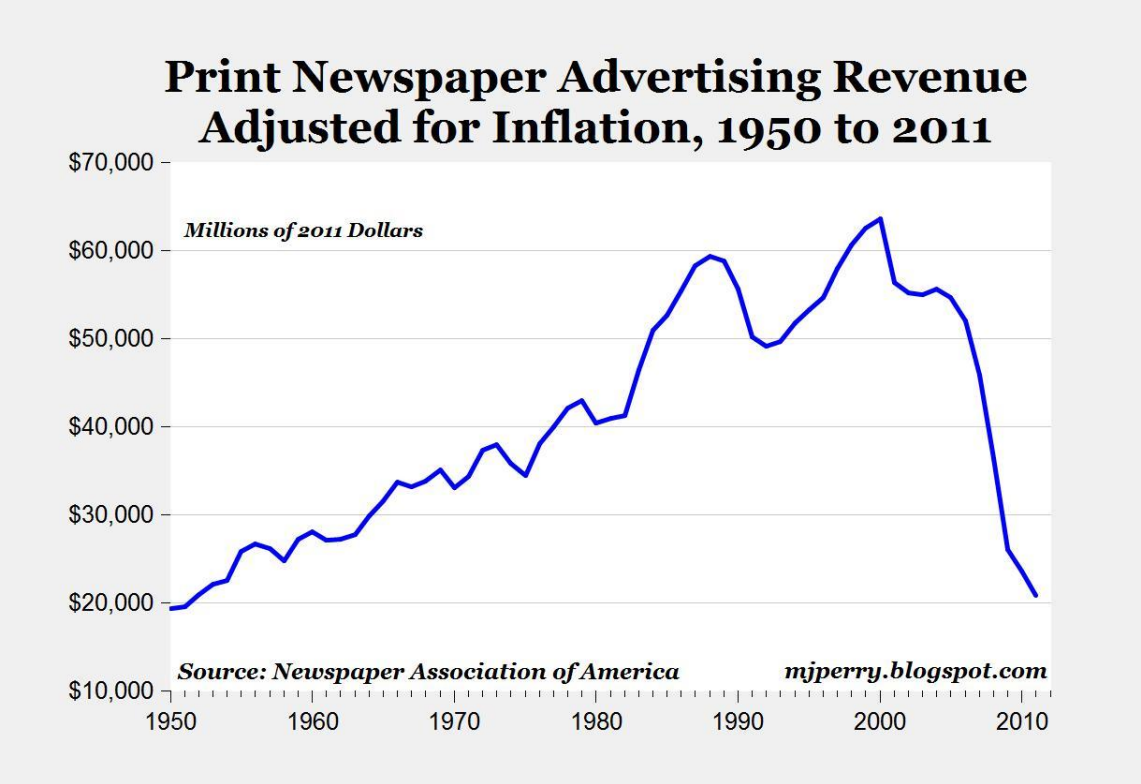


Fig.6: An example of Media Industry Crisis – Print Newspapers Adv sales decline

[2] Including Digital Advertising, Broadband, Television Advertising, In-Home Entertainment, Audio Entertainment, Cinema, Out-Of-Home Advertising, Consumer Magazines, Newspapers, Consumer Books, Educational Publishing, Video Games.

Which are the causes of this Crisis?

Several critics have analyzed this phenomenon and the evidence is that **Piracy and Online Free Riding** are the main issues responsible for this Crisis. A 2012's RIAA (Recording Industry Association of America) study shows that **Physical Music Sales** have **dropped by 58%** since Illegal File-Sharing Platforms was introduced in 1997 until 2008, and **Video Revenues decreased 27%** just from 2004 to 2008 with Video Retail Colossus such as Blockbuster going Bankruptcy.

This is the evident phenomenon but, going deeper in our analysis what was really happening to the media and entertainment demand?

We can easily understand the answer from our previously Digital Ecosystem analysis. The Media Contents Dematerialization process was creating a new **Hybrid Demand** for E- Entertainment and for E-Media Contents, with a switch from Physical to Digital products and services in consumer's preferences.

The new ICT-Media Digital Ecosystem was developing rapidly and the first Companies to enter it were ICT Companies producing **P2P file sharing platforms**, such as Napster, and **Download/Streaming Platforms**, such as Megaupload. These Companies, illegally, were taking-over the new Digital Ecosystem Platform's Leadership, by satisfying this unfulfilled Need.

So what Companies operating in the Media Industry did in this context?

The answer is given by the History: Media Industry, through RIAA, started to set a long series of **Lawsuits** against these ICT Companies and even against Individuals responsible of Pirate Downloading acts. Lawsuits succeeded and both Film and Music Majors received Million $ Compensations.

But **Did Media Industry Companies enter the Digital Ecosystem?** Did They develop a Proactive Approach to drive the Change? Did they create their own legal Value Network to fulfill the new Demand with a Value Co-Creation Process?

The answer is Media Industry Companies continued to have a traditional Industrial approach while their industry was converging in a Digital Ecosystem: Majors tried to defend physical Sales of CD, DVD and Cinema Tickets, but they didn't do nothing to develop an own Value Network and Value Co-Creation Process, until Companies operating in the ICT industry, such as Apple, did it for them, Developing Platforms such as iTunes Store.

Innovation cannot be stopped and the Cost of this **Strategic Myopia** is reflected by the new **Value Network Structure** resultant at the end of the Lawsuits period we are going to analyze below, seeing ICT Companies that invested in the Value Network Creation, such as Apple, in the role of Platforms Leaders, and Companies formerly operating in the Media Industry with the higher Market Power just as Complementors.

In 1997 Collins, Bane and Bradley already presented a model of the Convergence Process between Media and ICT identifying the resultant **Value Network Structure**:

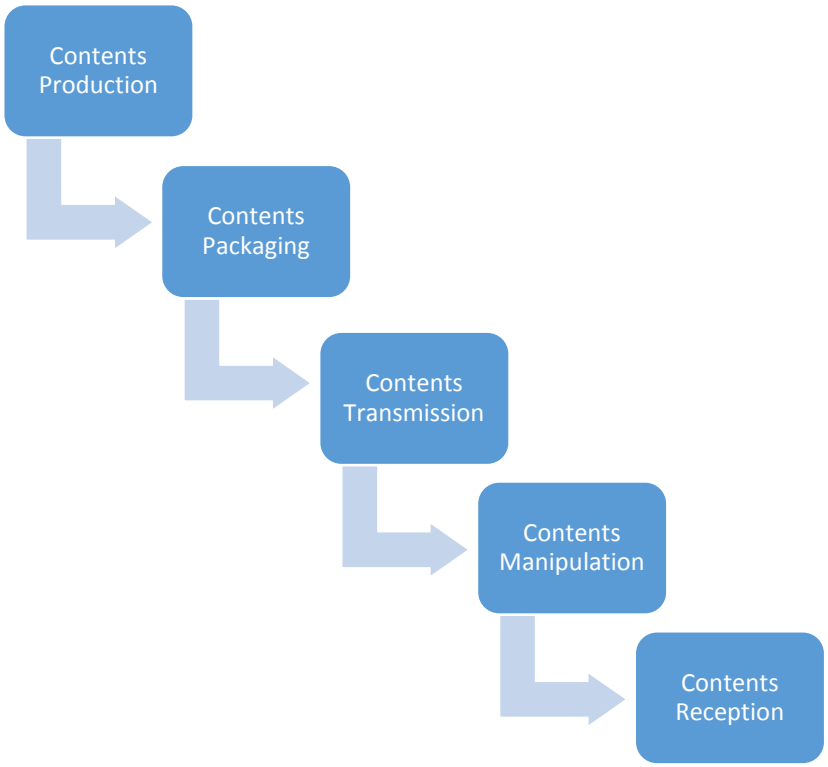


Fig.7: Media-ICT Ecosystem > Value Network Structure

This new form of Supply Network replaces the Traditional Production-Intermediation-Consumption Value Chain represented in Fig.2 and explains the Process by which the Value is Co-Created and delivered to the Costumer by several Companies operating in IT, Telecommunications and Media Industries.

Upstream in the Network we find the **Contents Production** Process**,** owned by Companies operating in the Contents Creation Market, and the **Contents Packaging** Process**,** managed by Companies who assemble Contents, Graphic Design, Marketing and other Service in order to ultimate the Final Product.

In the E-Music Meta-Market and in the E-Publishing one these two processes are usually both managed by the same kind of Company: A Record Label or a Newspaper. In the Film Industry vice versa the two processes are usually owned by different Companies: The Film Producer and the Film Distribution Company.

Contents Transmission is divided in two processes: **Networks** are owned by Companies allowing Data Transmission, such as Telecommunications Companies, and **Platforms** are developed by Companies operating in the IT Market, producing and Managing Products and Services to transmit Contents, such as Websites and Applications.

In the **Contents Manipulation** process, we find IT Companies producing Hardware, Software and Operative Systems allowing Information and Data Procession. Downstream in the Network **Contents Reception** is allowed by Companies producing Terminals: Devices on which contents are fruited, such as Computers and Smartphones.

Analysed the process by which the Value is Created and delivered to the Costumer we can try to understand the inverse process by which the Value is extracted from Costumer and distributed to the different Digital Ecosystem players: The **Value Appropriation** Process.

As we explained above the Ecosystem **Platform's Leadership** is owned by Companies producing the core Platform for which Complementary products and Services are developed. Looking at the Value Network structure we can easily identify two different **Key Leadership Areas**.

In the **Content Transmission Market**, Platforms producers developing **Streaming** and **Download** Services enable Contents Producers and Packagers (**Complementors**) to delivery Media Contents to the Consumer: While in the traditional Industry Value Chain Retailers were just marginal players with a low Market Power in a Porter 5 Forces Model point of view, in the Digital Ecosystems Platforms such as iTunes store, Apple Music, Spotify, Netflix and Youtube represent the Core Services enabling E-Media Contents Fruition and Revenues distribution. They are the New Media that replace Traditional Radio, Television Networks, DVD Renter, Music Stores and Cinemas. They directly extract Value both from Costumers and from Companies through **innovative Business Models.**

Download-based Business Models extract Value through the Price paid for Downloads. A percentage of this Price is given to Contents Producers and Packagers and the rest is hold by the Platform owner. iTunes for example hold a 30% of the Download Price and pays 70% to Record Labels.

Subscription Fee – based Business Models extract Value from Users for a Premium Service. Spotify for example hold a 20% and pays Labels an 80% (Fig.7).

Advertising-based Business Models extract Value from Companies advertising with Pay-per-Click, Pay-per-Impressions and Pay-per-Action payment models.

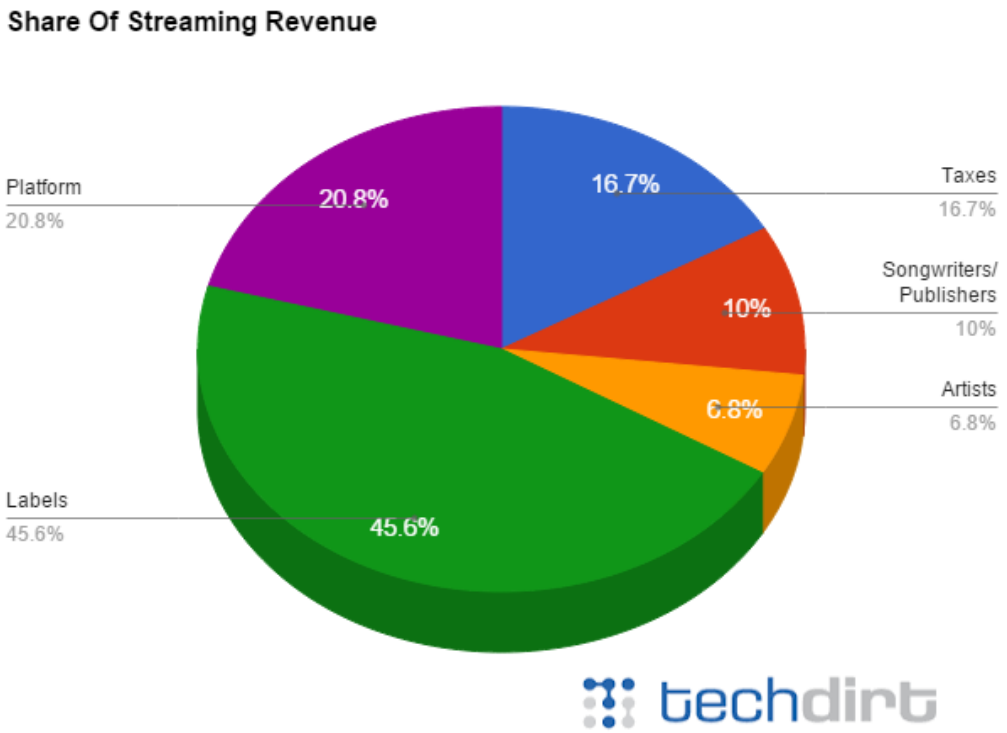


Fig.8: Spotify Revenues Distribution – (Techdirt.com)

The Other Key Leadership Area is represented by the **Contents Manipulation and Contents Reception Markets**. In these Markets IT and Electronics Companies extract Value directly from the Consumer while developing Platforms allowing Contents fruition such as IOS by Apple, Windows and Android, and Devices working like Terminals such as iPhone, Mac and Beats Headphone by Apple, Xperia and Audio Systems by Sony.

In the Contents Reception Market Business Models are more traditionally based on Physical Sales. This is an Area where a higher Share of Value is extracted due to the higher Devices Prices.

In the Contents Manipulation Market Business Models are focused on Value extraction from Complementors. Apple for example take a fee from App Developers using the IOS Platform.

Looking at the Value Appropriation process in the Music Industry for example it's easy to understand Apple is one of the Platform's Leaders in the Ecosystem, owning Products and Services in Contents Transmission, Manipulation and Reception steps of the Digital Music Meta-Market.

Even if Contents Producers and Packagers take the higher share of the Value generated by Downloading and Streaming Services, The Price of Digital Media Contents is severely decreased in comparison with Physical one and free riding is always present.

A physical retailer, as addition, gained a 15%-20% on the final Price in a single Country, City or Region and the Market was very fragmented so its Market Power was very low. Digital Stores and Streaming Platforms are active worldwide, they are Internet Colossus and they often monopolize the Market: Download and Streaming Services providers are Platform's Leader because they transformed the Industry Structure **from a Few Contents Producers – Many Contents Distributors Oligopoly to a Few Contents Producers – One/Few Contents Distributor Monopsony/Oligopsony**.

Companies such as Apple furthermore monetize even from the Device and OS Markets, that are more profitable than the others, appropriating of the higher Value Share.

Another important issue to consider is provided by the McKinsey Global Media Report 2015 seeing in the Contents Transmission Market, Broadband Connection providers are gaining solely a 30% of the total Digital Media Ecosystem Value, while all kind of Contents Producers, Packagers and Distributors are gaining a 30% all together counting both Digital and Physical Markets.

1.4 BUSINESS ECOSYSTEMS STRATEGIES

Analysed the new Competitive Environment is now clear relevant Media Industry players such as Contents Producers and Packagers need a new **cross-industrial Strategic Approach** and Innovative **Hybrid Business Model Adoption** if they want to survive in the Digital Ecosystem Context.

In this Paragraph we will analyse these new kinds of Strategic Vision in order to give Record Labels Managers an innovative point of view to use in theirs Decision-making processes.

As Moore explains, Companies, in order to survive in an Ecosystem Context, have to Work with customers and suppliers to define the new value proposition around a seed innovation.

In order to expand the Market, they have to Bring the new offer to work with suppliers and partners to scale up supply and to achieve maximum market coverage providing a compelling vision for the future that encourages suppliers and customers to work together to continue improving the complete offer.

But as we have seen in the precedent paragraph, Companies have also to understand how they can appropriate of a higher Value's Share.

A good strategic approach to do this in a continuous-innovation and co-evolution environment is the **Blue Ocean Strategy** One. In their book "Blue Ocean Strategy: How to create uncontested market space and make the Competition irrelevant" Kim and Mauborgne explain the difference between looking at markets with a traditional or an innovative point of view through the metaphor of Red Oceans of bloody competition and uncontested new Market spaces called Blue Oceans:

"In the red oceans industry boundaries are defined and accepted, and the competitive rules of the game are known. Here companies try to outperform their rivals to grab a greater share of existing demand. As the market space get crowded, prospects for profit and growth are reduced. Products become commodities and cut-throat competition turns the Red Ocean bloody.

Blue Oceans, in contrast, are defined by untapped market space, demand creation, and the opportunity for highly profitable growth.

Although some Blue Oceans are created well beyond existing industry boundaries, most are created from within red oceans by expanding existing industry boundaries…".

As it is we can already understand the potential connection between this strategic approach and the Business Ecosystem logic: Taking advantage of the industries convergence process by reshaping markets and creating uncontested new market spaces: Meta-Markets; but this is just the first effect of a Blue Ocean Strategy adoption because, how Kim and Mauborgne explain, in the traditional competitive approach there is a negative trade-off between Value and Cost.

Enterprises have to set a Differentiation or a Cost Leadership strategy, pursuing a Cost or a Differentiation Advantage and choosing in this way if they want to create a High Value Product/Service or a Low-Cost Product/Service.

Blue Ocean Strategy, in contrast, gives managers the possibility to break this negative trade-off and to develop a positive one. Essentially companies can enhance their Value and improve their Cost Structure simultaneously.

The most popular example of this phenomena is the case of "Cirque du Soleil". The traditional Circus Industry was, and is still, in crisis due to the competition with other forms of entertainment, addressed to the same Target (Children), that we can consider as Substitute Goods, such as Home Entertainment. The Circus image, additionally, was damaged by the animals' rights problem.

Companies operating in the industry, as reaction, exacerbated the Competition by investing in star performers, increasing the number of performers and animals, and spending money in advertising to add Value and try to erode Competitors' Market Shares: This is what we can consider a Red Ocean Strategy.

"Cirque du Soleil", on the other hand, reinvented the Circus by reshaping Industry boundaries and letting the Circus Show converge with the Theatre Show. They putted together the best circus elements with the best theatre elements, creating a new form of glamourous and sophisticated circus. Eliminating animals from the show and not hiring star performers, adding artistic dance and music and a theme, they added Value to their offering reducing Costs simultaneously. "Cirque du Soleil" didn't try to appropriate of an existing share of the market. They created a new Market with a new Audience: This is a Blue Ocean Strategy.

In order to develop a **cross-industries Blue Ocean Strategy** Companies operating in a Business Ecosystem Context have to analyse the impact it should have on the different **Business Model Areas**:

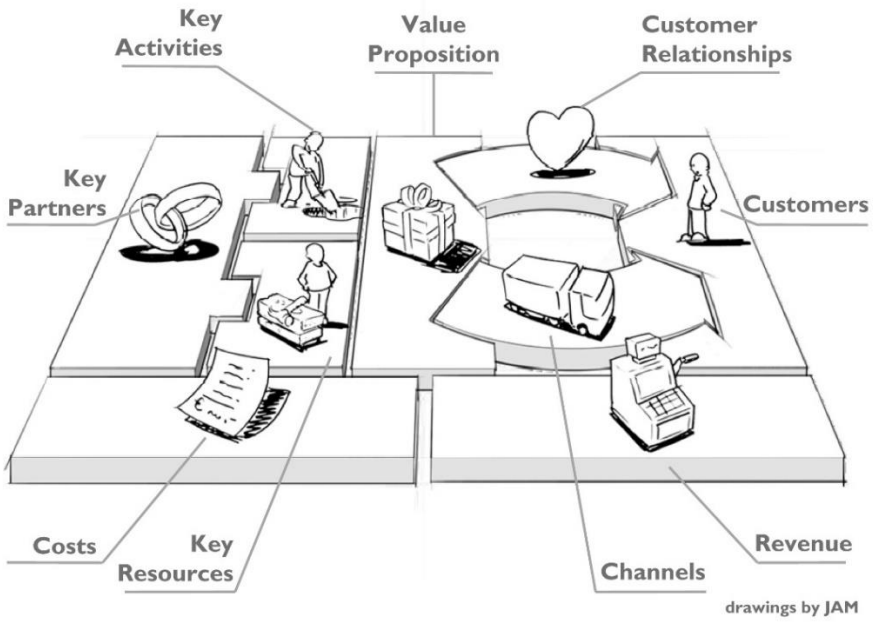


Fig.9: Canvas Business Model

First aspect Companies have to analyse is relative to the possibility of new **Revenue Streams** development. Companies have to ask themselves questions such as **in which step of the Value Network we should enter in order to extract a higher share of Value?** Which are the key Leadership Areas? Which are the more profitable activities of the chain?

Answering these questions formerly was just relative to Vertical Integration Decisions Upstream or Downstream in the Value Chain but, due to the Convergence Process of several industries Value Chains in Value Networks, this decision-making process could now imply an entry Strategy in another Strategic Business Unit (SBU): **Companies Vertical integrating can simultaneously Diversify their Revenues Streams.** So once high profitable activities and Key Leadership Areas are identified Companies can start to evaluate the possibility of an Entry Strategy in one or more of these business units.

Second aspect Ecosystem players have to analyse is the **Cost Structure.** By developing this form of **Hybrid Business Model** Companies can obtain both the Vertical Integration advantages, such as Scale Economies, higher Market Power and Cost Transactions reduction, and the Horizontal integration ones, such as **Scope Economies:** Synergies deriving from the combined exploitation of Tangible and Intangible Assets.

Last aspect of this Strategic Approach we analyse is the effect it can produce on the **Value Proposition.** As Valdani explains, “An Enterprise can highlight a product’s or service’s emotional experience through the combined use of different resources and technologies”, so Industries and Technologies integration can improve the Immaterial component of a Value Proposition.

Let’s analyze 3 examples of this phenomenon. Technogym just developed a Mobile, Web and internet of things integrated Platform that allows users to improve their training experience, integrating Diet, Progresses, interaction with the machines and workout programs.

Another example is Harley Davidson which, developing the Harley Owners Group (HOG) as a Community management tool, entered in the Events Organization Market to enhance the Tribal Branding Process with all the consequential Psycho-Social and Experiential Benefits, such as Identification, Aggregation, Participation and Sharing.

The Convergence of Bookstores and Coffee Bars in the Literary Cafè Meta-Market gives the possibility, to both Coffee Bar and Bookstore owners, to develop a Differentiation Strategy by improving the Consumer Experience.

At the end of this analysis a Company operating in a given Ecosystem have to add up all the advantages producible in Revenue Streams, Cost Structure and Value Proposition and compare this Value with the Cost of integration, including both the Cost of Production and of Organizational Complexity. If Benefits exceed Costs and the Company have the key functions and capabilities Managers should decide to enter the Value Network new Area.

In the Music Digital Ecosystem for example, if Record Labels identify a higher Revenue Stream in the Collective Consumption Area of Events Organization in comparison with the Individual Consumption of Recorded Music Sales and if there are Cost Synergies and they have the key functions and capabilities to do it, they can consider an entry strategy in this Market.

2: RESEARCH DESIGN

In the first part of the thesis we have disclosed the Concept of Business Ecosystem as a Theoretical Framework describing it as a new form of Competitive and cooperative Environment composed by Companies coming from different Industries due to Convergence Processes. We have analyzed its Structure by identifying a new form of Value Network in which the Traditional Value Chains of the converged industries are reshaped and integrated and the new Value Creation and Appropriation Processes based on the Concepts of Platform's Leadership and Complementarity. We have finally identified in Blue Ocean Strategy an efficient point of view for the decision-making process in an Ecosystem Context due to its Capability of taking advantage of Convergence Processes, weaken Industry Boundaries and Meta-Markets creation through Diversification Strategies that simultaneously permit a Vertical Integration in the Value Network.

This second part illustrates the objectives of this thesis and the research design. We introduce the research question drawing on a platform view of information goods ecosystems and we motivate the choice of the Musical Digital Ecosystem as the ground for empirical investigation on these matters.

In our analysis we have focused at a Macro Level on **Information Goods Ecosystems** because of their utility not just in understanding the concept of Ecosystem itself, but also in explaining the concept of Digital Ecosystems, due to the fact that they were exposed to a progressively Digitalization Process that has transformed them in a Digital Ecosystem resultant from the Convergence between Media and ICT. The Value Creation process of Digitalized Information Goods, such as Music, Video, Films and News, is organized in a Production-Intermediation-Consumption Value Network that starts with the Contents Production and Packaging by Companies coming from the Media Industry, proceeds with the transmission of these Contents through Networks provided by Telecommunications Companies and Platforms provided by IT Companies and is finalized with their Reception on Devices produced by Electronics/IT Companies.

This new Structure of the Value Creation Process involves also several changes in the Value Appropriation Process seeing ICT as the Key Leadership Area of the Value Network and IT Companies as Platform's Leaders in the Business Ecosystem. This fact implies that companies operating in the Media Contents Production and Packaging are losing Market Power in favor of Retailers and are consequentially leaving them a higher share of Value in comparison with the Traditional Ecosystem Revenues Distribution. Demand perhaps is declining, moving toward other forms of Consumption.

The Ecosystem Structure however is full of opportunities and a Blue Ocean Strategy approach can give these Companies a useful tool to reconquer the Ecosystem Leadership and take advantage of the Convergence process by the exploitation of Scope Economies and Synergies, developing simultaneously new Revenue Streams in fast-growing Markets, and achieving both Cost and Differentiation Advantages.

EMPIRICAL CONTEXT

In order to pursue this analysis on a Micro Level we will focus on the **Music Ecosystem**. Our choice is due to the fact that after the Digitalization Process the Music Industry have been completely reshaped and transformed in a Digital Ecosystem counting today more than $ 97 Billion and so its study it's useful to understand the process of Business Transformation through Digital Innovation.

The Music Industry itself, even before Digitalization, has always presented an Ecosystem Structure involving a Value Chain composed by several Industries players. In this Context first Majors assumed a Proactive Approach by identifying Key Leadership Areas and by developing Corporate Strategies ensuring them a high Market Power and Profitability. In its Formation Process essentially first Majors were able to transform the Music Ecosystem into an Oligopoly form ruled by their Platform Leadership.

In this context we introduce our **Research Question** drawing on **how the Digitalization Process changed the Music Ecosystem Value Creation and Appropriation Processes.**
This Question implies the formulation of two different **Propositions**.

PROPOSITION 1
The Digitalization Process moved the Ecosystem Leadership from Record Labels to ICT Companies.

We demonstrate this proposition by explaining how ICT Companies formerly with illegal file sharing and successively with Download/Streaming Platforms transformed the Market Structure from an Oligopoly composed by few Big Record Labels and Main small Retailers to an Oligopsony composed by Few Big Record Labels and Few big Digital Retailers and appropriated of the Retail Market. We also provide an analysis of how ICT Companies, furthermore appropriated of the Consumption Market with Smartphones devices and of the Production Market with PC, and Music editing Software, integrating in all the 3 Steps of the Value Chain and gaining the Ecosystem Platform's Leadership.

PROPOSITION 2
Record Labels have to invest in Streaming Platforms and Events Organization in order to survive in the Ecosystem.

We demonstrate this proposition by showing the impact of Digitalization on Record Labels Market Power and Profitability and the Potentiality of Streaming Platforms and Events Organization Markets. With Prices and Sales dropping and higher Retail Costs the Record Labels Core Business of Recorded Music Sale is becoming always less profitable so it's time to use a Proactive Approach and to develop Blue Ocean Strategies taking advantage of Convergence Processes in order to enter Profitable Strategic Business Units and Key Leadership Areas.

By entering in Streaming Platform and Event Organization Market, Record Labels could simultaneously Develop Fast-Growing Revenue Streams and get Cost and Differentiation advantages through Scope Economies. The joined use of Artists and of integrated Streaming/E-Commerce Platforms as Marketing and Distribution Channels for Recorded Music and Events Tickets can enable Record Labels to take advantage of Synergies Exploitation developing Scope Economies Cost Advantage. Events furthermore can be considered as Brand Management tools to enhance Brand Attachment if the Company use a Brand Extension Strategy producing both a

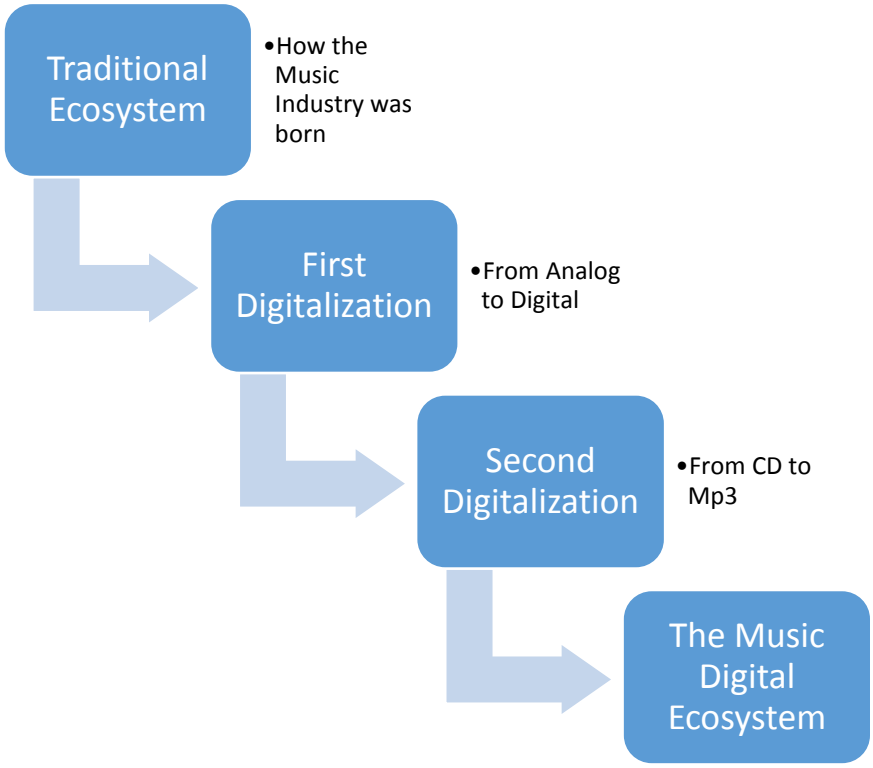
Direct and Indirect Brand Leverage effect and boosting the Experiential Benefit of the Value Proposition ensuring Record Labels a Differentiation advantage.

By developing this kind of Blue Ocean Strategy Record Labels can be fully Vertical Integrated in the Production-Intermediation-Consumption Value Chain and Diversify Revenue Streams simultaneously. They can gain both Cost and Differentiation Advantages in all 3 Markets and reconquer the Platform Leadership of the Music Ecosystem.

METHODOLOGY

In order to answer the Research Question, we provide a Chronological Analysis of the Music Ecosystem Digitalization process. The analysis is divided in 4 Parts: **Traditional Music Industry**, explaining the process of the Music Ecosystem Formation; **First Digitalization** explaining the passage from Analog to Digital Technology; **Second Digitalization** explaining the passage from CD to Mp3; **The Music Digital Ecosystem**, describing the resultant Digital Ecosystem.

We proceed by providing a Production-Intermediation-Consumption Analysis for each step, in order to identify the progressive Transformation of Value Creation and Appropriation Processes. We also analyze Corporate Strategies and Platform Leadership dynamics by underlining Key Leadership Areas for each Step in order to demonstrate Proposition 1.
In the Final Step we show Data supporting Proposition 2 and in the Conclusions we advise Record Labels Managers explaining the Blue Ocean Strategy opportunity.



Research Design structure

3: MUSIC INDUSTRY DIGITALIZATION

3.1 THE TRADITIONAL MUSIC INDUSTRY

In this first paragraph, using the Traditional Value Chain model described in chapter 1 (Fig.2), we will identify the ante-digitalization Music Business Ecosystem, its most relevant Players and their Value Creation and Appropriation dynamics, in order to identify the former Structure of which we are going to analyze the gradually transformation process in the next paragraphs.

We will proceed by first identifying the Production-Intermediation-Consumption Supply Chain and successively by analyzing the chronological development process and the role of every single player. In the last analysis step we will focus on the Value Appropriation Process and on the Market Power dynamics.

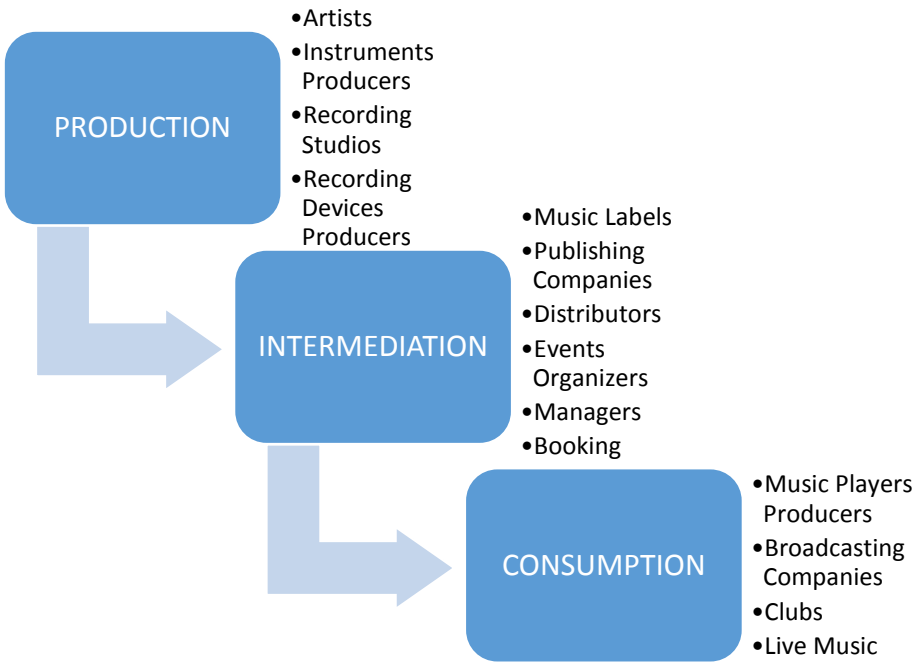


Fig.10: The Traditional Music Industry Supply Chain

As we can deduct by observing the figure the traditional Music Industry Supply Chain can already be considered as an Ecosystem Structure: When we identify a given industry Supply Chain, we usually analyze the Production-Intermediation-Consumption process starting with Raw Material procurement, proceeding with Components production by Suppliers and Manufacturing step by producers and finalized with the distribution service by Wholesalers and Retailers. As we can see in the figure the Traditional Music Industry has already weaken Boundaries because, due to the own information good nature of Music, these different steps involve Companies operating at least in 5 Industries: Manufacturing Industry, Electronics, Recorded Music Industry, Broadcasting Services and Events Organization.

Let's analyze now the **Chronological process** that allowed this **Ecosystem formation** and the **role of every single Player** in the Value Chain:

PRODUCTION

Artists

The first Step of the process is obviously the Music Creation. The individuals involved on this step are called Artists (Musicians and Singers). In an Economics and Management point of view we can look at an Artist as a Supplier of an Intermediate Good (Demo), that will be transformed by the Record Label in a Final Product through Recording, Mastering, Graphics and Packaging for a Royalty Fee.

Instruments Producers

To create music Artists need Instruments produced by companies operating in a Complementary Industry supplying Goods that we can consider as Production Machines useful to obtain the Intermediate Product. The Instruments Production industry involves both handmade/Mechanic Manufacturing and Electronics.
We can look at Instruments Production as at the first Industry of the Music Ecosystem involved in a Convergence Process.
First Instruments was Acoustic and was produced with Mechanic Technologies, then, with the technological progress, Electric and Electronic instruments, such as Electric Guitar and Synthesizers, was born and Instruments Production converged with Electronics.
The first Electronic instrument was Telharmonium, patented by Thaddeus Cahill in 1897.
In 1931 George Beauchamp, General Manager at National Guitar Corporation designed the first Electric Guitar.
In 1929 the Hammond Organ Company was established to produce the first Electric Organ: The Hammond Organ, manufactured for the first time in 1935, followed by the first Commercially-Manufactured synthesizer: The Novachord, produced in 1938.
From 50's to 80's Companies started to develop modular synthesizers such as the RCA Mark II in 1957 and the Buchla Music Easet in 1960.
The first integrated monophonic synthesizer "Minimoog" was developed by Robert Moog in 1970 and today's market 's leaders Yamaha and Roland developed their own ones.
In 1976 polyphonic synthesizers by Yamaha and Orberheim began to appear too.

Recording

The Production of Recording Machines was the first key leadership area of the Ecosystem and it can be considered as the Technological Invention responsible for the Music Industry birth.
The first Recorded Music History is characterized by the Analog Recording:
"Analog Recording is a technique used for the recording of analogic signals which, among many possibilities, allows **analog audio** and analog video for later playback.
Analog recording methods store signals as a continuous signal *in* or *on* the media. The signal may be stored as a physical texture on a phonograph record, or a fluctuation in the field strength of a magnetic recording. This is different from digital recording which digital signals are represented as discrete numbers."[3]
The first machine used to capture Analog Sounds was the Phonograph, developed by Thomas Edison in 1877.
The Phonograph recorded sounds into a Tinfoil sheet wrapped around a cylinder and reproduced them thanks to a Diaphragm and a Horn. It was the naissance of the Recorded Music Industry with the first Music Label: Edison Bell.

[3] https://en.wikipedia.org/wiki/Analog_recording

In 1887 Emilie Berliner and the Volta Laboratory Associates developed the Graphophone, the first machine used to record sound on a Disc, and invented the Microphone, allowing the Mass Production and the commercialization of Recorded Music.
By the merger between the Volta Graphophone Company and the American Graphophone Company the Columbia Records was born.
The next step was the Electromagnetic Recording, in 1935. This new technology was the precursor of the 8 track recording, introduced in Recording Studios since 1962, when Philips developed the Compact Cassette as a new Recording Output.

INTERMEDIATION

Record Labels

In order to Deliver their Music to the public Artists have always needed an investor, due to the high Production, Distribution and Promotion Costs.
If we look at the earliest Record Labels, such as Edison Bell, Columbia, Decca and Emi we can easily understand what do they have in common: They all were Recording Machines Producers.
Analysing this phenomenon by a Management point of view we can consider it as a Downstream Vertical Integration Strategy:
Companies operating as Production Machines Suppliers essentially found out that selling the final product to the consumer could have been more profitable in the long term than just selling production machines to companies and let them take control over a completely brand-new Market.
The new Revenue Stream Sales could have been high due to the possibility of taking over several Market Shares and the Production Machines ownership ensured a Cost Competitive Advantage against their own business to business Customers: If the company had a new Competitor in the Recoded Music Market, it probably have had a new Customer in the Recording Machines Market.
So as we explained above the first Music Ecosystem Platform's Leadership was based on the Development of Technological Innovations in Sound Recording.

Music Events

Music can essentially take two ways to arrive to the Consumer: Personal Consumption represented by the Personal Fruition of Recorded Music through Media Players, such as Radio and Compact Cassette Players, and Collective Consumption represented by the Live Music Events formerly and Mechanical Reproduction based Events later.
The first way Music was delivered to the Consumer was the Collective Consumption:
In the beginning Music couldn't be recorded so the only way to ear it was live performances such as Opera, Jam Sessions and Concerts.
After Recorded Music and Loudspeakers was born, the first Disco (a Nightclub where Recorded Music is played rather than Live Performances) was opened in Paris in 1947 with the name of "Whisky à Go-Go".
In 60'sn the first Mass Music Event Format was developed: Festivals.
Festivals was concerts with several Artists Performances and the best known was the Woodstock Festival in 1969 with its 500.000 attendees.
Companies operating in the Event Organization Market were usually separated by Record Labels but in our further analysis we will explain why this Industry is an interesting key leadership area in which Record Labels can invest.

CONSUMPTION

Music Players

In this Area we find that companies producing Devices useful to play Music.
In the beginning, with the Phonograph and the Graphophone, the Recorder and the player were integrated in the same machine, so there was no distinction between companies operating in the Recorders or in the Players market.
When Electromagnetic Recording was born the story didn't change:
Initially Recorders and Players were the same machines and even if they were finally separated, companies operating in the Recording Machines Production Market, such as Philips and Sony operated in the Players and Record Output Market too, due to the possibility of taking advantage of the Magnetic Recording Tape Technology and of the Transistor Technology Shared Use.
Sony, for example, produced its own Tape Recorder, the "Type G", in 1950, its own compact cassette in 1966 and its own Radio in 1955.
In 1965 the Company produced its first Audio Amplifier, in 1968 its first headphones and 1972 the first integrated Home Stereo System, the "Listen Five", composed by an amplifier, a loudspeaker and a turntable.

Broadcasting

Broadcasting Industry represents the Music Consumption third way. It can involve personal or collective consumption and it requires Telecommunications Technologies, so it is one of the main responsible for the ICT-Media Convergence.
The first Music Broadcasting Media was the Radio and the first time Music was broadcasted was on 1906 Christmas Eve by Reginald Fessenden.
The first National Radio of the world was born in UK with the name of BBC radio in 1922.
The Earlier Stations used the AM system (Amplified Modulation) until FM system (Frequency Modulation) was patented by Armstrong in 1933.
Since the 50's Radio became very popular and consequentially useful to the record labels purpose of Music Diffusion.

Identified the first Music Business Ecosystem, its formation process and its most relevant players we can now focus on the **Value Appropriation Process** by identifying the traditional Business Models and Revenue Streams of each player, with a particular attention to the main interlocutor this Thesis is addressed: Record Labels.

In order to understand the Revenue Distribution in the Music Industry it's useful to report some info about the main Legal aspect on which this process is based on: **Copyright**.
"The concept of musical copyright had its beginnings in the reign of King Henry VIII of England who required copies of all printed matter to be sent to him and offered protection to printers in the form of licenses, primarily to produce a new source of revenue.
In 1575 Elizabeth I granted Thomas Tallis and his pupil William Byrd a twenty-one year patent monopoly on the printing and publishing of polyphonic music. The first modern copyright law was the Statute of Anne(1709), which protected all published works for a period of fourteen years, later extended to twenty-eight years.
The earliest attempt at a printed musical copyright notice appears in the "Shir Hashirim" of Salomone Rossi (Venice, 1623) which includes a rabbinical curse on those pirating the text, written by Leon of Modena.
The first international agreement involving copyright was the Berne Convention of 1886. The core principal of the Convention is its provision that each of the contracting countries shall provide automatic protection for works in all other countries of the union and for unpublished works whose authors are citizens of or residents in those countries. Performance rights are included in these provisions. As of March 2012, 165 countries had become parties to the convention.
In the United States, protecting music was initially not a priority and it was not included in the first federal copyright law. The Copyright Act of 1831 expanded the law to include musical compositions, although only the reproduction rights for printed music were protected. The copyright term was twenty-eight years plus a fourteen-year renewal period.
While England was a leader in the development of copyright, the French led the way in performing rights.
In 1777, Pierre de Beaumarchais founded the "Bureau de Legislation Dramatique" which became the present Société des Auteurs et Compositeurs Dramatiques (SACD) in 1829. Many years later, in 1847, this inspired the composer and librettist Ernest Bourget to claim payment for each performance of his works at Les Ambassadeurs, a leading Café-concert venue of that time.
A lawsuit won by Bourget and others in 1851 led to the formation of the Société des Auteurs, Compositeurs et Editeurs de Musique (SACEM) – the first performing rights society in the world.

Other countries followed suit: The Italian Società Italiana degli Autori ed Editori (SIAE) was founded in 1882 and the Spanish "Sociedad de Autores", predecessor of the current Sociedad General de Autores y Editores (SGAE), in 1899. The predecessor to the Gesellschaft für Musikalische Aufführungs und Mechanische Vervielfältigungsrechte (GEMA) was formed in Germany by composer Richard Strauss in 1903. It became GEMA in 1915 when it merged with another small society.
So, by the end of the 19th century, the foundation had been laid for the modern music publishing industry."[4]
The right to perceive Royalties for a given Music Composition are mainly divided in two different kinds of Rights: Mechanical Rights and Performance Rights.

[4] https://en.wikipedia.org/wiki/History_of_music_publishing

Performance Royalties represent the fees music users pay when music is performed publicly. Music played over the radio and over all the Broadcasting Media, in a restaurant or bar, in a Disco or in a given Event, is considered Public Performance.
Mechanical Royalties are Royalties paid to songwriters and artists when music is sold (think CD or vinyl) but also when music is streamed (streaming mechanicals) "on-demand" (like Spotify). Songwriting mechanical royalties are set by government through what's called a compulsory license, which right now is set to about 9 cents of every dollar earned via sale.[5]
Companies responsible for Collecting Royalties are called Collecting Societies and Publishing Societies and gain a percentage from this Royalties as a fee for their Service. Record Labels sometimes integrate Publishing Services in their Value Chain.

These kind of Royalties represent both a Cost and a Revenue for Companies and individuals operating in the Music Ecosystem, such as record Labels, Events Organizers, Radio Broadcasters and Artists.
While **Recording Machines, Music Players and Instrument Producers** are not involved in these dynamics and their **Business Models** are based on traditional Intermediate Goods procurement – manufacturing – Sales – Distribution Value Chains, the players we were listing before are deeply linked to Copyright in their Business Models.

Event Organizers Business Model is based on Revenue Streams such as Ticket Sales, Food and Beverage Sales and Sponsorships and their Cost Structure involve the payment of Performance Royalties to Record Labels.

Radio Broadcasters have an Advertising based Business Model and their Cost Structure include the payment of both Mechanical and Performance Royalties to Record Labels.

Artists are paid by Record Labels for Performance and Mechanical Royalties and by Event Organizers for their Performance. They usually pay a Fee of their Cachet to Booking Agencies or Artist Management Companies for the Event employment procurement.

Record Labels Revenue Streams are represented by Music Output Sales, a share of Performance and Mechanical Royalties and Sync Royalties. Their Cost Structure is composed by Manufacturing Costs, including the payment of a share of Royalties to Artists and Collecting Societies, by Marketing and by Distribution Costs.
The Company usually commit to Invest in Music Production, Distribution and Promotion and to pay a share of Royalties (usually between 8% and 15%) to the Artist. The Company, in return for its investment, receives the higher share of Sales Revenues of Synchronizations (Spots, Films, Telefilms Royalties) and of Mechanical/Performing Rights Royalties.
Distribution can be Direct or Indirect depending on Downstream Strategic Vertical Integration Decisions. Indirect Channels can be Long Channels (Wholesalers – Retailers) or Short Channel (Retailers) and usually cost to the Record Label an amount between 15% and 25% of total Sales Revenues.

[5] https://www.royaltyexchange.com/learn/mechanical-and-performance-royalties-whats-the-difference/

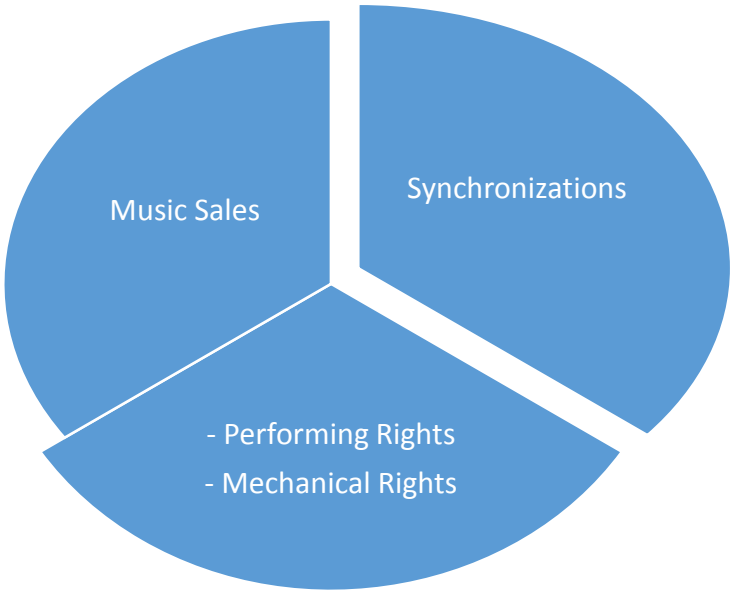


Fig.11: Record Label Revenue Streams

Production	Marketing	Distribution
• Recording • Manufacturing • Royalties	• Promotion • Publicity • Advertising	• Wholesalers • Retailers • Shipping

Fig. 12: Record Labels Cost Structure

Record Labels invest in Recording and Mastering between $150.000 and $500.000 for a new Artist, including expenses for Collaborations with other Artists and Musicians. The Company also invest for the payment of Publishing Companies, and of Royalty Fees to Composers, Lyricists and Performers. Manufacturing Costs include Graphics, Packaging and Replicating Recorded Material and usually cost between $o.50 to $1.20 per Cd.

A major record Company usually spend between $200.000 and $700.000 for a newly signed Artist. Marketing Costs are split between:
Publicity: Publicity department is responsible for ensuring Magazines and Newspapers publications, as well as Feature Stories, Interviews and Record Reviews.
Promotion: Promotion Dep. Is primary responsible for the obtainment of Radio Airplays.
Advertising: Advertising is the Marketing Area dedicated to the acquiring of Advertising Spaces in all kinds of Media.
The Organizational Structure of a traditional Record Label Company usually appears like a Multidivisional Structure in which each division represent a single Label Brand as in the following:

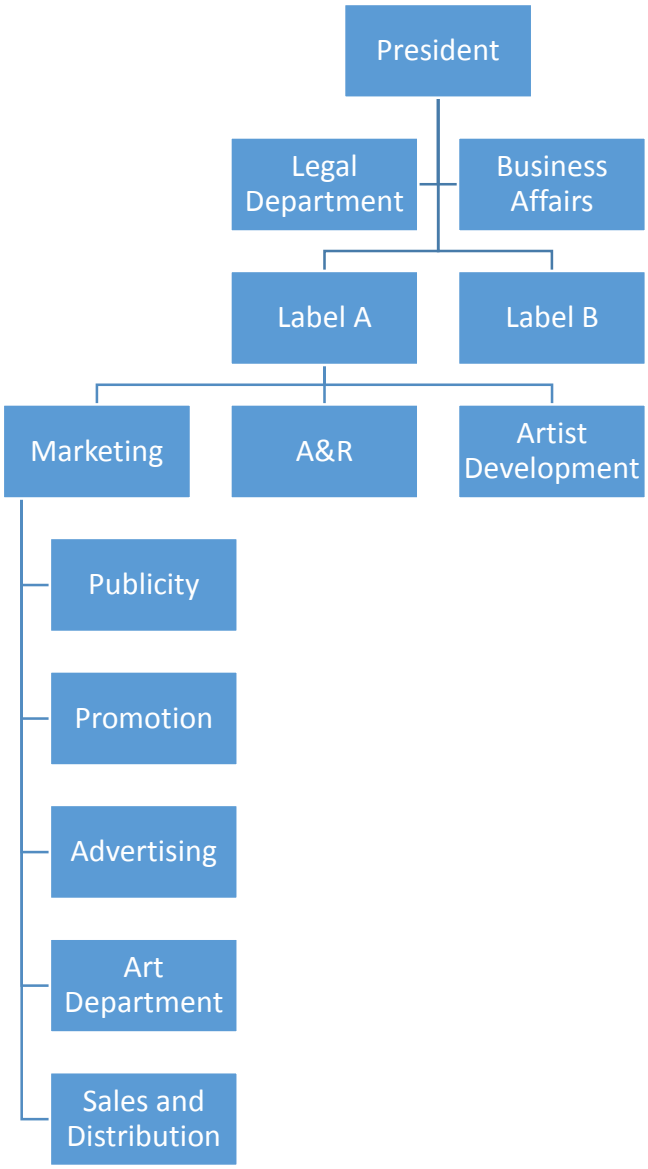


Fig.13: Record Label Multidivisional Structure

At the end of our analysis of the first Music Ecosystem Formation we have identified in the **Recording Machine Production** the key Leadership Area and the Platform enabling all the Business Ecosystem Activities. The Ecosystem Leaders essentially were that Companies driving the Technological Innovation Process in the Music Recording and successively taking-over the Music Commercialization new Market with a Diversification Strategy that due to the Ecosystem new Value Chain resultant can be considered as a Downstream Vertical Integration Strategy.
First Record labels, such as Edison Bell, Columbia, Decca, Emi and Sony Music were all Technology development companies that driving the change enabled the formation of the Music Business Ecosystem. The Music Ecosystem produced by this process was progressively basing on the **Leadership of Electronics**, due to its centrality in the development of both Production and Consumption Platforms, such as Recording Machines and Music Players, and Media Output, such as Compact Cassette and Cd.

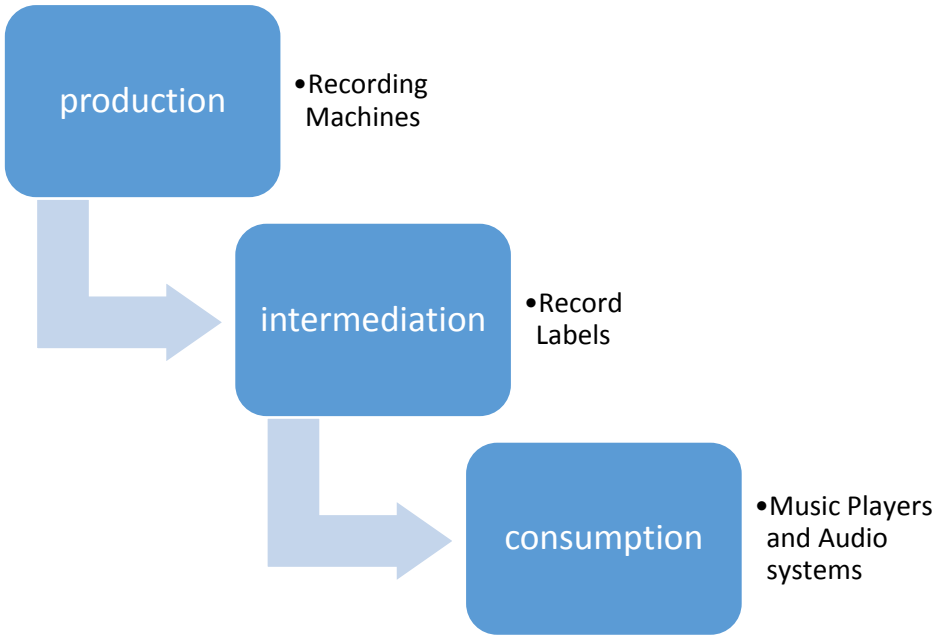


Fig.14: Traditional Record Labels Dominant Corporate Strategy

As a result of the Value Creation process, these Companies were taking-over the higher Value in Return, extending their Platform Leadership in all the three Steps of the Value Chain and appropriating of the more relevant share of the Ecosystem revenues.
In the Intermediation Step furthermore Distributors played a marginal role and their Market was very Fragmented. The higher Market Power was in the end of Record Labels in an Oligopoly characterized by few Record labels and many Wholesalers and Retailers.
So at the end of this first Music Industry analysis we can assert Record Labels were certainly the Platform's Leader, much that for their Intermediation activity, for their Corporate Strategy ensuring them the dominance of the whole Value Chain.

3.2 THE FIRST DIGITALIZATION

From the late 50's to the late 70's the World participated in a new innovation process considered as the Third Industrial Revolution: The Digital Revolution.
Digital Revolution concerns with the switch from Mechanical, Analog and Electronic Technologies to Digital Technology.
This is the beginning of a new Era characterized by the ICT Industry birth, due to the Convergence of Audio-Visual and Telephone Networks with the Computer Networks, and by the birth of Personal Computers:
70's was the Decade of the Home Computer and Personal Computer Introduction into the Market and of the switch from Analog to Digital Record: First Computers were called Microcomputers and they were mainly based on an Intel Microprocessor.
In 1977 first Mass-Market Personal Computers, the Commodore PET and the Apple II, were introduced into the Market, followed by the IBM 5150 and by the Commodore 64 in 1981. For all the period between 1976 and 1986 Commodore International, IBM and Apple were Market Leaders in the PC Industry.
These new technologies involved several Industries in a disruption of the traditional Production, Management and Business Processes.

From this point of our analysis we will disclose how these technological changes influenced and reshaped the Music Industry transforming it into a Digital Ecosystem, always by identifying the chronological transformation process of every single step in the Value Chain and the Value Creation and Appropriation Processes.

PRODUCTION

Artists and Instrument Producers: The Birth of Computer Music

The first aspect of Digitalization we will focus on it's relative to how it impacted the way in which Music is created. In order to to this we introduce the concept of Digital Audio.
"Digital audio is a technology that can be used to record, store, generate, manipulate, and reproduce sound using audio signals encoded in digital form. Following significant advances in digital audio technology during the 1970s, it rapidly replaced analog audio technology in most areas of sound production, sound engineering and telecommunications".[6]
While in the Recording step of the Music Production Process Digitalization just had the liability of converting an Analog sound into a Digital Format, the amazing power of digitalization in the Music Creation step even allowed Musicians to directly create Digital Music.
Computer Music it's a kind of Electronic Music involving the use of Computer to generate the Sound, through Sequencers, Drum Machines, Digital Synthesizers and MIDI instruments and Software.

[6] https://en.wikipedia.org/wiki/Digital_audio

Sequencers

"In 1971, Electronic Music Studios (EMS) released one of the first digital sequencer products as a module of Synthi 100, and its derivation, Synthi Sequencer series. After then, Oberheim released the DS-2 Digital Sequencer in 1974, and Sequential Circuits released Model 800 in 1977
Also in 1977, Roland Corporation released their first microprocessor-based digital sequencer, MC-8 Microcomposer, also called computer music composer by Roland. It equipped a keypad to enter notes as numeric codes, 16KB RAM for a maximum of 5200 notes (large at the time), and a polyphony function which allocated multiple pitch CVs to a single Gate. The earliest known user was Yellow Magic Orchestra in 1978.
In 1975, New England Digital (NED) released ABLE computer (microcomputer) as a dedicated data processing unit for Dartmouth Digital Synthesizer (1973), and based on it, later Synclavier series were developed. The Synclavier I, released in September 1977, was one of the earliest digital music workstation product with multitrack sequencer. Synclavier series evolved throughout the late-1970s to the mid-1980s, and they also established integration of digital-audio and music-sequencer, on their Direct-to-Disk option in 1984, and later Tapeless Studio system.
1980, renewed Fairlight CMI Series II with its sequencer, "Page R", combined step sequencing with sample playback. In 1987, this led to the development of similar software sequencers of this kind, called Trackers, which became popular in the 1980s and 1990s as simple sequencers for creating computer game music, and are yet popular in the demo scene and chiptunes". [7]

Digital Synthesizers

"The very earliest digital synthesis experiments were made with general-purpose computers, as part of academic research into sound generation. In 1975, the Japanese company Yamaha licensed the algorithms for frequency modulation synthesis (FM synthesis) from John Chowning, who had experimented with it at Stanford University since 1971. Yamaha's engineers began adapting Chowning's algorithm for use in a commercial digital synthesizer, adding improvements such as the "key scaling" method to avoid the introduction of distortion that normally occurred in analog systems during frequency modulation, though it would take several years before Yamaha were to release their FM digital synthesizers.
Early commercial digital synthesizers used simple hard-wired digital circuitry to implement techniques such as additive synthesis and FM synthesis, becoming commercially available in the late 1970s. Other techniques, such aswavetable synthesis and physical modeling, only became possible with the advent of high-speed microprocessor and digital signal processing technology.
Two of the earliest commercial digital synthesizers were the Fairlight CMI, introduced in 1979, and the New England Digital Synclavier II. The Fairlight CMI was the first sampling synthesizer, while the Synclavier was originally an FM synthesizer, not adding sampling synthesis until the 1980s. The Fairlight CMI and the Synclavier were both expensive systems, retailing for more than $20,000, in the early 1980s.
In 1980, Yamaha eventually released the first FM digital synthesizer, the Yamaha GS-1, but at an expensive retail price of $16,000. The cost of digital synthesizers soon began falling rapidly in the early 1980s. E-mu Systemsintroduced the Emulator sampling synthesizer in 1982 at a retail price of $7,900. Although not as flexible or powerful as either the Fairlight CMI or the Synclavier, its lower cost and portability made it popular.
The Yamaha DX7 signalled the rise of digital synthesizers.

[7] https://en.wikipedia.org/wiki/Music_sequencer

Introduced in 1983, the Yamaha DX7 was the breakthrough digital synthesizer to have a major impact, both innovative and affordable, and thus spelling the decline of analog synthesizers. It used FM synthesis and, although it was incapable of the sampling synthesis of the Fairlight CMI, its price was around $2,000, putting it within range of a much larger number of musicians. The DX-7 was also known for its "key scaling" method to avoid distortion and for its recognizable bright tonalities that was partly due to an overachieving sampling rate of 57 kHz. It became indispensable to many music artists of the 1980s, and would become one of the best-selling synthesizers of all time.
In 1987, Roland released its own influential synthesizer of the time: the D-50. This popular synth broke new ground in affordably combining short samples and digital oscillators, as well as the innovation of built-in digital effects (reverb., chorus, equalizer). Roland called this Linear Arithmetic (LA) synthesis. This instrument is responsible for some of the very recognisable preset synthesizer sounds of the late 1980s, such as the Pizzagogo sound used on Enya's "Orinoco Flow."
It gradually became feasible to include high quality samples of existing instruments as opposed to synthesizing them. In 1988, Korg introduced the last of the hugely popular trio of digital synthesizers of the 1980s after the DX7 and D50, the M1. This heralded both the increasing popularisation of digital sample-based synthesis, and the rise of 'workstation' synthesizers. After this time, many popular modern digital synthesizers have been described as not being full synthesizers in the most precise sense, as they play back samples stored in their memory. However, they still include options to shape the sounds through use of envelopes, LFOs, filters and effects such as reverb. The Yamaha Motif and Roland Fantom series of keyboards are typical examples of this type; at the same time, they are also examples of "workstation" synthesizers.
With the addition of sophisticated sequencers on board, now added to built-in effects and other features, the 'workstation' synthesizer had been born. These always include a multi-track sequencer, and can often record and playback samples, and in later years full audio tracks, to be used to record an entire song. These are usually also ROMplers, playing back samples, to give a wide variety of realistic instrument and other sounds such as drums, string instruments and wind instruments to sequence and compose songs, along with popular keyboard instrument sounds such as electric pianos and organs".[8]

<u>MIDI</u>
"MIDI (/ˈmɪdi/; short for Musical Instrument Digital Interface) is a technical standard that describes a protocol, digital interface and connectors and allows a wide variety of electronic musical instruments, computers and other related devices to connect and communicate with one another. A single MIDI link can carry up to sixteen channels of information, each of which can be routed to a separate device.
MIDI carries event messages that specify notation, pitch and velocity, control signals for parameters such as volume, vibrato, audio panning, cues, and clock signals that set and synchronize tempo between multiple devices. These messages are sent via a MIDI cable to other devices where they control sound generation and other features. This data can also be recorded into a hardware or software device called a sequencer, which can be used to edit the data and to play it back at a later time.
MIDI technology was standardized in 1983 by a panel of music industry representatives, and is maintained by the MIDI Manufacturers Association (MMA). All official MIDI standards are jointly

[8] https://en.wikipedia.org/wiki/Digital_synthesizer

developed and published by the MMA in Los Angeles, California, US, and for Japan, the MIDI Committee of the Association of Musical Electronics Industry (AMEI) in Tokyo.
Advantages of MIDI include compactness (an entire song can be coded in a few hundred lines, i.e. in a few kilobytes), ease of modification and manipulation and choice of instruments.
In June 1981, Roland founder Ikutaro Kakehashi proposed the idea of standardization to Oberheim Electronics founder Tom Oberheim, who then talked it over with Sequential Circuits president Dave Smith. In October 1981, Kakehashi, Oberheim and Smith discussed the idea with representatives from Yamaha, Korg and Kawai.
Sequential Circuits engineers and synthesizer designers Dave Smith and Chet Wood devised a universal synthesizer interface, which would allow direct communication between equipment from different manufacturers. Smith proposed this standard at the Audio Engineering Society show in November 1981. Over the next two years, the standard was discussed and modified by representatives of companies such as Roland, Yamaha, Korg, Kawai, Oberheim, and Sequential Circuits, and was renamed Musical Instrument Digital Interface. MIDI's development was announced to the public by Robert Moog, in the October 1982 edition of Keyboard magazine.
By the time of the January 1983 Winter NAMM Show, Smith was able to demonstrate a MIDI connection between his Prophet 600 analog synthesizer and a Roland JP-6. The MIDI Specification was published in August 1983. The MIDI standard was unveiled by Ikutaro Kakehashi and Dave Smith, who both later received Technical Grammy Awards in 2013 for their key roles in the development of MIDI.
MIDI's appeal was originally limited to those who wanted to use electronic instruments in the production of popular music. The standard allowed different instruments to speak with each other and with computers, and this spurred a rapid expansion of the sales and production of electronic instruments and music software. This interoperability allowed one device to be controlled from another, which reduced the amount of hardware musicians needed to own. MIDI's introduction coincided with the dawn of the personal computer era and the introductions of samplers and digital synthesizers. The creative possibilities brought about by MIDI technology have been credited as having helped to revive the music industry in the 1980s.
MIDI introduced many capabilities which transformed the way musicians work. MIDI sequencing made it possible for a user with no notation skills to build complex arrangements. A musical act with as few as one or two members, each operating multiple MIDI-enabled devices, could deliver a performance which sounds similar to that of a much larger group of musicians. The expense of hiring outside musicians for a project could be reduced or eliminated, and complex productions could be realized on a system as small as a synthesizer with integrated keyboard and sequencer.
MIDI helped establish home recording. By performing preproduction in such an environment, an artist can reduce recording costs by arriving at a recording studio with a work that is already partially completed. Educational technology enabled by MIDI has transformed music education". [9]

[9] https://en.wikipedia.org/wiki/MIDI

What we have just described can be considered as the first example of the Music Industry transformation in a Digital Ecosystem and of the Convergence between the Instruments Production Industry and the ICT Industry:
Until Computer Music was born, Music Instruments Producers became developers of Services for Computers Platforms; they added in their Products Portfolio Hardware and Software Products non-usable without a Computer Platform.
This fact means essentially that Instrument Producers compete now in an Electronics-ICT Meta-Market, inhabited by Several Players with Different Roles, such as Computer Hardware and Software Producers (Platform Producers) and that these ones, competing each other, have to consider they compete also as Platforms for Music Production so, if they want to enter this Segment, they have to produce Differentiated Products with particular Functionality, in order to be preferred by the Costumers.

Digital Recording

"In digital recording, audio signals or video signals are converted into a stream of discrete numbers, representing the changes over time in air pressure for audio, and chroma and luminance values for video, then recorded to a storage device. To play back a digital recording, the numbers are retrieved and converted back into their original analog waveforms.
Pulse-code modulation was invented by British scientist Alec Reeves in 1937 and was used in telecommunications applications long before its first use in commercial broadcast and recording. Commercial digital recording was pioneered in Japan by NHK and Nippon Columbia, also known as Denon, in the 1960s. The first commercial digital recordings were released in 1971. The BBC also began to experiment with digital audio in the 1960s. By the early 1970s it had developed a 2-channel recorder, and in 1972 it deployed a digital audio transmission system that linked their broadcast center to their remote transmitters.
The first 16-bit PCM recording in the United States was made by Thomas Stockham at the Santa Fe Opera in 1976, on a Soundstream recorder. An improved version of the Soundstream system was used to produce several classical recordings by Telarc in 1978. The 3M digital multitrack recorder in development at the time was based on BBC technology. The first all-digital album recorded on this machine was Ry Cooder's Bop till You Drop in 1979. British record label Decca began development of its own 2-track digital audio recorders in 1978 and released the first European digital recording in 1979.
Popular digital multitrack recorders produced by Sony and Mitsubishi in the early 1980s helped to bring about digital recording's acceptance by the major record companies. The 1982 introduction of the CD popularized digital audio with consumers".[10]
With the birth of Digital Audio Workstations, Computers assume always more the role of Platform's Leader in the Music Production: This is the convergence of the Recording Machines Market in the ICT Meta-Market.
"A digital audio workstation (D.A.W.) is an electronic device or computer software application for recording, editing and producing audio files. DAWs come in a wide variety of configurations from a single software program on a laptop, to an integrated stand-alone unit, all the way to a highly complex configuration of numerous components controlled by a central computer. Regardless of configuration, modern DAWs have a central interface that allows the user to alter and mix multiple recordings and tracks into a final produced piece.

[10] https://en.wikipedia.org/wiki/Digital_audio

DAWs are used for the production of music, radio, television, podcasts, multimedia and nearly any other situation where complex recorded audio is needed.
The history of DAWs parallels advances in computer power with expensive-but-limited units becoming available in the 1970s, then more affordable PC-based systems in the late 1980s until today when a powerful system can be built inexpensively, using open-source software and consumer audio equipment even as a market exists for professional high-end systems, essential in any modern recording studio".[11]

Looking at the Digital Recording History it's easy to understand how Companies operating in the Recorded Music Industry like Record Labels, such as Sony and Decca, persisted in their Upstream Vertical Integration Corporate Strategy to gain the full control of the Brand-new Music Digital Ecosystem, still investing in the Recording Machines Market.
Another important new formed Digital Market where Companies such as Sony developed a Proactive Behaviour to drive the change was the Digital Storage Media one:
Since 1982 a new Media Format was available as Music Production Process Output: The Compact Disc, *a digital optical disc data storage format.*

History
"American inventor James T. Russell has been credited with inventing the first system to record digital information on an optical transparent foil that is lit from behind by a high-power halogen lamp. Russell's patent application was first filed in 1966, and he was granted a patent in 1970. Following litigation, Sony and Philips licensed Russell's patents (then held by a Canadian company, Optical Recording Corp.) in the 1980s.
The Compact Disc is an evolution of Laser Disc technology, where a focused laser beam is used that enables the high information density required for high-quality digital audio signals. Prototypes were developed by Philips and Sony independently in the late 1970s. In 1979, Sony and Philips set up a joint task force of engineers to design a new digital audio disc. After a year of experimentation and discussion, the Red Book CD-DA standard was published in 1980. After their commercial release in 1982, compact discs and their players were extremely popular. Despite costing up to $1,000, over 400,000 CD players were sold in the United States between 1983 and 1984. The success of the compact disc has been credited to the cooperation between Philips and Sony, who came together to agree upon and develop compatible hardware. The unified design of the compact disc allowed consumers to purchase any disc or player from any company, and allowed the CD to dominate the at-home music market unchallenged.
Digital audio laser-disc prototype
In 1974, L. Ottens, director of the audio division of Philips, started a small group with the aim to develop an analog optical audio disc with a diameter of 20 cm and a sound quality superior to that of the vinyl record. However, due to the unsatisfactory performance of the analog format, two Philips research engineers recommended a digital format in March 1974. In 1977, Philips then established a laboratory with the mission of creating a digital audio disc. The diameter of Philips's prototype compact disc was set at 11.5 cm, the diagonal of a compact cassette.
Heitaro Nakajima, who developed an early digital audio recorder within Japan's national public broadcasting organization NHK in 1970, became general manager of Sony's audio department in 1971. His team developed a digital PCM adaptor audio tape recorder using a Betamax video recorder in 1973. After this, in 1974 the leap to storing digital audio on an optical disc was easily

[11] https://en.wikipedia.org/wiki/Digital_audio_workstation

made. Sony first publicly demonstrated an optical digital audio disc in September 1976. A year later, in September 1977, Sony showed the press a 30 cm disc that could play 60 minutes of digital audio (44,100 Hz sampling rate and 16-bit resolution) using MFM modulation. In September 1978, the company demonstrated an optical digital audio disc with a 150-minute playing time, 44,056 Hz sampling rate, 16-bit linear resolution, and cross-interleaved error correction code—specifications similar to those later settled upon for the standard Compact Disc format in 1980. Technical details of Sony's digital audio disc were presented during the 62nd AES Convention, held on 13–16 March 1979, in Brussels Sony's AES technical paper was published on 1 March 1979. A week later, on 8 March, Philips publicly demonstrated a prototype of an optical digital audio disc at a press conference called "Philips Introduce Compact Disc" in Eindhoven, Netherlands".[12]

At the end of the Music Production Process described, we can see how all the Value Network is involved in a Digitalization process, even if we have to underline this is just a primitive form of Digital Ecosystem:
With new Technologies it was now possible to Create Music Digitally, to Digitally Record it, and to store it on a Digital-Technology-based Output, but the CD, even if it's based on a Digital Technology, is a physical Media Format.
So we can say 80's was the age of the Production Process Digitalization, while Intermediation and Consumption are still conditioned to a Traditional Value Chain by the physical Output Format.

Video Recording and Video Production
In 1981, while Sony was putting its first Video Camera (the HVC-F1) on the Market, MTV the first 24/24 – 7/7 Music Television Channel was launched from the U.S.
This was the beginning of another important Step of the Music Industry Value Network: Other Strategic players, such as Creative Agencies, Broadcasting Channels and Televisions producers entered the Ecosystem. Sony obviously extended its aggressive Vertical Integration Corporate Strategy entering both the Music Video Production Market, with Video Cameras and digital Video Tapes, and the Consumption one with Televisions.

[12] https://en.wikipedia.org/wiki/Compact_disc

INTERMEDIATION

Record Labels

"Many record companies died out as quickly as they had formed, and by the end of the 1980s, the "Big 6" — EMI, CBS, BMG, PolyGram, WEA and MCA — dominated the industry. Sony bought CBS Records in 1987 and changed its name to Sony Music in 1991. In mid-1998, PolyGram merged into the Universal Music Group (formerly MCA). Since then, Sony and BMG merged in 2004, and Universal took over the majority of EMI's recorded music interests in 2012. EMI Music Publishing, also once part of the now defunct British conglomerate, is now co-owned by Sony as a subsidiary of Sony/ATV Music Publishing".[13]

In 1992 **Total Sales** of the Global Recorded Industry was approximatively **$29 billion** (International Association of the Phonographic Industry IFPI insights)
In 1998, when the Second Digitalization was coming, the Big 4 Majors were controlling the 77% of the Market, according to the MEI world Report 2000.
Revenues were distributed with the following Market Share:
Sony Music Entertainment — 28.8%
Universal Music Group 21.1%
EMI — 14.1%
Warner Music Group — 13.4%
Independent labels — 22.6%

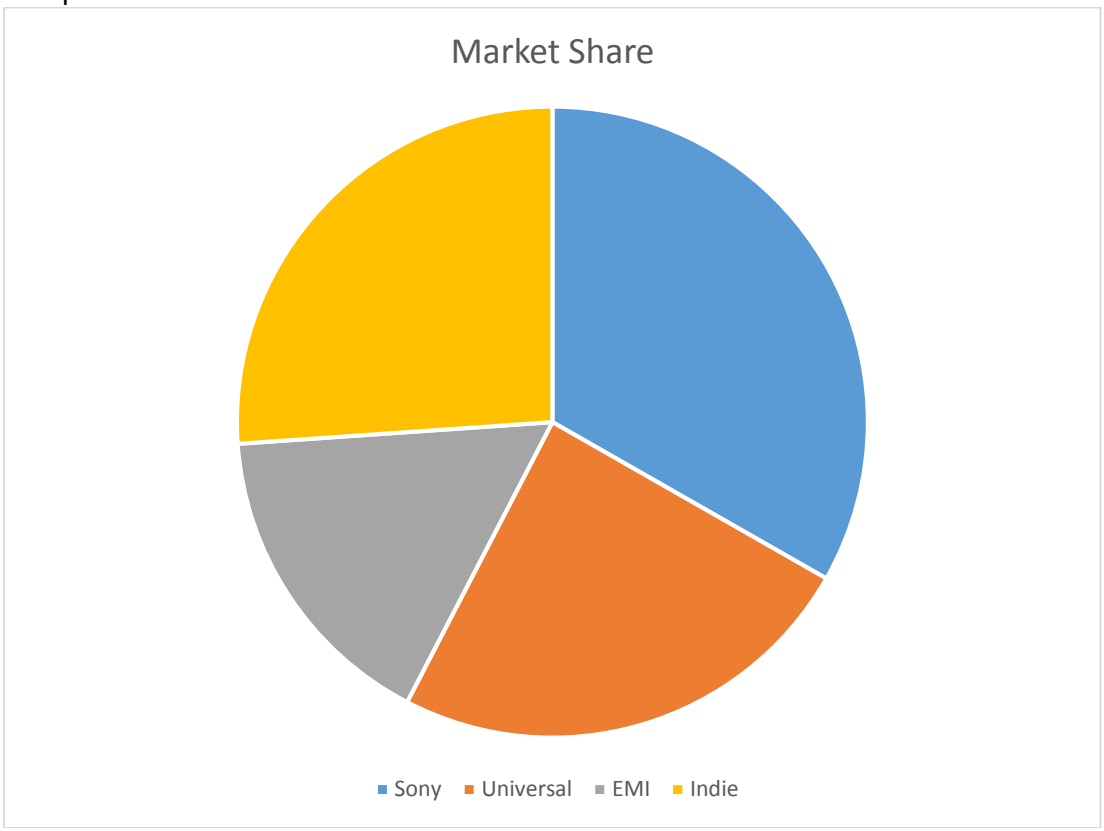


Fig.15 Record Labels Market Share, MEI World Report 2000

Intermediation was still not Digitalized: Record Labels continued to sell physical Products through physical Distribution, even if they had to deal with Digital Technology-based Production processes, digital-technology based Consumption devices and digital technology-based Broadcasting Media.

[13] https://en.wikipedia.org/wiki/Music_industry

CONSUMPTION

Music Players and Broadcasting

In the Consumption side of the Music Ecosystem Philipps and Sony was contending the Consumer Electronics Market.
In 1982 Sony launched CDP-101, the World's first Compact Disc Player and in 1984 the D50, the World's first portable Cd Player, while in the same time they were providing HI Fi systems, so that way they fully own the Music Consumption Platform.
In the Collective Consumption Market new Players, such as Pioneer and Denon, were using the new CD Technology to develop DJ Console, composed by Mixer, and CD-Players, expending the new Record Media Market to the Disco scene.
On the Broadcasting side new players was entering the Ecosystem: Music Televisions, contributing very much to the Music Sales grow according to the IFPI.
Sony obviously expanded its Leadership in the Ecosystem because of its presence in the Device side of this new form of Music Fruition.

As we can see looking at the New Value Network Structure represented below, the 80's-90's Music Industry was a Hybrid Digital/Physical Ecosystem made up of players co-evolving their capabilities around Electronics Devices based on Digital Technologies.
As in the past, the development of new Technologies for Music Recording and Storage was the driver of the change, influencing all the Value Creation Process from Production to Consumption.
The Business Ecosystem Platform's Leadership indirectly was fully owned by Electronics Devices Producers, allowing the Music Production Upstream and the Music Consumption Downstream.
Without the Technological Innovation bringing to the Market the Compact Disc and the Video Tape it could have been neither possible the Massification of Music through Distribution Channels and Broadcasting Media.
Record Labels, in this context, played a Central Role, because they were the only Player to take advantage of these Electronics Platforms through investing in Music Production, Contents Packaging and Delivering the final Physical Product directly to the Consumer.
The Value Appropriation Process mainly reflected the Platform's Leadership and the Market Power of the Value Creation one.
Electronics Companies gained Sales Revenues both from the b2b Production Devices Market Upstream and from the b2c Consumption Devices Market Downstream.
Record Labels gained Sales Revenues from the Music Consumption Market, leaving to Distributors up to 15% of the final Price (In the case they used an Indirect Channel, but they often insourced the process) and Royalties from Broadcasting Media through Collecting Societies (Such as SIAE in Italy).
Broadcasting Media Contents Producers Business Models were mainly Advertising-based, so they gained and still gain from Other Stakeholders, usually enterprises.
Artists picked up their royalties from Record Labels and from Live Performances, still not managed by Record Labels, but by Management Agencies.
Sony Group was obviously the **Platform Leader** of this Ecosystem, producing both Production and Consumption Platforms and owning the Higher Market Share in the Intermediation Step.

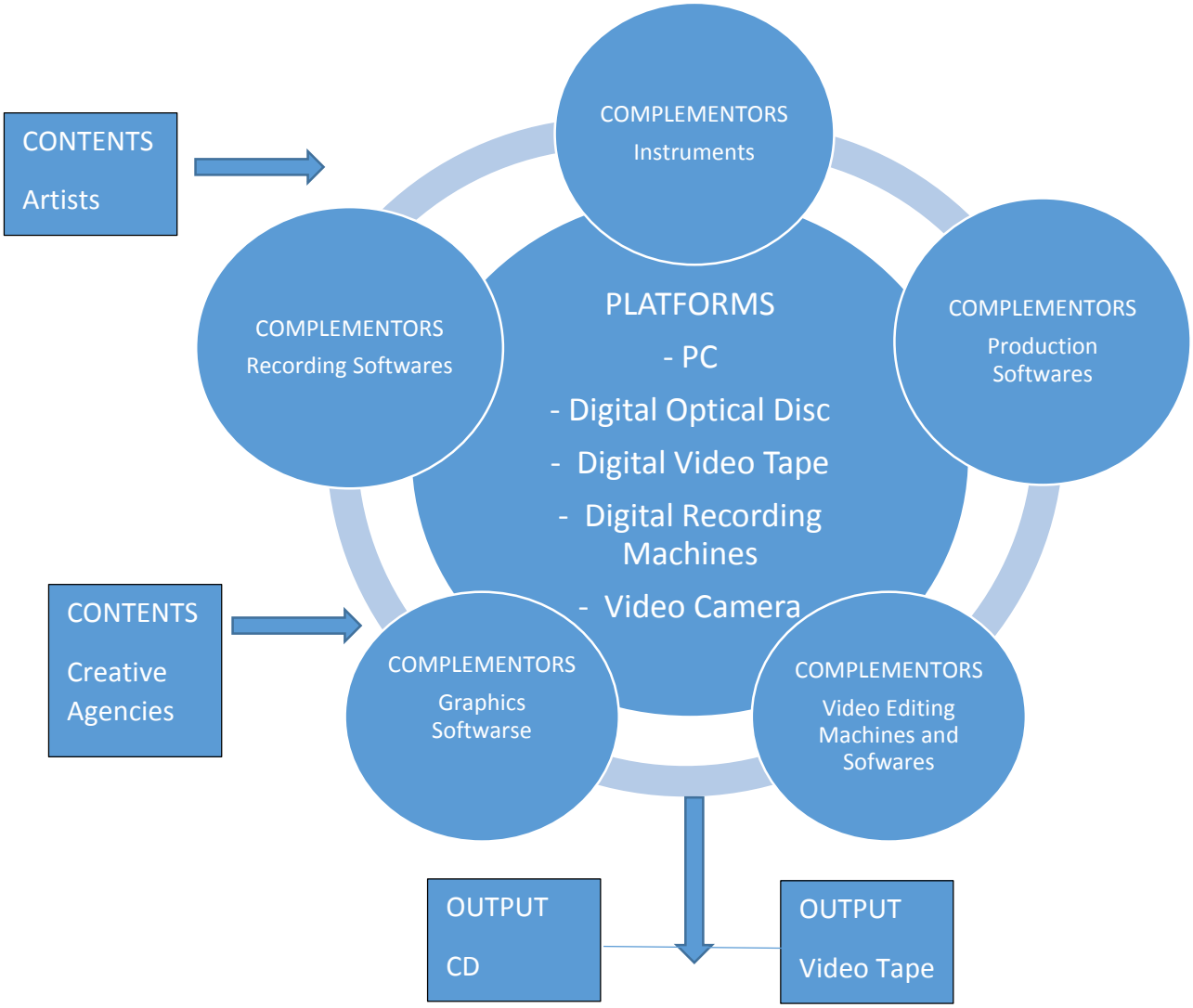


Fig.16 Production Value Network

As we can deduct from the figure the Production Network is organized around the key Electronics Products based on Digital Technologies for which Complementors develop instrumental products.

The Leadership is still in the hand of Companies owning Recording Machines production, but the development of Computers and DAW including the use of Computer is moving the equilibria toward IT Companies developing Software and Computers. Record Labels are losing their Leadership in the Production side, with the only exception of Sony Group.

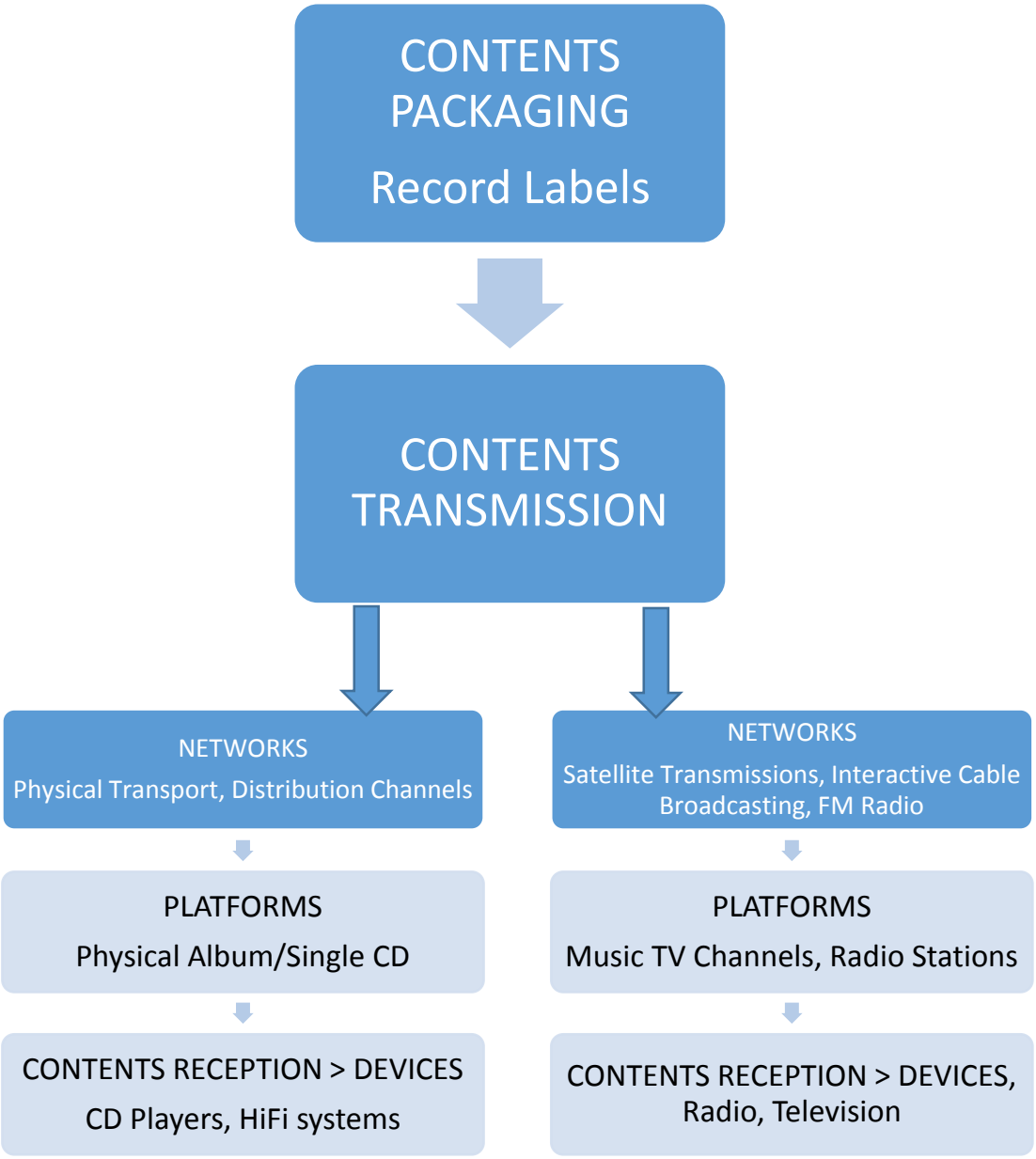


Fig.17 Intermediation and Consumption Value Network

While in the intermediation process Record Labels Market Power was still strong because of the Oligopoly form and an always fragmented Distribution Market, on the Consumption side Sony was running the game but the remaining Majors weren't no more present in the Music Players Production Market. ICT Companies essentially were starting to take-over the Market by entering in the Production step with a Leadership role. The only reason Sony was still running the Game was it was still present in all 3 Step of the Process with its own Recording Machines, Optical Disc, Video Camera, Record Labels and Music Players. IT Companies was still not present in the Intermediation and in the Consumption Market.

3.2 THE SECOND DIGITALIZATION

TECHNOLOGICAL INNOVATION AND MUSIC INDUSTRY CRISIS

Since 90's to 2000 a series of technological innovations amplified the Digitalization process, causing the Convergence of the Media Industry with the ICT industry and consequentially the emergence of several new Meta-Markets. Lots of Companies operating in the traditional Media Markets, such as Contents Packagers, weren't ready to the change and so they entered in a period of Crisis due to this transition. Let's analyze now this new Digitalization Process:

The World Wide Web

Since 1980 to 1991 Tim Berners-Lee, independent contractor at the CERN (European Organization of Nuclear Research), invented and developed the WWW project (World Wide Web).

The web is the fundamental unit of analysis of the new Music Digital Ecosystem, because it allowed the development of phenomena such as File Sharing and Streaming in the Crisis Period and Legal Commercialization of Digital Music and Music Digital Marketing/Promotion/Publicity when the new Value Network was already configured.

Mp3

"MPEG-1 or MPEG-2 Audio Layer III, more commonly referred to as MP3, is an audio coding format for digital audio which uses a form of lossy data compression. It is a common audio format for consumer audio streaming or storage, as well as a de facto standard of digital audio compression for the transfer and playback of music on most digital audio players.

The use of lossy compression is designed to greatly reduce the amount of data required to represent the audio recording and still sound like a faithful reproduction of the original uncompressed audio for most listeners. An MP3 file that is created using the setting of 128 kbit/s will result in a file that is about 1/11 the size of the CD file created from the original audio source (44,100 samples per second × 16 bits per sample × 2 channels = 1,411,200 bit/s; MP3 compressed at 128 kbit/s: 128,000 bit/s [1 k = 1,000, not 1024, because it is a bit rate]. Ratio: 1,411,200/128,000 = 11.025). An MP3 file can also be constructed at higher or lower bit rates, with higher or lower resulting quality.

The compression works by reducing the accuracy of certain parts of a sound that are considered to be beyond the auditory resolution ability of most people. This method is commonly referred to as perceptual coding. It uses psychoacoustic models to discard or reduce precision of components less audible to human hearing, and then records the remaining information in an efficient manner.

MP3 was designed by the Moving Picture Experts Group (MPEG) as part of its MPEG-1 standard and later extended in the MPEG-2 standard. The first subgroup for audio was formed by several teams of engineers at Fraunhofer IIS, University of Hannover, AT&T-Bell Labs, Thomson-Brandt, CCETT, and others. MPEG-1 Audio (MPEG-1 Part 3), which included MPEG-1 Audio Layer I, II and III was approved as a committee draft of ISO/IEC standard in 1991, finalized in 1992 and published in 1993 (ISO/IEC 11172-3:1993). Backwards compatible MPEG-2 Audio (MPEG-2 Part 3) with additional bit rates and sample rates was published in 1995 (ISO/IEC 13818-3:1995)."[14]

While in the First Digitalization it was the Production Process to be Digitalized, with the Mp3 Birth we finally see the Digitalization of the own Product that we can define as the Music Dematerialization.

All the Production Network is now Digitalized and we can have a total Digital Production Process: From the Digital Creation of Music, through Software, to the Digital Recording and Mastering, from the birth of a Digital Output to its Storage on a Digital Memory.

[14] https://en.wikipedia.org/wiki/MP3

P2P and Gift Economy

"A gift economy, gift culture, or gift exchange is a mode of exchange where valuables are not traded or sold, but rather given without an explicit agreement for immediate or future rewards. This contrasts with a barter economy or a market economy, where goods and services are primarily exchanged for value received. Gifts are not given in an explicit exchange of goods or services for money or some other commodity".[15]

Collaborative Consumption, Prosumption and Networks are some of the phenomena generated by the Third Wave. In this Environment, Innovative Technological Platforms, such as the World Wide Web and the Internet, enabled the birth of new Networks where Users can exchange files of several formats in the Gift Economy mode: Peer to Peer Networks.

"Peer-to-peer (P2P) computing or networking is a distributed application architecture that partitions tasks or workloads between peers. Peers are equally privileged, equipotent participants in the application. They are said to form a peer-to-peer network of nodes.
Peers make a portion of their resources, such as processing power, disk storage or network bandwidth, directly available to other network participants, without the need for central coordination by servers or stable hosts. Peers are both suppliers and consumers of resources, in contrast to the traditional client-server model in which the consumption and supply of resources is divided. Emerging collaborative P2P systems are going beyond the era of peers doing similar things while sharing resources, and are looking for diverse peers that can bring in unique resources and capabilities to a virtual community thereby empowering it to engage in greater tasks beyond those that can be accomplished by individual peers, yet that are beneficial to all the peers".[16]

Since the end of 90's this kind of Network Technology started to be used by companies to provide File-Sharing Services, in particular Digital Media Sharing systems that allowed Users to share files such as Mp3 and Mpeg, therefore Copyrighted Contents coming from both the Music Industry and the Film Industry, boosting the Piracy Phenomena as a form of Free Riding.
We can identify this moment as the Disruption point in which the Media Industry definitively converged with the ICT, giving life to the E-Music and the E-Film Meta-Markets.
At this point Companies operating in the Music and Film Ecosystems didn't support the redefinition of the Value Network with a proactive Behavior and approach, and new Companies operating in the ICT Industry take-over the Demand of this unfulfilled Need.
The Best Known Company to have created the Chaos in the Music Business was named Napster.

[15] https://en.wikipedia.org/wiki/Gift_economy
[16] https://en.wikipedia.org/wiki/Peer-to-peer

Napster

Napster, co-founded in June 1999 by Shawn Fanning, John Fanning and Seann Parker, was a File Sharing Platform based on P2P Networks, allowing users to share (Upload and Download) Mp3 Files.

How did Napster work?

"Napster provided a peer-to-peer network enabling users to share music files. A user downloaded the free Napster software, and nominated a folder on his or her hard-drive on which to store downloaded music (and music available to be accessed by other users). The software added the titles of these music files to a central directory to enable searching by other users. A user could then search for music titles and download these files directly from the folders of other users. The music files themselves did not exist on a central directory, but were transferred directly from the computer of one user to another, hence the name 'peer-to-peer' (P2P)".[17]

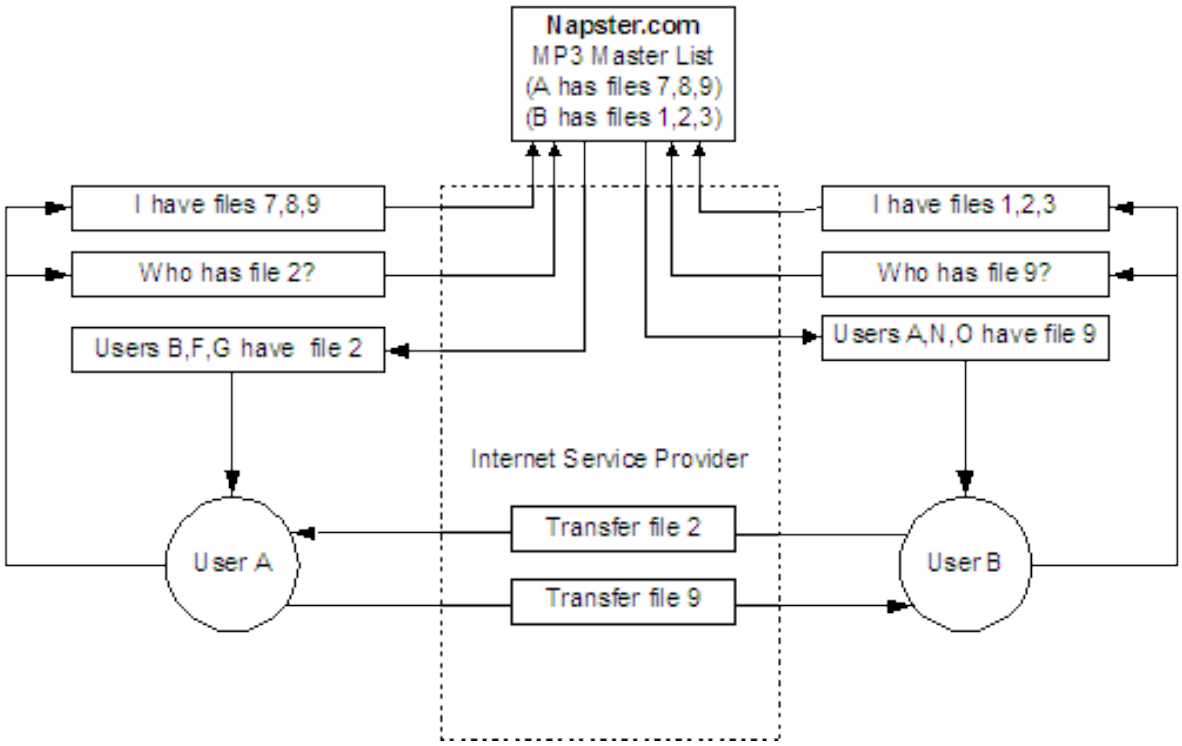


Fig.18 NAPSTER STRUCTURE "Copyright and Peer-To-Peer Music File Sharing: The Napster Case and the Argument Against Legislative Reform".

[17] *"Copyright and Peer-To-Peer Music File Sharing: The Napster Case and the Argument Against Legislative Reform", Guy Douglas,* ***Murdoch University Electronic Journal of Law***

As we can understand from the Figure above files weren't exchanged through a central Server, but through own Users servers: The Napster Server was just used to suggest which Users have a given file.
Since 1999 A&M Records (Member of Universal Music Group) and several other Record Labels and Artists filed Lawsuits through the RIAA (Recording Industry Association of America) against Napster Company for Copyright Law infringements under the US Digital Millennium Copyright Act.
Napster was declared Guilty in 2001 and was convicted to pay millions $ of Compensations to Several Record Labels.
In 2002 the Company filed for Bankruptcy and its assets were liquidated.
Another important issue to analyse in this case is the involvement of the Bertelsmann Company, The holding owner of the BMG Music, one of the Big 5 Record Labels:
While BMG was in lawsuit with the P2P Platform, in 2000, the Bertelsmann Company started a Partnership with Napster in order to transform it into a Legal Subscription-based Music Download Platform.
Record Labels continued their battle against the Napster and started a lawsuit against Bertelsmann for its investment of $ 85 million extending the Illegal Platform Activities life.
In 2007 Bertelsmann was declared guilty and was convicted to pay $130 million to Record Labels.
The Battle against Piracy continued and the next enemy was Kazaa by Sharman Network, convicted to pay $100 Million in 2006.
The RIAA also started lawsuits against individuals and on December 2008 the Wall Street Journal reported the following:
"After years of suing thousands of people for allegedly stealing music via the Internet, the recording industry is set to drop its legal assault as it searches for more effective ways to combat online music piracy. The decision represents an abrupt shift of strategy for the industry, which has opened legal proceedings against about 35,000 people since 2003. Critics say the legal offensive ultimately did little to stem the tide of illegally downloaded music. And it created a public-relations disaster for the industry, whose lawsuits targeted, among others, several single mothers, a dead person and a 13-year-old girl. Instead, the Recording Industry Association of America said it plans to try an approach that relies on the cooperation of Internet-service provider".[18]

Disruption Analysis
The Music Ecosystem was changing and the birth of Mp3 signed the definitively Digitalization of the whole Industry.
The Value Network disruption was completed with the Output dematerialization, and a new Networked organization was required in the Ecosystem:
People essentially showed their need for a Digital Music Delivery service and for Digital Music Players devices.
But did Companies operating in the traditional Music Industry do something to fulfil this need?
Did they develop a Proactive Strategy to drive the change?
Did the first digitalization Platform's Leaders, such as the Sony Music Group, developed a Strategy to preserve their Leadership?
Did Record Labels managed their Business with a Co-Evolution perspective, focusing on Value Creation, in order to preserve their Value's Share Appropriation?
To answer these questions let's analyse these Companies Behaviour in the Period of Piracy Crisis:
From the history above we can easily see Music Majors, in the Music Industry, such as Film Majors in the Film one, invested Money, Time, Personnel and other scarce resources to set lawsuit against the new players entering the Ecosystem due to its convergence with ICT.

[18] https://en.wikipedia.org/wiki/2000s_in_the_music_industry

The main advantages coming from this non-proactive innovation-blocking-based approach were Competition reduction and Compensations.
In 2004 Sony and BMG merged in the Sony BMG Music Group with a 50-50 ownership model, so when Bertelsmann, in 2007, was convicted to pay millions $ as a compensation to the other Majors, they practically pushed the Company out of the Market: In 2008 Bertelsmann sold its 50% share of Sony Bmg to Sony Corporation of America and when Universal Music Group acquired EMI, the Big 5 became the Big 3.
Companies gained Millions $ of Compensations from the Illegal File Sharing Lawsuits,
but what were they loosing?
The answer is given by Sales Insights showing that the Recorded Music Industry was in Crisis and it was losing Billions $.

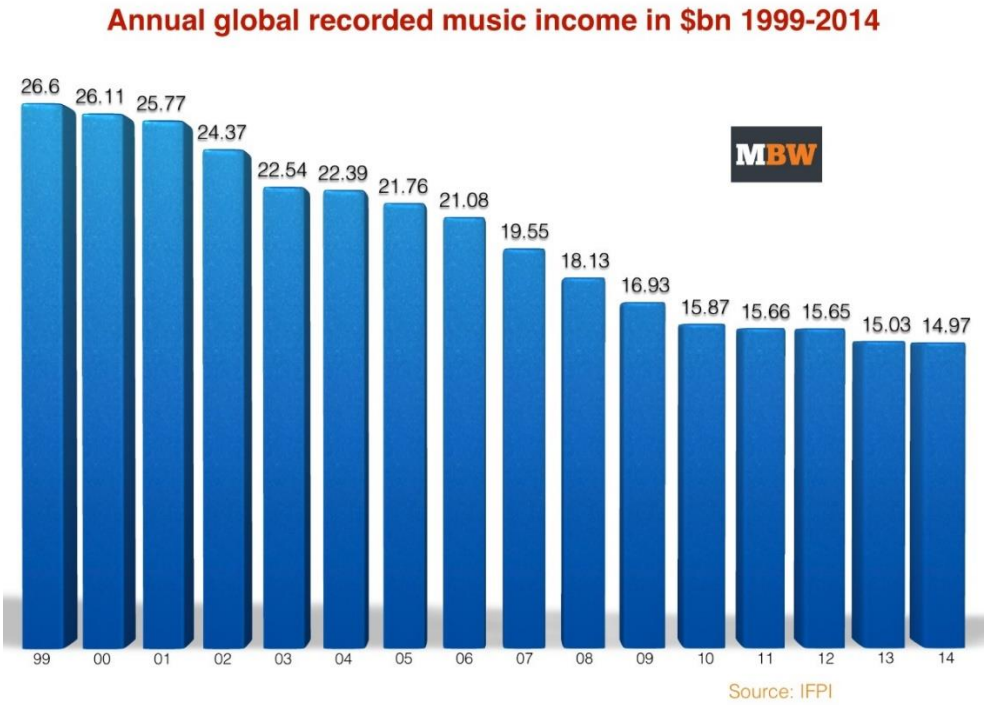


Fig.20: "Music Industry Worldwide" – IFPI data

By attacking File-Sharing Platforms, Recorded Music Industry was essentially acting on the Effect instead of acting on the Cause:
The Need for Music Download remained and Platforms continued to proliferate.
Majors furthermore, acting as the impediment of the meet between the Music Downloading and the Users, were developing a bad Public Relations Management approach with their own Target-Market.
ICT Companies, at the same time, was moving on a more proactive direction, followed by the Electronics one:
In 1998 the first Mp3 Player was born, while Apple was ready to launch its iPod on 2001 and iTunes Store in 2003.
The new Value Network was defining itself as the result of a Convergence process between Media and ICT characterized by a proactive approach of ICT Companies and an obstructing approach of majors. In the next paragraph we will see the effects of this process on the Platform's Leadership of the new Digital Music Ecosystem and in particular on the new Value Network Structure and Value Appropriation process.

3.3 THE MUSIC DIGITAL ECOSYSTEM

In this paragraph we finally analyze the Music Digital Ecosystem resultant from the Convergence of the Music Industry in the ICT-Media Ecosystem and the consequential brand-new E-Music Meta-Market. First of all, we will use the Contents Production-Packaging-Transmission-Reception model typical of Media-ICT Meta-Markets described in Chapter 1 – Figure 7 in order to identify the **Value Network Structure**.

The Convergence Process finalization configured a new Value Network characterized by the entrance of two new players in the Ecosystem: IT and Telecommunications Companies. The new Value Creation process is essentially based on a Production step that uses PC as a Platform in which several complementary products can be integrated. In the Intermediation Process the dematerialized Output is delivered through Broadband Connection in IT Platforms that replace the old physical Retailer. These Platforms can be mainly divided in two Categories: **Download Platforms,** such as Apple's iTunes, Amazon Music and Beatport, allow users to download Mp3 files and store it on Devices. **Streaming Platforms** such as Apple Music, Spotify, Youtube and Vevo allow users to the Audio/Video content fruition while they are connected to the internet.

The process is finalized with the content Reception through Devices such as Smartphones and Computers that act like terminals for Contents Fruition.

In this new Music Ecosystem, a Company in particular seems to play the role of **Platform Leader** and this company is **Apple.**

Apple is present in all 3 steps of the Value Network with its Mac Computers, its iTunes download platform and its iPhone device. The Company in addition entered also simultaneously in both the Audio Device Market and the Streaming Platforms one by acquiring "Beats", a Company owner of innovative and cool headphones and of a Streaming Platform.

The Production Network is now completely Digitalized. The Music can be created with Physical or Digital Devices, but all kind of productions are Recorded with Digital Audio Workstations, Arranged, Mixed and Mastered with Music Editing Software and finally stored in a dematerialized Media Output Digital Format. The same process is valid also for Music Video Production and Music Graphics. In this first step of the Value Network PC is the core Platform and IT is Key Leadership Area. All Companies producing Hardware, Software, Instruments and other Devices play the role of Complementors. Recording Machines Manufacturing is no more the Key Leadership Area and with Sony out of the Computer Market and its CD reduced to a marginal role, Apple, with its IOS System and Mac, considered as the world best Computer and operative system for Graphics design, Music production and Video/Music editing, and Native Instruments with its Hardware, Software and Devices for Music Production/Editing can be considered as the Platform Leaders in the first step of the Value Network.

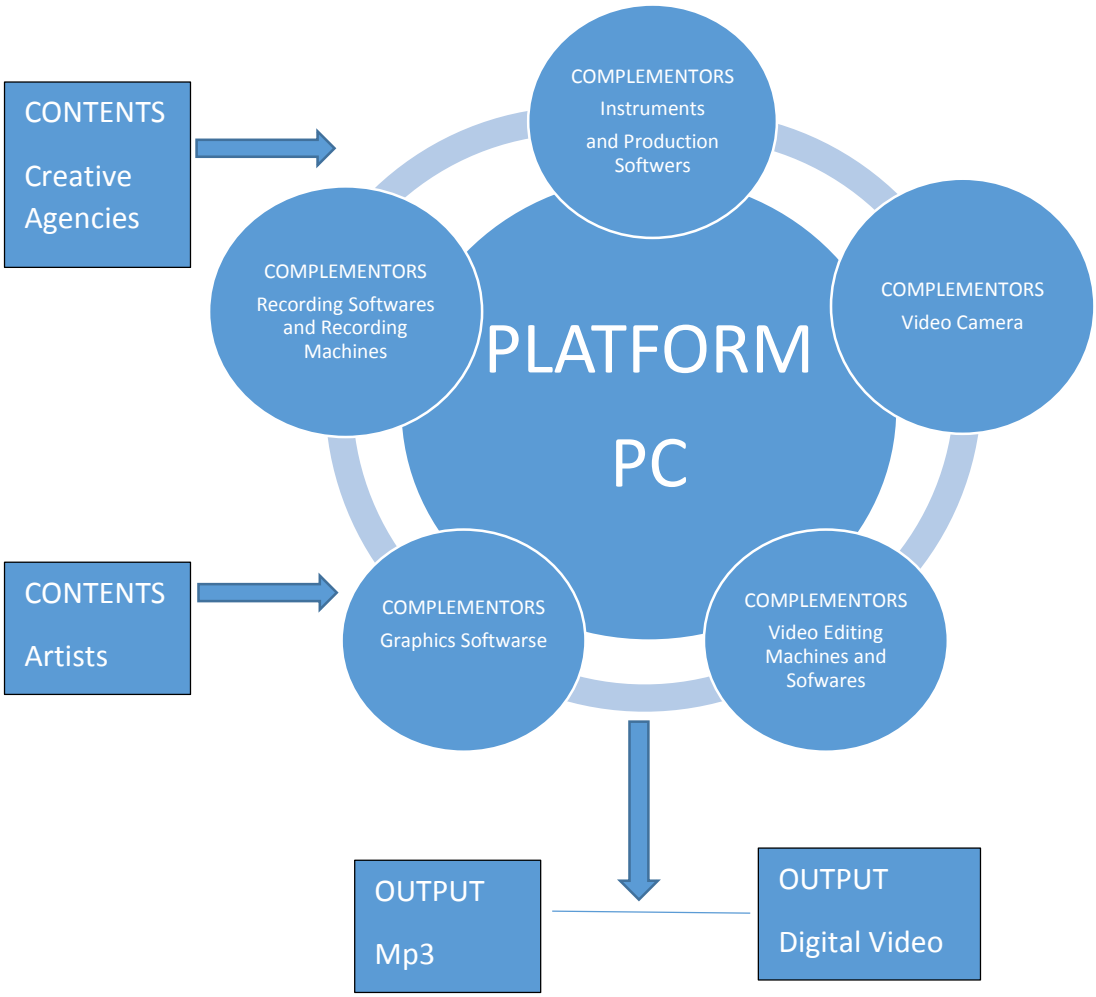


Fig.21: Digital Music Ecosystem Production Value Network

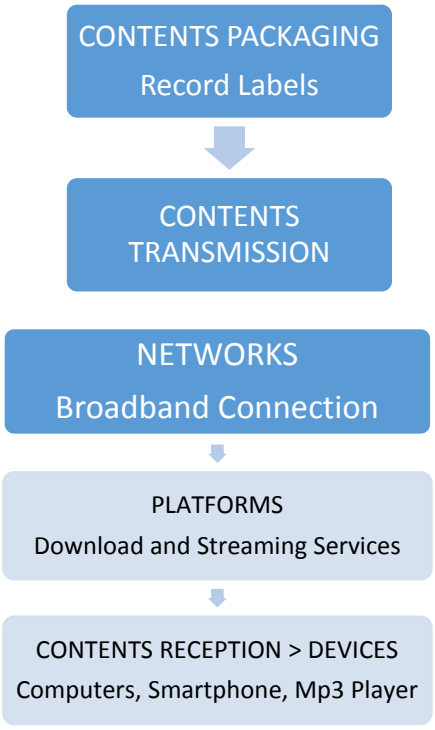


Fig.22 Intermediation and Consumption Value Network

In the **Intermediation Step of the Value Network**, with Record Labels out of Production and Consumption Steps, their core Strategic Business Unit of Contents Packaging should produce several Revenues in order to don't let these Colossus of Music think they are becoming a marginal player in their own Industry. But with an **overall Music Ecosystem** counting **97 billion $** and Global Music Sales down to **15 billion $,** this Step represents just the **15% of the total Music Ecosystem Value.**[19]

Operating in the Contents Packaging Process **Record Labels** have to face with Profitability problems such as Price Declining, Sales Dropping and Market's Power reduction. Physical Music Market was more profitable because it was characterized by higher Prices, and a higher Market Power: A physical Album average price in 2004 was $18 and it is now declined to $12[20], while a Digital Album price on iTunes is $9.99. Overall sales are declining and Physical sales reduced their share on total sales from 60% to 46% in one year.[21]
Digital Retail as addition is an oligopsony Market characterized by a higher Concentration rate, with Apple's iTunes controlling the 64% of the Market and getting a 30% fee on the final Price in comparison with the 15% of a physical Retailer.

The **Streaming Market** is concentrated too, with the leadership of colossus such as Vevo and Youtube for **Video Streaming**, Spotify and Apple Music for **Audio Streaming**. The ratio is always 70%-30% but Subscription Fee and advertising based business Models ensure Labels just a 0,0016$ per Stream. Streaming furthermore is overtaking Download and according to Nielsen Forecasts the pay Music Download will be dead in 2021. **What does this will imply for Majors, counting that a Paid Download accounts at least 140 times the revenue of an equivalent stream?**

To complete the disastrous context Emerging Artists, gaining always less as reflection, are starting to take the way of **Auto-Production** by using "Digital Aggregators", services allowing independent artists to sell their Music remaining 100% owner of potential Royalties, in change of a one-time Fee, alimenting a parallel Auto-Production Digital Music Ecosystem in which for the first time Artists doesn't need Record Labels and they can sell their Music Worldwide for an average Price of $25 per Song.

[19] Meta-data from McKinsey Global Media Report 2015 and IFPI Music Industry Report 2015
[20] RIAA
[21] IFPI Music Industry Report 2015

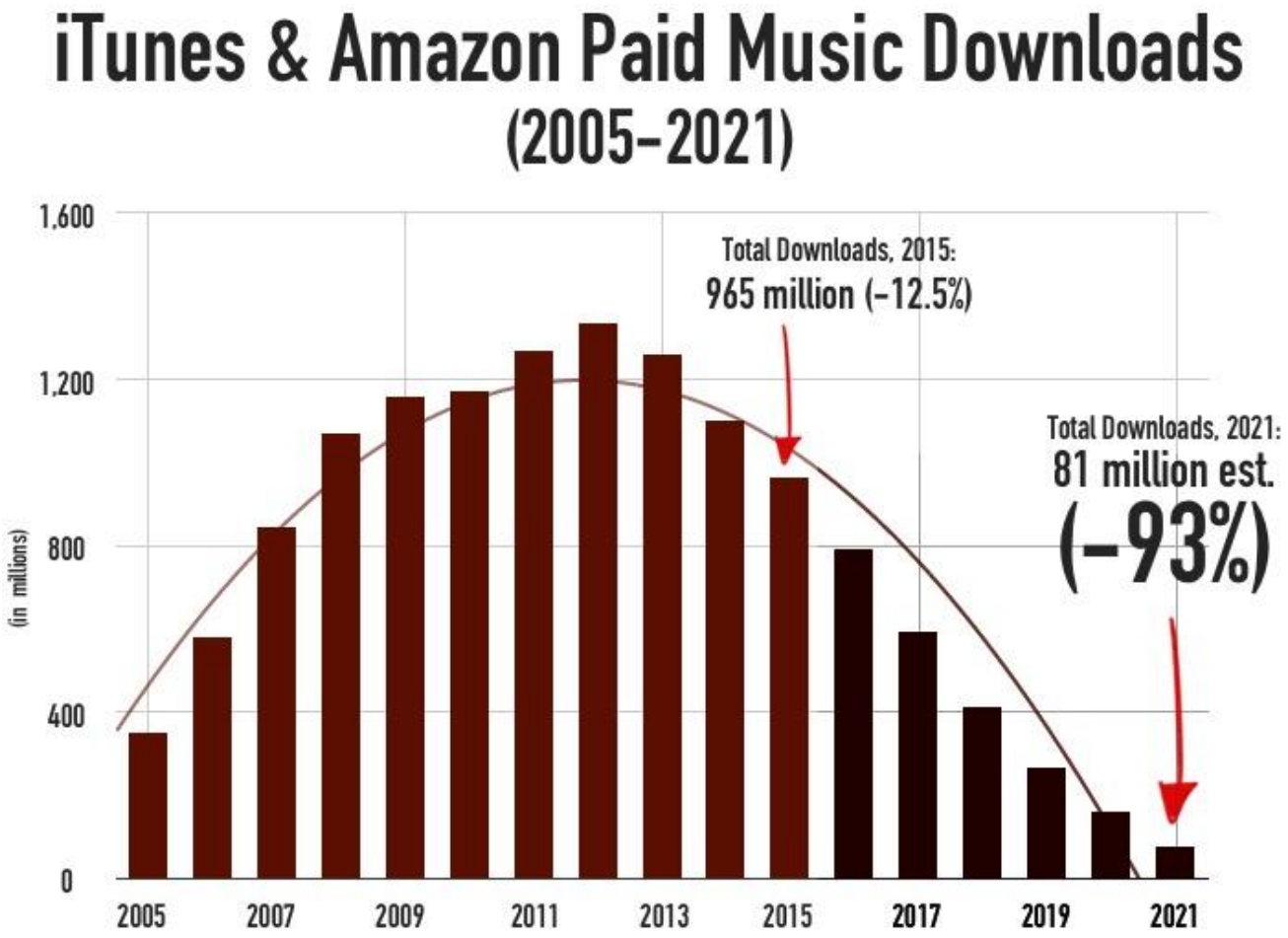


Fig.23: Music Download Decline Forecast – Nielsen

In our Ecosystem transformation analysis, we have always underlined the Demand fork in two different Segments: **Individual Consumption** and **Collective Consumption.** Well, while in the Individual Consumption Side Music Sales are dropping and the environmental scenario and forecast are catastrophic, in the Collective Consumption Market the situation is pretty different.

The Need for Possession is being overtaken by the Need for mere Consumption in several Industries, with the development of Sharing Economies and Collaborative Consumption and of phenomena such as Car Sharing and Couchsurfing. Neotribalism furthermore is encouraging Participation and Sharing Needs responsible for phenomena such as the Outbreak of immaterial Need for Shared Experiences, both online (Social Media) and offline (Events).[22]

In this context the Individual Consumption of Music Purchasing is being overtaken by the Collective Consumption of Live Music, with the **explosion of the Festival Market**.

[22] Bernard Cova and Michael Maffesoli are the main Theorists of Tribal Branding. The Connection between this theoretical concept and the phenomena produced is explained in P.Kotler's "Marketing 3.0"

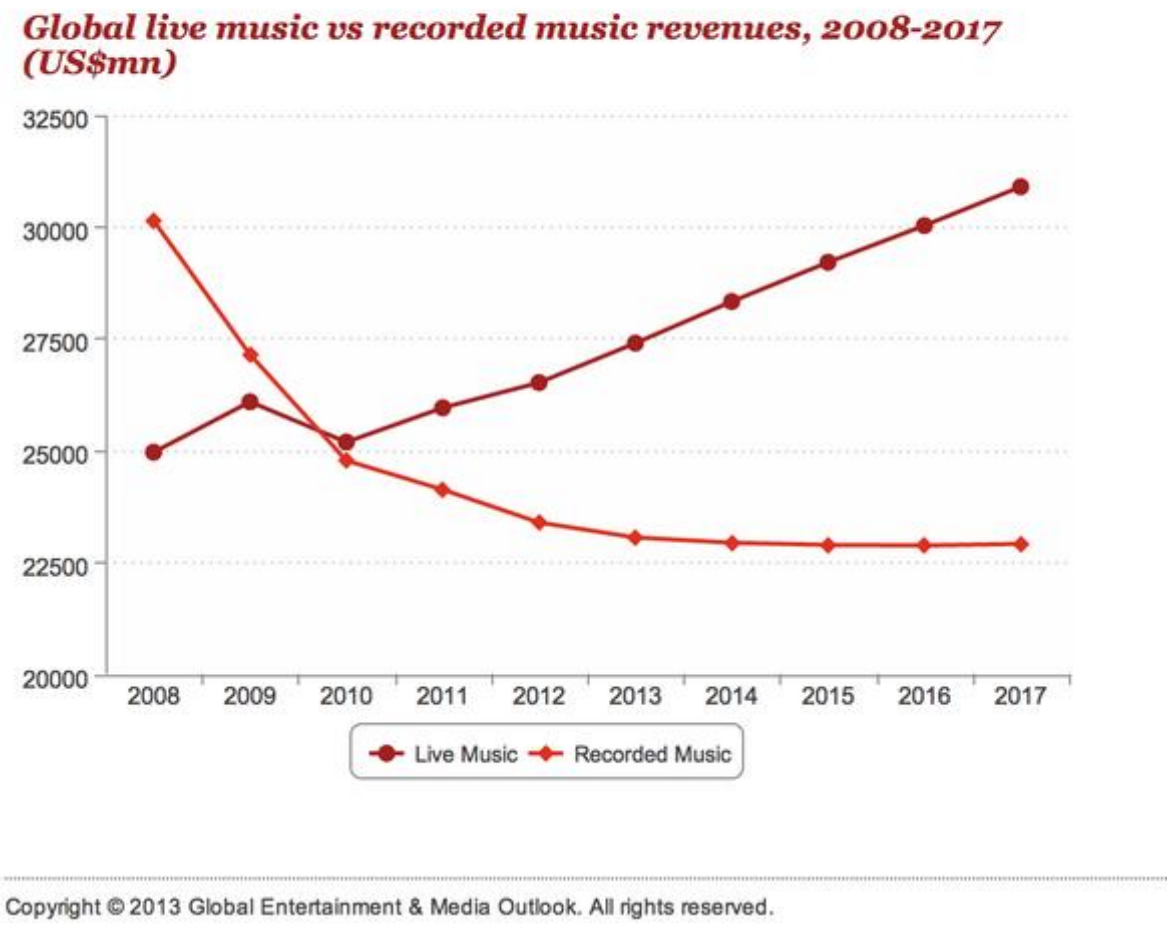


Fig.24 Global Entertainment and Media Outlook 2015-2019 – PWC.com

As we can see from the opposite trends in the figure above, while the Recorded Music Industry totalized approximatively $ 22,5 Billion in 2015, Counting $ 15 billion of Music Sales and more than 7 billion $ of Performing and Sync Rights, **Live Music** is now reaching a **turnover** of **$ 30 billion** and represents approximatively a 30% of the Total Music Ecosystem Value.
Live Music Turnover essentially doubled Recorded Music Sales and Forecasts estimate the gap is going to enlarge.

A market segment in particular is very interesting: **Electronic Music** Turnover reached **$ 7 Billion** in 2015 with a Share of the Total Music Industry Turnover overtaking the 7%. The **Electronic Live Music Turnover** is estimated around **$ 4 Billion,** counting more than 13% on the total Live Music Market. A Value comparable to the 26% of the Global Recorded Music Sales.

4: CONCLUSIONS

At the end of our Analysis we have identified the Music Digital Ecosystem Structure with its new dynamics seeing ICT Industry as a key Leadership Area of the Value Network and Companies such as Apple as Platform's Leaders of the Ecosystem.

As we explained in Chapter one, in order to define an Innovation Strategy and survive in a Business Ecosystem context, **Record Labels** have to ask themselves questions such as **in which step of the Value Network they should enter in order to extract a higher share of Value.**
Answering this question these companies also have to consider they have to choose a Value Network area in which they have the key functions and capabilities to compete.

By observing our analytical Process we can identify two Areas presenting these features: **Streaming Platforms** and **Events Organization.** This choice is primary motivated by the fact that these are two Profitable and high-grow Businesses. An entry Strategy in these Strategic Business Units, furthermore, it's a Diversification Strategy, but represents for Record Labels the natural Downstream Vertical Integration through the Intermediation Step of the Value Network in the Contents Transmission Market and through the Consumption Step in the Contents Fruition one.

An Entry Strategy in the Streaming Platforms Market, by Internal Development or by Acquisition, is comparable for Record Labels to what in the past was a Retailer Takeover, with the difference that the E-Music Commerce can enable the Platform Owner to distribute Music worldwide with one Platform. Streaming Platforms pay 70% of Revenues to Record Labels, and this amount represent the higher Cost for the Platform Owner, so it's easy to understand a Record Label could have a great **Cost Competitive Advantage** in running an own Platform and it could appropriate of the remaining 30% now in the hand of these ICT Companies. Record Labels furthermore have the legal power to negate their Catalogues to other Streaming Platforms and so they can put Entry Barriers into the Market. Majors are already moving toward this way choosing to differentiate the payment modality for their Catalogues in both Cash and Equity. The Big 3, Universal Music Group, Warner Music and Sony Music are estimated to own a total 20% in Spotify. Warner Music, the first Major to concede its Catalogue to Soundcloud received a 5% of the Companies Shares and Universal Music Group owned a 13% of Beats before the Apple Acquisition, gaining in this way a 400 million $ pay-out after the sale.

An Entry Strategy in the Events Organization Market instead gives Record Labels the possibility to enter back in the Music Consumption Step. If People Need for Music Possession is going down in favour of a new Need for Collective Music Fruition, Record Labels have to support the Demand and they have to switch toward this new kind of Consumption. A Record Label Company Mission is typically based on Packaging Contents in order to have a Final Product and delivery it to the Consumer, so if the Consumer is available to pay even $200 for a Collective Music Experience and just $ 9.99 for an individual Experience, Record Labels have to enter this Market.

Record Labels furthermore due to the Recorded Music Sales Drops are developing from years 360 Deals with Artists, including Artist Management, and so they can enter in the Event Organization Market with a **Cost Competitive Advantage** on the booking side. Other Advantages come from Diversification Synergies involving the joined use of same Marketing and Distribution channels.

Due to the fact that Music Sales and Events Tickets Sales for the same Artists are addressed to the same Target, Record Labels can use the same Marketing and Distribution Channels to reach the Costumer, taking advantage of Synergies exploitation and developing **Scope Economies**.

If Record Labels develop own Streaming Platforms for example they can create an integrated system to offer both a Streaming Service and a Ticket Sales Service in the same Platform. Events can be advertised to the Target Consumer while he is listening the same Music that will played Live, and a Banner can let him buy the Ticket with one Click, reaching the Target in the right Place at the right Time. Integrating in the Streaming Service News, “OUT NOW”, Events Update and Aftermovies they also can increase Consumer Loyalty.

Majors finally can enhance their **Differentiation Strategy** by taking advantage of **Brand Extension**. Events represents a Differentiation tool that enhance the **Emotional Brand Attachment** producing both a Direct and Indirect **Brand Leverage Effect**: By using the same Brand for Events and for Music Sale, the Event become an experience that positively influence Music Sales and Music Sales Boost Ticket Sales.

As we can understand from the analysis above, there are several Synergies between Record Labels Core Activity and Streaming Platforms management, between Record Label Core Activity and Events Organization and finally between Streaming Platforms Management and Events Organization.

So by taking a **Blue Ocean Strategy** point of view a Record Label should consider an Entry Strategy in both these Markets, because this Strategic Decision could produce Cost Advantages, Differentiation Advantages and Revenue Streams diversification simultaneously.

BIBLIOGRAPHY

- “The third wave”, Alvin Toffler
- Yoo, Y. et al. (2010) “The new organizing logic of digital innovation”
- “Marketing 3.0”, P. Kotler, Kartajaya Hermawan, Setiawan Iwan. Il Sole 24 ore libri
- “The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems”, James F. Moore
- Moore, James F. (1993). "Predators and prey: A new ecology of competition". Harvard Business Review (May/June)
- Moore, James F. (2006). "Business ecosystems and the view from the firm" . The Antitrust Bulletin
- “Convergenza: Nuove traiettorie per la competizione”, Valdani, Ancarani, Castaldo. Egea
- Journal of Business Strategy, “Welcome to World 2.0: the new digital ecosystem”, Fahri Karakas
- The International Journal of Arts Management, “The Disruptive Nature of Digitalization: The case of Recorded Music Industry”, Moreau
- The George Washington Law Review, “The Recorded Music Industry and the Emergence of Online Music Distribution”, Ericsson
- “Blue Ocean Strategy”, Kim, Mauborgne, Harvard Business Review Press, 2005
- “Strategia d’Impresa”, Course Material, P.Boccardelli (Luiss Guido Carli)
- McKinsey Global Media Report 2015
- “Assessing the Academic Literature Regarding the Impact of Media Piracy on Sales | Carnegie Mellon”, RIAA Study
- https://en.wikipedia.org/wiki/Electronic_musical_instrument
- https://en.wikipedia.org/wiki/Analog_recording
- https://en.wikipedia.org/wiki/Music_industry#cite_note-7
- http://www.sony.net/SonyInfo/CorporateInfo/History/sonyhistory-a.html
- http://www.taxi.com/music-business-faq/music-business/money-record-companies.html
- http://www.ifpi.org/how-record-labels-invest.php
- https://en.wikipedia.org/wiki/Personal_computer
- https://en.wikipedia.org/wiki/Digital_Revolution

- https://en.wikipedia.org/wiki/Digital_recording
- https://en.wikipedia.org/wiki/Compact_disc
- https://it.wikipedia.org/wiki/Computer_music
- https://en.wikipedia.org/wiki/Music_video
- https://en.wikipedia.org/wiki/History_of_the_World_Wide_Web
- https://en.wikipedia.org/wiki/MP3
- https://en.wikipedia.org/wiki/Gift_economy
- https://en.wikipedia.org/wiki/Peer-to-peer
- https://en.wikipedia.org/wiki/Napster
- "Copyright and Peer-To-Peer Music File Sharing: The Napster Case and the Argument Against Legislative Reform", Guy Douglas, Murdoch University Electronic Journal of Law
- https://en.wikipedia.org/wiki/Bertelsmann
- http://www.nytimes.com/2003/05/13/business/media/13MUSI.html
- https://en.wikipedia.org/wiki/Kazaa
- http://www.musicbusinessworldwide.com/global-record-industry-income-drops-below-15bn-for-first-time-in-history
- IFPI Music Industry Report 2015
- http://www.digitalmusicnews.com/2016/01/06/by-2021-itunes-music-downloads-will-be-dead/
- http://www.statista.com/statistics/248995/us-paid-music-download-market-distribution/
- PWC – Global Entertainment and Media Outlook 2015-2019
- IMS Business Report 2015