



Value Added by Retail  
Digital Entertainment  
Systems: An Economic &  
Environmental Analysis

August 2010

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# Value Added by Retail Digital Entertainment Systems: An Economic & Environmental Analysis

## August 2010

### 1.0 Introduction

MOD Systems approached Futuresource Consulting to produce an independent report focused on evaluating the potential benefits of digital over packaged media for the distribution of filmed entertainment at retail.

In this report we analyse whether digital distribution, including the use of digital kiosks, offers any cost benefits versus the use of the optical disc format.

We also assess the financial advantages and the benefits of in-store digital kiosks.

In addition to reviewing the potential cost benefits (both to content owners and retailers) we also examine the environmental advantages of digital, including in-store digital kiosks, over packaged media.

The information contained in this report includes data and insights from the Futuresource team of analysts. A number of well-documented green initiatives undertaken by the home entertainment industry over the last few years are also referenced.

Futuresource Consulting is a privately owned, independent, research-based consultancy organisation. The company works with all the Hollywood Studios, covering both their DVD/Blu-ray groups and their digital teams. The company specialises in knowledge-based consulting in all aspects of the entertainment supply chain - both physical and digital.

For more on Futuresource and its 23 year history please refer to the Appendix.

### 2.0 Executive Summary

DVD is now in decline and the growth of Blu-ray will not be sufficient to stem the market downturn. As a result, any growth in the market will come from digital. However, the concept is in its infancy with no one widespread model. Consequently, revenues are currently very low. In 2010, the home video industry is in a major transition period with business model experimentation an important feature of the next five years.

As revenues from packaged media have declined, there is increasing focus on improving efficiencies and reducing costs throughout the supply chain. For the studios, initiatives include shared deliveries, lower cost packaging and more cautious demand planning to minimize excess stock and returns. For the retailers, lower order volumes, faster stock turn and an increased focus on new releases at the expense of slower-moving catalogue are key trends.

#### **Bricks and Mortar Retail Still Dominates**

Bricks and mortar retail channels are still by far the primary source for home entertainment product. For both rental and sell-through, the consumer still places great value on the shopping experience and the ability to browse in-store for titles. Many consumers regularly state that they value the convenience of purchasing from a retail store.

Faced with the increasing adoption of digital delivery and the benefits this can deliver, retailers are evaluating how they can be part of this transition.

## Physical to Digital

While it is undoubtedly true that many people like to see and handle a DVD or Blu-ray when making a purchase decision, it is also the case that the costs associated with manufacturing and distribution and the challenges faced by retailers stocking physical product are increasingly under the microscope.

Substantial efforts are being made, with some success, to reduce the cost of manufacturing, packaging and transporting discs while also addressing the need to respond to environmental concerns.

Environmental issues are a growing concern for the packaged media sector. There have been several initiatives emanating from the major studios and from the leading retailers to reduce the carbon footprint in the supply chain. Improvements have been made by instigating greener practices in the replication and distribution processes as well as in the type of packaging used.

Nevertheless, there is a limit as to how far these initiatives can go and packaged media can never be entirely carbon neutral due to reliance on oil-based products at every stage of the supply chain.

From the retailer's perspective, shelf space is increasingly at a premium and we have seen significant issues in recent years around demand planning, meaning that that shelf space is not generating the best return. Alongside that, the normal day-to-day issues faced by all retailers of physical products - including shelf stocking, returns handling and minimising shrinkage - apply just as much to DVDs and Blu-ray disc (BD) sets.

Digital delivery - at home to a PC or out-and-about to mobile phones - is already part of many people's lives.

While the calculations around the carbon footprint of key parts of the digital delivery supply chain - for example data centres - are yet to be completed, there are clearly practical advantages to removing physical product from the supply chain.

Applying a new entertainment delivery model to existing retail environments, particularly one that offers to overcome many of the retailer's day-to-day problems, has the potential to transform consumers' entertainment purchasing and rental and provide better returns for the bricks and mortar retailers.

In-store digital delivery provides the opportunity for retailers to be part of, and to benefit from, the move to digital, rather than watching from the sidelines as the majority currently do.

### **In-Store Digital Kiosks - A Good Move?**

In-store digital kiosks allow traditional home video retailers to continue to generate revenues from home video in-store while reducing shelf space and inventory costs. They will also enable non-traditional retailers to add home video to their offering.

Consumers will find a more flexible purchasing/renting experience and a far wider range of titles from which to choose, increasing the likelihood of satisfied customers and increased revenues for the retailer.

Using digital kiosks, consumers can be offered no-return rental services, enabling retailers to participate in the large and dynamic rental sector without the issues associated with physical product.

For retailers wanting to remain in or expand their home entertainment business, or those that may be looking to enter this market, becoming part of the in-store digital delivery world has a great deal of merit.

Although there is a requirement for capital expenditure associated with digital kiosks there is literally no variable costs associated with this model (see analysis in section 10.1). Similarly, there is literally no carbon footprint associated with digital kiosks (at least at the store level). Both these factors are increasingly under the microscope by studios and retailers alike.

### 3.0 Market Overview & Future Outlook

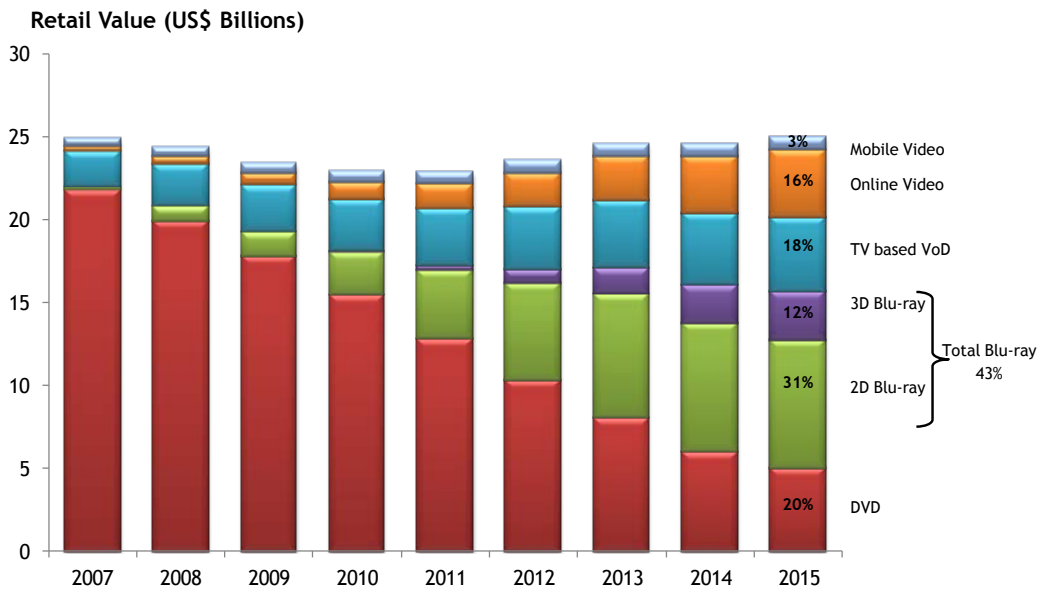
#### 3.1 Overall Video Performance

The DVD market is now in decline in both value and volume in most major markets worldwide. In the USA, the DVD market value declined by 11% in 2009.

Blu-ray is beginning to gain traction but growth in the new format will not be enough to compensate for the decline in DVD. Any growth in the home entertainment industry will need to come from digital content distribution.

At present revenues from digital are at a low level. In 2009, revenues from online video reached an estimated \$700m; only 3% of total US home video revenues.

### Total Home Video Outlook: USA

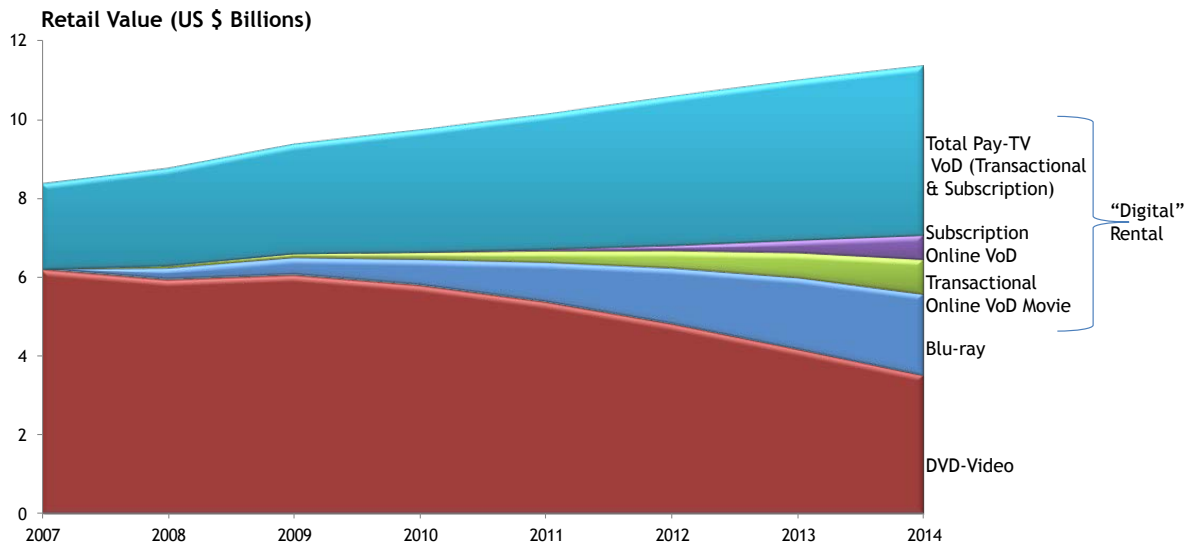


% = share of revenues by 2015  
 DVD & Blu-ray includes sell-through & rental

#### 3.2 Importance of Rental

The USA has always been a traditionally strong rental market both in terms of packaged media as well as digital delivery.

### Total Rental Market Development: USA



During 2009 total rental revenues across all platforms increased by 7% to reach \$9.4 billion. Revenues in the rental sector are expected to continue to increase during the next five years reaching \$11.3 billion by 2014.

Total USA Rental Market Development \$ Billions							
	2008	2009	2010	2011	2012	2013	2014
<b>Packaged Rental Total</b>	<b>6200</b>	<b>6460</b>	<b>6,415</b>	<b>6,340</b>	<b>6,200</b>	<b>5,960</b>	<b>5,550</b>
<i>Growth rate</i>	0%	4%	-1%	-1%	-2%	-4%	-7%
<b>Transactional Online VoD Movie: Total (SD&amp;HD)</b>	<b>75</b>	<b>119</b>	<b>194</b>	<b>303</b>	<b>448</b>	<b>638</b>	<b>880</b>
<i>Growth rate</i>	279%	57%	63%	56%	48%	42%	38%
<b>Subscription Online Video</b>	<b>8</b>	<b>11</b>	<b>22</b>	<b>60</b>	<b>152</b>	<b>333</b>	<b>627</b>
<i>Growth rate</i>	28%	46%	94%	174%	155%	119%	88%
<b>Total Pay TV VoD (Transactional &amp; Subscription)</b>	<b>2479</b>	<b>2782</b>	<b>3100</b>	<b>3422</b>	<b>3773</b>	<b>4055</b>	<b>4291</b>
<i>Growth rate</i>	14%	12%	11%	10%	10%	7%	6%
<b>Total Rental Above (Inc Subscription)</b>	<b>8762</b>	<b>9372</b>	<b>9,731</b>	<b>10,125</b>	<b>10,573</b>	<b>10,986</b>	<b>11,348</b>
<i>Growth rate</i>	5%	7%	4%	4%	4%	4%	3%

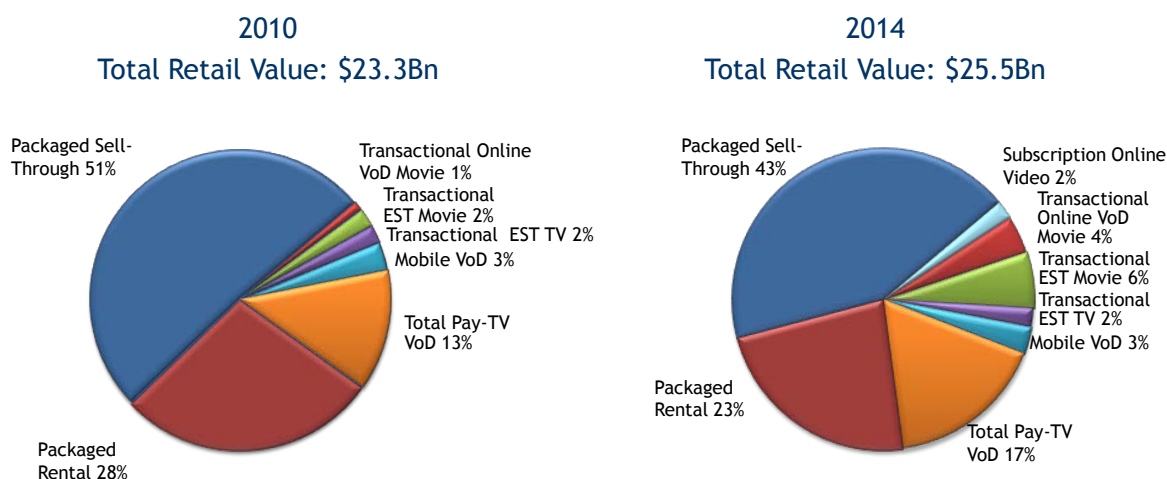
Looking ahead, digitally delivered content, including Pay TV, is expected to assume greater importance accounting for 51% of total rental revenue by 2014 compared to 34% in 2010.

Packaged media revenues are forecast to decline from 2010.

Looking at the overall US home video market the rental sector is expected to represent 42% of total revenues this year.

Clearly the rental sector is in a challenging position as the retailer landscape is changing and the industry is adopting new business models to maintain the market and drive growth moving forwards.

## Home Video Market Value By Segment: USA



Consumer behaviour is increasingly orientated towards convenience and value and, as a result, business models such as postal rental and DVD vending kiosks (such as those from Blockbuster Express and Redbox) have found favour. In addition, MovieQ is also attempting to establish an automated store kiosk concept based on packaged media. It is clear that the traditional brick and mortar renter sector is in decline, with an increasing number of chains in difficulty or closing down; most notably Hollywood Video/Movie Gallery liquidating and Blockbuster being delisted.

There is a strong opportunity for a digital kiosk solution, such as that from MOD Systems and its partner NCR Corporation, to broaden the number of locations where home video content can be rented. For example, this would allow Walmart to remain a destination store for home video with very little investment.

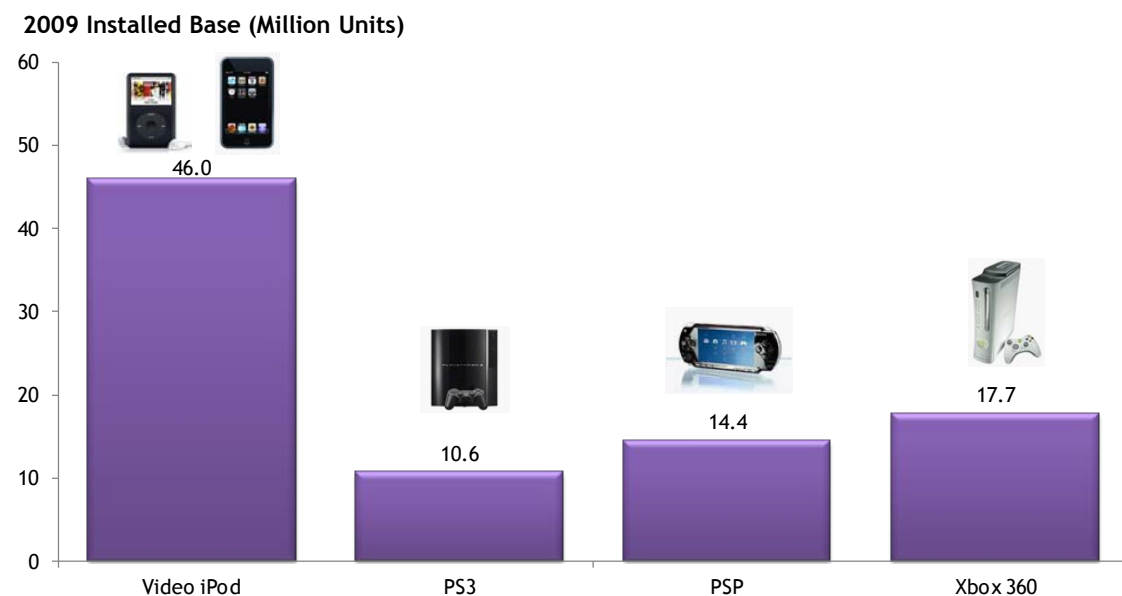
Looking ahead, the importance of rental across all platforms is expected to increase to account for 45% of retail values by 2014.

### 3.3 The Challenge for Digital

The value of online video, both rental and sell through is currently at a low level and is highly fragmented across a wide range of different services - all with slightly different business models.

The most successful online services to emerge to-date have been those launched by companies that already have a relationship of some sort with their consumers and also the supporting hardware - Apple, Microsoft and now Sony are having some success with selling and renting movies online via their connected hardware platforms.

## Large Hardware Base is Key to Online Video Market Uptake: USA



These aside, the types of services that have typified the digital distribution of content have shared four common features:

- Low levels of consumer awareness
- No other compelling reason to visit the website
- Poor content offering
- Clunky and difficult to use services.

A large proportion of consumers, particularly older purchasers, still prefer to buy content on a disc due to the preference for something tangible which justifies its price tag with the value add of packaging and booklets etc.

In addition, physical media remains a very popular gifting item, although iTunes vouchers are increasingly popular amongst younger consumers, retaining the notion of giving a physical item as a stepping stone to a digital file. The final benefit of packaged media is that in buying a CD or DVD the consumer is buying a “master” copy, which they may choose to transfer to their PC or portable device, regardless of the legality of doing so. Consequently, there is a perception that in buying a disc the consumer is buying a product that is more secure than a digital file which can be accidentally deleted or is vulnerable to a PC or MP3 player crashing or being impacted by a virus.

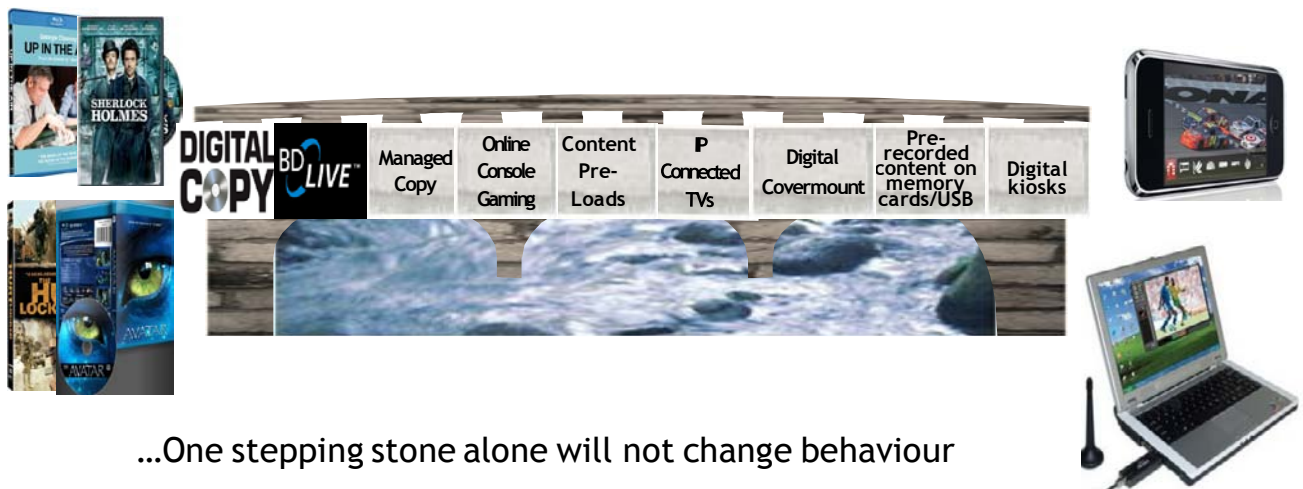
Further challenges to the consumer uptake of purchasing digital files are more technology-based. Deficiencies in the broadband infrastructure are a major obstacle. ISPs and Telcos are still to roll out high speed broadband in many areas both rural and urban and, in the case of the former, the return on investment may mean that they never do. Consequently, the time taken to download a file, particularly a feature film, may be too long and be a deterrent to the consumer. A further inhibiting factor is the setting by the ISPs of broadband usage caps which financially penalise the consumer for exceeding their monthly download limit. In addition, in home networking is still complex and challenging for many consumers.

Finally, there is the technological capability of the consumer to consider. A proportion of the population are not internet savvy, particularly older consumers, and the concept of downloading and viewing a digital file may be an alien one. In addition to this, connecting their TV to their PC is a black art for many; and a large proportion of consumers prefer to watch full length content on a TV screen rather than a laptop or mobile device. However, this is changing and many latest generation TV's and Blu-ray players have built in Ethernet or wireless capability via USB dongle which allows the consumer to access on-line content without connecting their TV to the internet via their PC.

A final element is consumer willingness to pay for content online at all! The perception for many consumers (particularly the young) is that online content should be free.

What the industry is increasingly looking for is a “digital bridge” to help migrate consumers from physical to digital. The bridge should help to educate consumers in the advantages of digital without expecting them to change their current purchasing behaviour.

## The Industry Needs A Physical/Digital Bridge



...One stepping stone alone will not change behaviour

### 3.3.1 The Concept of the “Digital Bridge”

One of the most successful digital bridges currently is digital copy which the studios are increasingly adding to Blu-ray discs and 2-disc special edition DVDs. However, from an economic and environmental point of view, digital copy is not an ideal solution. Many consumers have slow internet connections or broadband usage caps which create the need for a digital copy on a disc rather than download from an internet address. This means additional manufacturing costs and the use of oil-based products for the disc, packaging and inks in addition to the energy costs associated with producing the digital copy disc.

Packaging costs are higher due to the additional tray to house the bonus disc. This, in turn, increases the distribution cost per unit as it requires more fuel in the transport and, potentially, the returns stage.

IP connected TVs and Blu-ray players, which are beginning to offer online VoD movie services, could also help to transition consumers to bring digital content to the main entertainment screen in the home. Increasingly, TV manufacturers are incorporating IP connectivity into all of their mid and high-end sets. All of the major brands, including Samsung, Panasonic, Sony, LG and Philips are offering a variety of online content accessed directly via the TV, without the need for a Pay TV subscription. Content currently available ranges from You Tube and Facebook to Netflix, Amazon and RoxioNow- which are offering VoD movies online.

However, according to Futuresource research, the percentage of consumers who actually connect their TV to the internet is below 10%. Key factors limiting uptake of this method of viewing are, again, limited broadband speeds and the existence of broadband usage caps by ISPs. This is compounded by the lack of consumer knowledge as to how to connect their television to the internet and the complexity of doing so.

Another “digital bridge” is the in-store digital kiosk. The in-store kiosk differs from other bridging models as it allows consumers to experience the advantages of digital but in an environment in which they are used to paying for content i.e. the home entertainment department of their regular store or at an airport or train station.

In this report, we evaluate the financial and environmental advantages of the kiosk concept whereby consumers can download movies in-store. Digital kiosks can support both sell-through and rental, although Futuresource believes that the rental model will prove most popular.

### 3.4 The In-store Kiosk Concept

The concept of an in-store kiosk for home entertainment products has been around for some time, although the focus has been on physical media as opposed to digital e.g. CD Burning kiosks and the Blockbuster Express and Redbox home video rental kiosks.

Although CD burning kiosks failed, the Blockbuster Express and Redbox kiosks have been successful. The concept of locating video rental kiosks in places that are convenient for consumers is a winning strategy and is helping pave the way for the digital kiosks of the future.

Most notably, Redbox has succeeded in creating new rental avenues, stretching beyond the traditional “rentailers”. Redbox has undoubtedly helped to keep the rental concept strong in the face of industry rationalisation.

The benefit to the consumer is that placing kiosks in retail locations not traditionally associated with home video rental fits more closely with “everyday” consumer lifestyle and removes the need for a dedicated visit to a traditional video rental store.

The benefit for the retailer of in-store kiosks is that a supermarket or convenience store becomes a destination store for home video content without the need to handle stock. Consequently, it becomes a driver of store traffic, presenting the consumer with the opportunity to buy a wider range of products than if they were renting from a dedicated rental outlet.

Both physical and digital kiosks allow retailers to maintain a video offering without the investment in inventory, and the responsibility for keeping the kiosk stocked and replenished lies with the kiosk company not the retailer.

The in-store kiosk has been attempted before on several occasions, most notably with CD burning kiosks. In-store burning had several disadvantages compared to the pre-recorded DVD kiosk concept.

Firstly, the time taken to burn a disc was considered to be too long and therefore a deterrent, even if the consumer had another reason to visit the store. In addition, there was a requirement for retailer involvement in maintaining the machine, keeping it stocked with blank discs and offering technical support. Furthermore, the need for a secure server placed limitations on the siting of burning kiosks compared to DVD kiosks. This may also be an issue to some extent with the new breed of in-store kiosks offering digital content.

A key benefit of the success of Redbox is that it has “seeded the market” and helped educate the consumer in the concept of using a self-service kiosk to access home video content. Together with the bonus of convenient locations, beyond the traditional rental stores, this is something that other companies like MOD Systems and partner NCR Corporation can build upon with its own kiosk offering.

Home Video Kiosks in Markets Around the World Are Increasingly Becoming Digital					
	Fully Automated	Sell Through	Rental	Physical	Digital
Guppy Fish* (Bonver Entertainment)	No	Yes	Yes	✓	✗
Pop Entertainment (Sony Pictures & NBC Universal JV)	Yes	Yes	No	✓	✓
The Movie Booth**	Yes	No	Yes	✓	✗
Redbox (Coinstar)	Yes	No	Yes	✓	✗
Blockbuster Express (NCR)	Yes	No	Yes	✓	✓
Download2Go (MOD Systems and NCR)	Yes	Yes	Yes	✗	✓
MBL***	Yes	Yes	Yes	✓	✓

#### Footnotes

\*Guppy Fish has been developed by leading Swedish home video distributor Bonver. It is a solution targeting non traditional retailers for rental and sell through of packaged media. Its in-store terminals allow customers to browse and purchase titles which are collected from the cashier. The Guppy Fish system is an on-line system which allows for VMI replenishment for the retailer and for the consumer to connect from home and make title selections for an in-store pick up. Guppy Fish has over 500 installations in Scandinavia.

\*\*Movie Booth is a UK based operation. It launched a packaged media kiosk solution during 2008 with initial installations made in the Republic of Ireland and more recently the UK. Movie Booth is a rental solution. It targets non-traditional outlets including supermarkets, convenience and liquor stores. The Movie Booth kiosk has a footprint of 0.5 m<sup>2</sup> and has a storage capacity of 621 DVD's. It is evaluating adding the capability to download content to USB connected devices.

\*\*\*MBL is a multi-channel distributor of home entertainment products predominantly in the UK - delivering physical and digital content in-store, online and digitally. The company owns and operates the 'Digital Vault' - a database which holds and distributes a wide range of digital entertainment content. It is also leading the way in the development of broadband-enabled, touch-screen kiosks which retail digital and physical content on-demand to consumers in stores, airports and the like. Physical content is delivered direct to home, and digital content can be downloaded immediately to a range of mobile devices.

The tremendous advantage of the digital in-store kiosk is that the volume of titles that can be stocked is significantly higher than a kiosk based on packaged media. With thousands more titles always in stock, the potential revenue opportunities are far greater than for kiosks based on DVD.

## 4.0 Overview of Physical Versus Digital Costs

As the home video market gradually transitions to digital there will be a radical change in cost structures throughout the supply chain. It is obvious that when data centres replace physical warehouses and bandwidth replaces trucks the costs incurred in getting content to market will completely change.

More importantly, the dynamics of economies of scale will be turned on their heads in the digital world. Although there are clearly some cost advantages associated with high-volume DVD/Blu-ray sales (e.g. lower replication and packaging costs for high-volume orders), these are nothing compared to the economies of scale that can be achieved in the digital world.

However, considerable upfront investment is required in this new digital delivery world. Digital stores selling online video need to be built from scratch. To-date, it has only been companies such as Apple and Microsoft that have invested enough to deliver a compelling consumer experience.

Many companies that have tried to enter this space have failed as a result of high investment costs (and high ongoing fixed costs) coupled with low sales volumes.

In this period of transition from physical to digital, it is only the content owners that are making money from digital.

Looking ahead to the digital kiosk, this will allow the traditional retailer to also generate revenue from the digital world along with increasing store traffic and generating “add on” product sales.

## 5.0 Overview of the Key Elements That Drive Cost In the Supply Chain

As with any manufactured product, the efficiency of the packaged media model for video distribution depends on the effective matching of supply and demand.

In the US market, 900 million DVDs and 45 million Blu-ray discs were sold in 2009. However, an estimated 1.4 billion DVDs and 126 million Blu-ray discs were actually manufactured.

The difference between the manufactured volumes and consumer retail sales results from a number of factors, not least the need for multiple discs per title. The industry has been impacted by poor demand planning/forecasting which has resulted in high levels of returns and inventory build.

In this section, we highlight the key elements that incur costs throughout the packaged media supply chain.

### Authoring & Compression

The cost of authoring and compression based on a new release DVD with digital copy and with subtitles/one additional language is estimated at around \$10,000. This equates to an average cost per disc of less than \$0.01 (one cent) based on an average volume of 2 million units for a new release AA title.

### Transfer of Content Master to Replicator

Content transfer is predominantly undertaken via use of a highly secure file transfer protocol system such as WAM!Net or Aspera, which allow rapid delivery of content directly to the replicator or between facilities. Costs are estimated to range between \$250 and \$300 per title.

### Replication

DVD replication prices continue to decline year-on-year. Historically fuelled in part by increasing disc volumes, with the DVD market now in decline, price pressure is driven increasingly by competition within the industry.

Pressure remains on replicator margins as the cost of polycarbonate increases; in most cases replicators are unable to pass this increase on to their customers.

The major studios operate on a contract price achieved as part of long-term manufacturing deal with regular reviews.

The deal will have been partially volume-based, although studios may also look to offset the replication cost against the cost of other services, e.g. distribution, in order to obtain a lower replication price.

The replication price may also be impacted by the complexity of orders, the number of SKUs, the level of plant security and process reporting required, additional services provided and call-offs of multiple short, fast-turn runs.

### Mastering

Mastering is an essential service but is not always charged as it is often offered free of charge for orders above 1500 or 2000 units.

This includes the cost of the glass master, the “mothers” and the stampers that are needed for the injection moulding process

Two stampers are needed per DVD9 disc and several stamper sets are required for each new release as multiple production lines will be used.

The glass master is recycled during the process being cleaned and reused for other titles.

Typically, one stamper will replicate up to 30,000 substrates (half discs) before a loss of quality occurs. Consequently, there is a requirement for replacement stampers for the production of large selling titles.

### **Packaging**

Packaging costs for sell through product have fallen in recent years, due in part to the adoption of more environmentally friendly Amaray-styled DVD cases and moves away from expensive card-based alternatives. Use of shrinkwrap and coverwrap remain key components of the finished product.

There are some optional cost elements which are marketing driven rather than being operational necessities e.g. use of an “O” ring or inserts, which are viewed as wasteful as they are often thrown away by the consumer. Nevertheless, this can add significantly to the packaging.

The cost of inserts is variable, as the number of pages per title differs between studios and between releases. The use of multiple inserts can add significant cost.

Packaging costs for rental can differ. Rental product distributed to the major rentailers is shipped on the spindle, with only the coverwrap included, and the rentailer buys in the Amaray-style boxes and packs the product in-house.

However, product delivered to smaller rental chains is often shipped in an Amaray-style case with coverwrap, but minus an “O” ring and shrinkwrap, resulting in marginally lower packaging costs than for a sell-through title.

### **Supply Chain and Product Placement**

Warehousing and distribution costs vary depending on whether product is being delivered direct to store or to a retailer distribution centre (DC).

Pick, pack and ship direct to store is more costly as it involves more touches by the distributor in the preparation of store-specific orders and the use of small parcel delivery which pushes freight costs upwards. Both Walmart and Best Buy require direct-to-store delivery.

In comparison, delivery to retailer DC is a lower cost option, as delivery is in the form of a large consolidated shipment to a limited number of locations. The cost of assembling store-specific deliveries and the onward shipping costs become the responsibility of the retailer in this model.

In this example, the retailer is able to enjoy some cost benefits on the shipment charges as the DVD deliveries are shipped alongside many other products bound for the same store.

There is a desire from the content community for shared box delivery between home video companies and other home entertainment groups. This would reduce the costs of freight, in particular fuel costs, as fewer boxes would be shipped. However, many retailer IT systems are not geared up for the receipt of multiple POs from a variety of vendors in one box.

### **Retail Costs**

The costs associated with getting product onto the shelves at retail vary considerably between retailers and this cost is being increasingly pushed back to the home video companies. Merchandiser costs, racking, POS materials and placements costs have all increased for the studios.

Despite initiatives such as Walmart’s clean aisle policy, the reduction in POS materials has not significantly impacted overall in-store costs. Although this report does not cover trends in marketing spend, it is noteworthy that the percentage of spend allocated to trade marketing has significantly increased over the last 24 months, at the expense of above-the-line campaigns.

### **Returns Management**

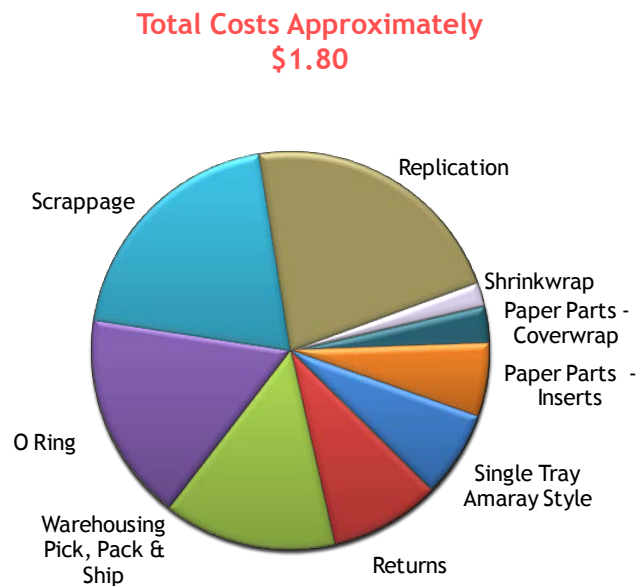
Returns handling by the major retailers such as Walmart is a centralised collection and sorting process, with the retailer shipping returns back from its stores to its own DC’s where they are sorted according to studio prior to being returned into the supply chain.

Typically, rental product is not returned as it cannot be refurbished and redistributed. The only possible exceptions may be product which has not been rented, although this is thought to represent minimal quantities.

With high inventory levels, almost all of the major studios have begun to destroy surplus product.

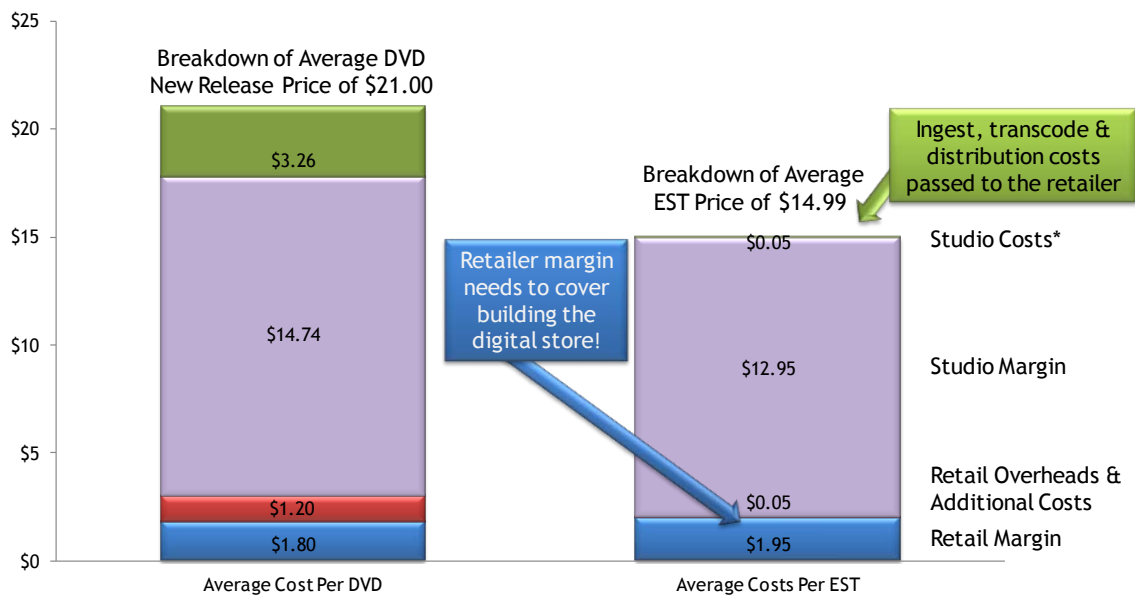
The total cost of replication and distribution, factoring in the aforementioned elements, is estimated at close to \$1.80 per unit.

## Disc Replication & Distribution Cost Breakdown



### 6.0 Drill Down Into the Costs - Digital

## Digital Costs Are Low Compared to DVD but Not Directly Comparable



\* Includes: Placement costs, replication & distribution costs & marketing costs. Analysis based on 2 million purchases

## Summary of Digital Costs

<b>Content licensing:</b>	Occasional one-off license fee charged, - more usually wholesale price for EST (\$13-14 average SD) or revenue share for VoD (70%/30% split in favour of the studio new release average, 55%/45% catalogue).
<b>Ingest:</b>	Average Industry cost \$500
<b>Transcode:</b>	Average Industry cost \$300 SD (\$600 BD)
<b>Storage:</b>	\$25 per month per Movie (highest resolution)
<b>Distribution:</b>	
to DSP	\$250 per transaction (one off)
to Home	\$0.05 per consumer transaction

### Content Licensing

One cost which is sometimes present in the digital supply chain but not in the packaged media equivalent is that of licensing content (e.g. movies to Netflix).

Minimum guarantees (MGs) in the digital supply chain, which typically range from \$250,000 to \$1M per year (for all titles in the output deal), are having a major detrimental impact on the market. Many smaller service providers are not able to generate enough sales to reach threshold levels. Many services have gone out of business due to high MGs. This strategy has resulted in content owners generating revenues in-house but has held back the online video sector.

For an individual title, the licensing cost is typically in the range \$15k to \$40k per year. If sales do not reach these thresholds, the MG will be implemented.

Whereas Electronic Sell Through (EST) attracts a wholesale price, the VoD price is based on a revenue share deal (new release 70%:30% and catalogue 55%:45% in favour of the studio).

For digital retailers, the legal costs associated with drawing up digital rights deals can also be significant.

### Content Preparation - Ingest & Transcoding

Content preparation in the digital world involves ingest to create the highest possible resolution mezzanine file, which will include all metadata (containing information on certification, running time, cast, trailers etc). This file becomes the “transcode master” from which all other files are derived. The average per-title cost for ingestion/mezzanine file creation is \$500.

Studios differ quite considerably with regards to where this “transcode master” is stored (in-house or external secure vault). The practice for most content owners is to store a master and produce transcodes as and when required. However, this practice is likely to change due to security/environmental concerns over duplicating processes.

As the industry average transcode per (standard definition) movie is around \$300 (\$600 for high definition), it is currently considered more cost-effective to re-transcode as and when content is required, as opposed to storing previously transcoded files (which will frequently attract a storage fee).

### Storage & Distribution

Content companies vary in their storage strategies. Warner and Sony have in-house solutions and are most centralised, while other studios are significantly more decentralised, with mezzanine files often stored with different digital service providers in different countries with high levels of duplication.

Assuming one master mezzanine file is stored, costs are typically \$0.20-\$0.25 cents per gigabyte per month.

Assuming an uncompressed file format is used e.g. PRO RES, the file size would be on average 110 gigabytes i.e. \$22 to \$27.50 per month. The analysis in this report assumes a \$25 per month cost.

Distribution costs apply at various points within the digital supply chain; sometimes between the content owner and the “transcoding house” but always between the transcoding/post production house and the digital retailer. The home entertainment industry uses a number of secure networks include Aspera and WAM!NET (also Smartjog and Signiant).

Evaluating and calculating average prices for distribution is challenging, as the major companies in this sector operate very different business models.

As Aspera has the largest market share in this sector its business model is used to calculate an average. The Aspera model is based on purchase of a dedicated server. Thereafter, costs are based on a per-transaction basis, typically around 30 cents per file.

### **The Digital Store**

What is not included in this white paper is an evaluation of costs included in building/maintaining a digital store. To-date the digital video model is dominated by the significant investments made by iTunes and X-Box Live with many other services failing due to lack of investment (and sales!).

## **7.0 The In-Store Kiosk - Overview of the Cost Advantages**

As discussed in the Market Overview chapter, originally the concept of the in-store kiosk was focused on burning to disc. This model did not take off mostly due to cost, in store operational complexity, and the process time issues for burning the disc.

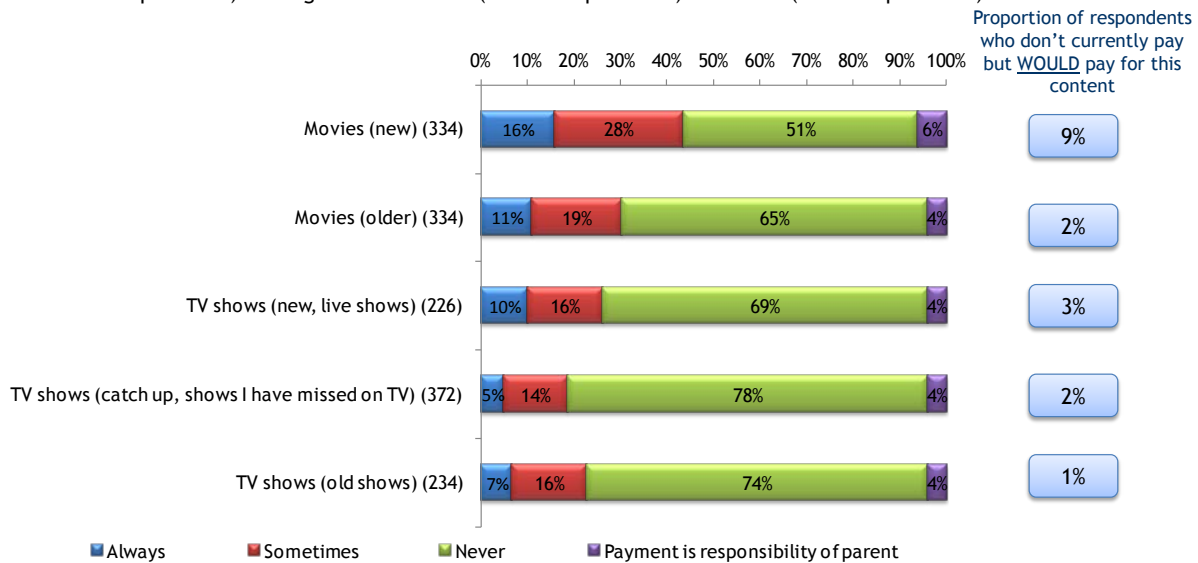
In-store kiosks today vary widely in their business models; some dispensing physical media, others offering digital downloads. It is only MOD Systems that utilizes a download to SD card or USB flash drive model. (See Section 11 for overview of MOD Systems Technology.)

It is Futuresource’s view that one of the major issues which has yet to be resolved in the digital world is getting consumers to pay for content. The digital kiosk could play a significant part in offering digital content in an ‘out-of-home’ environment where consumers are used to paying e.g. retail stores, train stations and airports. The “in-home” digital model is battling to overcome the consumer perception that content online is free. It is a battle that the music industry has lost.

Findings from the last 2 waves of Futuresource’s consumer research tracker “Living with Digital” have highlighted that the propensity for the consumer to pay for content online has declined over the last 6 months.

# Consumer Receptiveness To Paying For Online Content

- 44% of USA based respondents pay for online content, higher than in France or the UK, only Germany with 52% of respondents was higher.
- 26% of USA based respondents pay for new TV shows that they watch online, again lower than Germany (41% of respondents) but higher than France (23% of respondents) or the UK (1% of respondents).



Q - Do you ever pay for this streamed or downloaded online content?

In-store kiosks (as opposed to vending machines often positioned outside of stores) are good footfall generators. As well as generating sales or rentals of home entertainment they are a good means of driving traffic into stores. Feedback from retailers in both the UK and Scandinavia suggests that kiosks in-store increase sales of ancillary products and are of particular interest to the convenience/small grocery sector.

Most kiosks in the market today are focusing primarily on the dispensing of physical product. The business model for this (principally Redbox and Blockbuster Express in the USA) is centred on offering a small selection of rental titles at low prices. The size of the kiosks typically allows for up to 600 DVDs to be stocked, encompassing up to 200 top titles. Although all kiosks are “connected” to allow for intelligent replenishment, the kiosks need to be manually restocked and maintained.

Although limited in their offering, rental DVD kiosks are popular in the USA. In 2010 Redbox has an estimated 25% share of the video rental market. However, the limited range and stock of titles, the need to return product back to the kiosk, the late fees that mount daily, and the requirement to wait for 28 days after most titles are made available in bricks and mortar rental stores has not made the business model an ideal one for the consumer.

The digital kiosk is able to offer thousands of titles (that never go out of stock and need not be returned) rather than hundreds, is able to support rental and sell through and, in time, will be able to offer not just video but music, games and books. The business models for digital kiosks currently vary. For example MBL in the UK is about to launch its kiosks that offer physical as well as digital content. Consumers will connect up their devices direct to the MBL kiosks to download the digital content they have purchased.

MOD Systems and NCR kiosks on the other hand deliver video to a consumer’s SD card or USB flash drive, which can then be played back on a variety of devices.

As retailers begin to question the economics of home video shelf space (particularly for catalogue titles), the concept of the digital kiosk becomes more appealing. The challenges of forecasting inventory levels for DVD and BD, handling and returning overstocks, managing out of stock issues and in-store shrink all disappear with the digital kiosk.

Although video shelf space has not been dramatically reduced in the USA, there has been a reduction in the space dedicated to DVD to allow Blu-ray to gain more prominence. This has led to the same title being promoted twice in-store (on DVD and on BD) resulting in an overall diminished range of titles stocked. In some cases, the mini majors are now struggling to get stocked in bricks and mortar stores at all!

There are a number of key economic advantages of utilising digital kiosks over stocking titles on disc.

For the studio, cost of replicating catalogue product, often on small run replenishment orders, will be reduced and with it the requirement for packaging, artwork and paper parts.

The use of digital kiosks for catalogue product will reduce the volume of packaged media sourced by the retailer, lowering inventory at both retailer (in-store and at DC) and in the supply chain.

Freight and handling costs, both inbound as well as outbound for returns, will be reduced. In addition, the volume of product running through the returns process will be lower. Those retailers operating their own returns sortation centres may be able to downsize this activity and reduce costs.

A notable benefit to the retailer is the range of titles that they will be able to carry in the digital kiosk; the retailer is able to stock slow-moving long-tail catalogue without tying up capital in inventory. Timely content can be available immediately, such as last night's episode of a popular television show. Also, smaller video publishers will no longer struggle to obtain space in-store.

In addition, the need to accurately forecast copy depth is eliminated and with it the issue of out of stocks and lost sales as the inventory requirement will be for a single digital file as opposed to multiple copies of a DVD or BD.

For the retailer, the process by which it acquires video content will alter and with it the role of the Home Video Buying team, which may allow for a reduction in head count and a cut in labour costs.

Using digital kiosks has the potential to reduce or remove several key elements of the transaction process between the studio and the retailer. These include: the need for price negotiations based on volume purchases, sale or return agreements, open-to-buy budgets, negotiations on shelf space allocation (and the cost this brings to the studio), the availability of discounts on slow-moving product and the use of individual studio purchase orders.

The MOD Systems model, which uses a secure transfer to an SD card, capitalises on the ever increasing use by consumers of devices with SD slots; from TVs to mobile phones.

It is expected that, if positioned in optimum locations, the industry can generate additional sales. A further benefit for retailers is the sale of peripheral items such as card readers, SD cards and home and portable media players.

The environmental advantages of moving to a digital kiosk model using SD cards are potentially quite considerable as both the DVD and its packaging are oil-based products with a clear environmental impact at every stage of the manufacturing and distribution process.

The advantages of SD over optical disc include:

- Small size
- Blank media widely available and inexpensive
- Can store multiple movies on a single card, with the right to move or copy them off of the card.
- Secure architecture using Content Protection for Recordable Media (CPRM)
- Increasing hardware support on a wide range of in-home and portable devices
- Fast load times compared to burning an optical disc
- Flexible re-use, providing the ability to retain or delete files at will (unlike CD-R/RW or DVD-R/RW)
- Environmentally friendly by comparison to optical disc

In-store kiosks are increasingly becoming digital, driven by the wide range of benefits that digital offers.

- Kiosks offer flexibility in location and are increasingly found in areas where consumers are in spending mode
- They provide the flexibility to offer sell-through and rental of video, music, games and books in new channels
- They provide scalability and flexibility for the retailer, through leasing and licensing arrangements, and eliminate the headaches associated with physical sales and rental: returns handling, stock management, shrinkage and disposal
- Finally, they provide virtually unlimited choice for the consumer, enabling the retailer to meet demand for mid-tail and long-tail content in a way that physical distribution could never hope to match.

## 8.0 Environmental Impact of the Packaged Media Home Video Industry.

The Home Video industry has taken steps to review and reduce its carbon footprint during the past 4 years, driven partly by corporate desire to make its product and its supply chain more environmentally friendly.

This has been driven also by parent company pressure e.g. Fox and News Corp or Sony Corporate and their desire to be carbon neutral in all divisions by 2050.

There are two key initiatives being employed by the home entertainment industry. Most notable is the DEG initiative in conjunction with Clear Carbon. In addition, some industry participants are following guidelines set out by the British Standards Institute - PAS 2050. To-date, only the DEG has published any metrics.

The retail community has also been proactive, notably Walmart, in implementing green supply chain procedures internally as well as requiring its suppliers to do so.

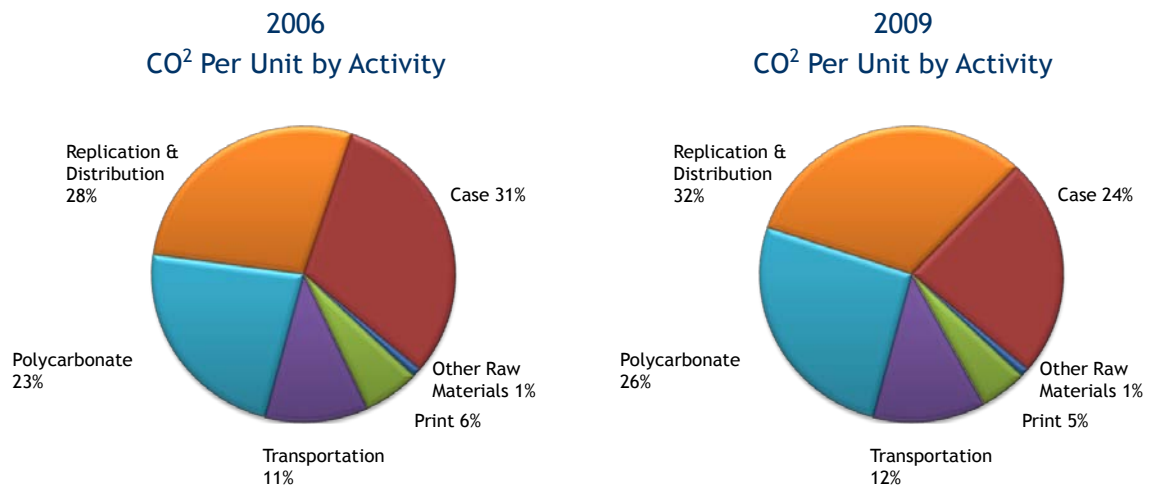
The carbon footprint of a single DVD in an Amaray-style case was reduced from 1.1 lbs in 2006 to 0.98 lbs by 2008 through the implementation of green practices (according to the results of research conducted by the DEG). Nevertheless, there remains some way to go in further reducing the carbon footprint. However, any further improvements that can be made are finite due to the nature of packaged media and, consequently, home video product cannot become truly carbon neutral unless carbon off-setting is factored in.

There is a difficulty for the studios in balancing green best practice against the desire to reduce costs and, consequently, some initiatives which may be environmentally beneficial may be rejected if judged to be too costly or have little or no return on investment. The DEG research evaluated the following elements of the supply chain:

- Packaging
- Replication and distribution
- Polycarbonate
- Transportation and Print
- Paper parts.

# DVD Carbon Footprint

- Carbon footprint of single DVD in 2006 was 1.1 lbs
- By 2008, reduced to 0.98 lbs



Source: DEG

## Packaging

Based on DEG research, the carbon footprint of an Amaray-style box was 0.34 lbs in 2006, equating to 31% of the total carbon footprint of the finished unit title. This had fallen to 0.24 lbs by 2008, representing 24% of the carbon footprint of a finished unit title.

Key actions in this area included a full review of their suppliers, assessing plant location and distance to replicator, the type of materials used, how they are transported to the box manufacturer and what type of power source the box supplier is using.

Most major replicators are gradually reducing their sourcing from suppliers in Asia in favour of purchasing boxes from vendors in North America. Where Asian suppliers are being used, sea transportation is favoured over airfreight.

The composition of the DVD box is an area of concern and increasingly studio preference is for lighter-weight Amaray-style cases, using up to 25% less polypropylene than a standard Amaray-style box.

This has the additional benefit of being lighter, thereby reducing freight costs and carbon footprint. Despite its lightness, there is no major reduction in the robustness of the box or its ability to be used with automated pack out lines.

The use of boxes made from reground polypropylene is also increasing. However, there are limitations to the use of reground boxes, with the colour being restricted to grey only, and there is a limited number of times that a box can be reground and recycled as a DVD case before the plastic deteriorates and becomes brittle.

Some box manufacturers are reluctant to produce reground boxes as they are wary of contaminating their own polypropylene supply with product from other suppliers.

A further measure has been the replacement of the polystyrene tray in multidisc Amaray style cases and replacing it with a polypropylene tray to reduce costs and carbon footprint.

Alternative forms of packaging have been considered e.g. the 7mm thin DVD case and cardboard-based solutions but these were generally considered to undermine the perceived value of the DVD by consumers.

In addition, when assessing the environmental benefits of using a cardboard-based alternative, they were found to have a higher carbon footprint than a polypropylene box.

Studios are looking to increase their use of “Ecolite” and reground boxes and also for box suppliers to make further reductions in the amount of polypropylene in a box without compromising quality.

### **Inks and Paper Parts**

There are moves to abandon traditional inks in favour of vegetable or soy-based inks which are considered to be more eco-friendly.

Use of paper parts including “O” Rings and inserts and coverwrap is under close scrutiny. “O”Rings are considered to be wasteful as consumers often throw them away. Some studios are also evaluating reducing or cutting out the number of inserts that they use.

Use of recycled paper carries a number of pros and cons. Typically, recycled paper is used for inserts as it is cheaper than “virgin” paper. But from an environmental point of view it has a high carbon footprint as a result of the large amount of energy that is required in the recycling process. In addition, it is a chemical intensive process as a result of the large amount of bleach required to whiten the paper.

Nevertheless, at least one major studio is aiming to have recycled paper represent 30% of its paper requirements.

In all cases the paper used for the coverwrap is “virgin” product.

All studios are taking steps to reduce the weight of the paper that they use from 170g to 150g which will have a benefit on freight costs.

### **Content Distribution/Delivery of Masters**

Increasingly the major studios are using secure file transfer systems such as WAM!NET or Aspera to transfer film masters to their replicators, as opposed to flying a DLT to the facility, as this has a lower carbon footprint.

### **Replication Process**

The strategy of replicators in the past to build large, remote manufacturing plants (often driven by the appeal of low labour costs and achieving major economies of scale) has, perversely, resulted in a high carbon footprint. However, local sourcing is not a viable option for the Hollywood Studios.

Based on the DEG research, the carbon footprint of the replication and distribution process, combined with the impact from polycarbonate, represented over 51% of a finished disc in 2006; equating to 0.56lbs. This had changed little by 2008.

Feedback from the replicators suggests that there are limitations as to measures that they can take to reduce the carbon footprint of the production process.

There is no leeway to reduce the amount of polycarbonate in the disc without impacting quality. Instead replicators are looking to encourage their polycarbonate suppliers to adopt green practices in terms of their distribution methods and their energy consumption and procurement.

Key for the replicators is energy consumption and, where possible, to move to using electricity from renewable sources. However, this is not always achievable and in these cases replicators often buy “green credits” instead. Green credits (also known as a Renewable Energy Certificate) can be bought by companies without access to renewable energy sources, allowing the company to offset non-renewable energy consumption. The money raised by the sale of certificates provides a subsidy to the production of renewable energy.

Initiatives to reduce energy consumption include insulating equipment that generates large amounts of heat, such as the injection moulding systems, to reducing the requirement for air conditioning.

Other solutions include replacing hydraulic injection moulding systems with more efficient electric systems, instigating a shut-down policy on idle equipment and using energy saving light bulbs.

In some cases, in the winter months, replicators use cold air from outside to cool their equipment.

Recycling of polycarbonate is key, and replicators will regrind sprus from the production process and any unused clear substrates for reuse in DVD production.

The major replicators are also working closely with third party recycling companies to ensure that polycarbonate from reject discs and discs designated for secure destruction is recycled responsibly.

Polycarbonate from rejects cannot be reused to produce discs as the optical purity is contaminated by aluminium from the metalizing process and inks and lacquers.

Fox has undertaken an audit of its DVD supply chain and results show that its replicator has been able to reduce its carbon emissions by 10%.

### Supply Chain

A number of initiatives that have been put in place to reduce the environmental impact of the distribution process: -

- Reducing energy consumption is key e.g. use of energy saving lighting in tandem with using dark areas in warehouses and motion sensor activated lighting.
- Reducing freight costs is a clear target and this can be achieved in a number of ways. To implement a shared box delivery system with multiple content holders and even multiple formats in one carton is the ultimate aim. However, this causes difficulties at retail where it necessitates investment in IT systems and goods-in processes.

The benefits of shared box delivery mean that fewer partially filled boxes are shipped, reducing freight costs and fuel consumption. Cost savings can be significant.

The distributors have reduced the use of airfreight in favour of road transport which has a lower carbon footprint.

The Fox study showed that between 2006 and 2008 its supply chain was able to reduce emissions by 20%.

Distribution to store is considered to have a higher carbon footprint than delivery of a consolidated shipment to a retailer DC, as a result of the need to assemble store-specific orders and the requirement for multiple small parcel deliveries.

Reductions have been made to the thickness of the cardboard in the delivery carton to reduce its weight. In addition, cartons are being re-used as often as possible for deliveries and returns before being recycled. At least one major retailer re-uses cardboard cartons from any product in the DVD returns process.

There are also moves to replace cardboard cartons with robust, lightweight plastic cartons.

There have been reductions in the amount of corrugate in FSDU's and POS displays to make them lighter. Increasingly, FSDU's are being preloaded at the DC to remove the need for an external merchandiser to visit the store.

Fox has undertaken research to replace its corrugate displays with wire and corrugate units and this was expected to result in a reduction in emissions of 20,000 tons over a three-year period.

Retailer attitudes to using FSDU's are changing, Walmart's clean aisle policy has led to the removal of displays from its stores. However, in comparison, there are indications that Best Buy may be increasing its use of display materials.

Recycling of damaged boxes and redundant displays as well as plastic used to shrinkwrap the product is being undertaken.

Steps have also been taken to reduce the road transport required for returns. For those retailers making direct returns, product is now often placed on the inbound delivery truck as opposed to requiring a dedicated returns pick up.

### Summary

The nature of the DVD format means that becoming truly carbon neutral is not possible without factoring in a program of carbon offsetting. There remain some improvements that the industry can make to reduce the carbon footprint further and the four key areas for attention are:

1. Reducing energy consumption and sourcing energy from renewable sources.
2. Efficient distribution processes utilising shared boxes, reduced number of deliveries, use of lighter delivery cartons.
3. Efficient and responsible recycling of polycarbonate, paper and card-based materials.
4. Use of locally sourced, lightweight, lower polypropylene Amaray-style cases or Eco-friendly alternatives.

## 9.0 Environmental Issues for Digital

Returning unsold inventory, which involves long journeys and high fuel costs, is no longer acceptable for the carbon footprint of the home entertainment industry. As a result, the percentage of returns that are scrapped is growing. Although mostly conducted in an environmentally friendly fashion, the high cost of scrapping discs is clearly not ideal economically.

In the digital world, the environmental considerations that impact the packaged media sector will not be such a significant factor, with the disadvantages of manufacturing and distribution using freight no longer applicable. Although no industry recognised metrics are yet available to measure the carbon footprint of digital (either in-home or in-store) the carbon footprint of digital is obviously much lower than that of packaged media.

Environmental Advantages of the Digital Supply Chain		
Processes Measured For Carbon Footprint*	Physical	Digital
Raw materials	✓	n/a
Manufacture	✓	n/a
Distribution/Retail	✓	✓
Consumer Use	?	?
Disposal/recycling	✓	n/a

\* Source: Carbon Trust, PAS 2050

While digital is greener than physical, it is not totally green and there are issues surrounding the measurement of its carbon footprint.

To-date, there has been no consistency in how the carbon footprint of the digital supply chain is measured. However, Q3 2010 is likely to see the introduction of certified industry data, providing the basis for meaningful comparisons between physical and digital solutions.

An added complexity in measuring the environmental impact of the digital supply chain is that models vary significantly. For example, for online websites data centres are an environmental issue. As remote servers need to support high number of users, a key element in the measurement of the online website model will be the measurement of servers and data centres. Data centres are major consumers of energy and as yet unquantified in terms of their carbon footprint in relation to video storage and distribution.

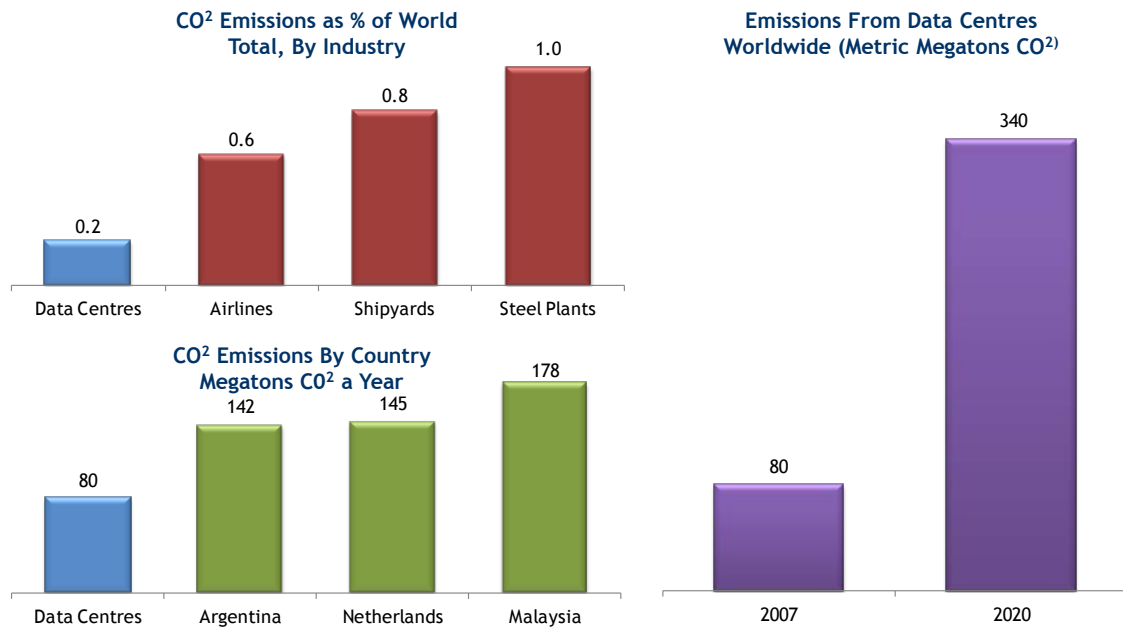
The IT industry is driving forward in the development of energy-efficient hardware and renewable energy sources are increasingly being used to power data centres. However, renewable energy is not widely found and it is likely that its availability will have a major impact on the future geographical location of new data centres.

“Green hosting” is becoming big business. Iceland and Canada, in particular, have been attracting major data centre investments. In the near term, the industry will be increasingly looking for partners using green energy rather than simply offsetting its carbon footprint via carbon credits.

However the distribution model is different in the case of the digital kiosk. Unlike the online website model, data centres will play much less of a role in the kiosk model. As content is stored on a small server in each store, the remote data centre impact will be negligible.

However, regardless of the model for digital distribution, the variable carbon footprint of a movie being delivered either via a kiosk or online is tiny when compared to packaged media.

## Data Centres' Have A Carbon Footprint Too!



Source Advanced Micro Devices; FT; Gartner; Stanford University; Uptime Institute; McKinsey Analysis

### 10.0 Comparing the Digital Kiosk Model vs. Traditional Packaged Media

When comparing the digital kiosk model against the traditional packaged media model, it is clear that both operate on very different cost bases.

Looking at the MOD Systems digital kiosk, there is an upfront investment required by the retailer in terms of hardware acquisition and software licensing fees, annual maintenance costs and a content delivery and catalogue management fee.

The hardware may be acquired on a lease-to-own arrangement to be paid off over three years. After this, assuming the retailer does not expand its number of kiosks, the cost base falls significantly.

In addition, a number of ongoing fixed costs are in place in the form of licensing fees for the software associated with the screens and the server itself, as well as a content delivery and catalogue management fee. Once the initial hardware costs have been paid off, the only ongoing costs that remain are the maintenance and licensing fees.

In the kiosk model, titles are only charged for once they have been sold. Although this model is being adopted by some studios in a packaged media world (often referred to as consignment stock or scan-based trading), the risks for the content owner in this approach are prohibitive. The digital kiosk model clearly has no such risks.

The physical market operates on a totally different cost structure, with some elements of the supply chain cost base being picked up by the retailer and some by the studio. Typically, the retailer purchases a DVD at around \$18 for a new release title or \$5-10 for a back-catalogue title. The major retailers, particularly the VMI accounts, typically operate on a 100% sale-or-return basis.

Retailers may seek to negotiate discounts for volume purchases or to keep product in-store for a longer period of time.

Distribution costs to the retailer are paid by the studio but the cost of returns is often borne by the retailer.

Retailers may also charge placement fees, typically around \$1.50 per unit, to provide studios with the best shelving locations, particularly for new release and campaign product.

None of these costs are present in the in-store digital kiosk model, making it an affordable concept when compared to packaged media, with the added benefit that shelf space can be reallocated to higher ticket items.

## 10.1 Comparing the Variable Costs

### 10.1.1 Variable Costs Analysis - The Costs of Adding A New Rental Title

#### Costs for the Rentailers

The following section reviews the costs involved for a rentailer to add a new rental title. It assumes that an average sized store will require 30 copies of a title. These are purchased at an average wholesale price of \$18 each, resulting in an expenditure of \$540.

In addition to the purchase price, rentailers also incur some additional costs for packaging, warehousing and distribution (titles are delivered on spindle to the major retailers and costs are incurred in-house in getting titles “ready to rent”). This cost is estimated at around \$1.20 per unit.

As a result total costs would therefore be \$576. If the title does not rent at all the cost is still \$576. However, the rentailer can recoup some of its outlay as the copies can be sold off, but the Rentailer Recovery Price, at around \$1.50 per copy, is fairly small in comparison to the initial purchase cost.

In comparison, if the owner of a digital kiosk wants to add a new rental title then there is no wholesale price and no copy depth requirement to consider. Fees are calculated on a revenue share basis; and, as a result, if the title does not rent then the rentailer does not incur any costs.

However if the title rents, for example, 120 times at a rental fee of \$4 then revenue generated would be \$480. Costs equating to 70% of each transaction are incurred by the retailer resulting in total costs of \$336 in this example.

#### Costs for the Studios

Looking at the traditional rental model from a studio perspective; if a rentailer purchased 30 copies of a title at \$18 then the revenue is \$540 to the studio. However, if the title rents well, there is no additional revenue for the studio (revenue share has all but disappeared in 2010).

The studio incurs the cost of manufacturing and distribution of the titles which is approximately \$0.65 per unit. Consequently, based on an order of 30 copies, the studio incurs costs of \$19.50.

In comparison, in the digital kiosk model, the studio receives 70% of all rental fees and incurs no variable costs. So if a title rents at a rate of 120 turns then the revenue to the studio is \$336. If the title over performs at double the level of turns then the revenue would be \$672. In the traditional DVD rental model the studio would not see any of this additional revenue.

### 10.1.2 Variable Costs Analysis - The Costs of Adding a New Release Sell-Through Title

#### Costs for the Retailers

Looking at sell-through, again it is assumed that an average sized store may require 30 copies of the title. These are purchased at an average wholesale price of \$18 per unit and total expenditure is \$540. If the title does not sell at all the cost is still \$540. Many retailers operate on a sale or return contract and returns levels are high. Returns handling is an environmental and economic challenge for retailers. Some retailers offer returns sorting services which may be charged back to the studio.

If the owner of a digital kiosk wants to add a new release sell-through title there is no upfront wholesale price.

The retailer will only pay the equivalent of a wholesale price of \$18 when a consumer makes a purchase.

The advantage of the digital kiosk is that there are no variable costs. In addition there is no risk for the retailer even if the title does not sell as there is no stock to purchase. Consequently there are no inventory management, replenishment or returns handling issues.

#### Costs for the Studios

In the traditional DVD sell through model if a retailer purchased 30 copies of a title at \$18 then the revenue is \$540 to the studio.

The studio incurs the costs of manufacturing and distribution which for 30 copies of a title is \$3.26 per disc (\$97.80). If titles are unsold then returns handling and refurbishment costs will be incurred by the studios.

However, in the digital kiosk model the studio incurs no variable costs. So if a title sells 30 copies in a digital kiosk then revenues will be \$540 with no variable costs at all.

Variable Cost Analysis		
	Retailer / Rentailer	Studio
<b>Rental</b>		
DVD	\$18 wholesale price per title, plus \$1.20 packaging, warehousing and distribution.	Est. \$0.65 costs per disc (manufacturing and distribution on spindle)
Digital Kiosk	\$0	\$0
<b>Sell Through</b>		
DVD	\$18 wholesale price per title	\$3.26 costs per disc (placement costs, manufacturing and distribution)
Digital Kiosk	\$0	\$0

**Footnotes**

This analysis compares variable costs only and does not include any analysis or allocation of fixed costs.

Fixed costs for DVD rental include retail overhead and additional in-store retail costs.

Fixed costs for Digital Kiosks will vary but will include hardware costs, software licensing fees and annual maintenance costs. Who covers the fixed costs of digital kiosks is currently being discussed within the industry.

## 11.0 Review of MOD Systems Technology

### Transforming Entertainment at Retail

MOD Systems Retail Digital Entertainment Platform enables retailers to sell a nearly unlimited catalogue of digital assets from digital download kiosks, including always-in-stock new release and catalogue movies, television programs, and music tracks-right from the sales floor. Consumers have the convenience of renting or buying entertainment content when they're out and about, while retailers simultaneously increase in-store traffic, boost revenue and enhance their brand.



### How it Works?

Working closely with the leader in manufacturing self-service kiosks and strategic partner NCR Corporation, the touchscreen kiosks deliver high-quality digital content to consumers at retail and convenience stores and other public locations, such as airports and bookstores. After searching the catalogue and making selections, consumers buy or rent the content with a quick swipe of a credit card.

The content quickly downloads to a portable Secure Digital (SD) memory card, such as those used in digital cameras. SD is the ideal media for video because it's fast, high capacity, and provides an environmentally sustainable "green" solution at a lower cost of distribution. It also can store both the protected content and the keys to unlock the content.

### Best Titles Always Available

With traditional physical content distribution models and shrinking shelf space, retailers are limited to what they can put -and keep - on the shelves. For many retailers, digital download kiosk saves valuable shelf-space for higher margin products. They give consumers instant access to the most extensive library of music, movies, and TV shows from all the major record labels and top Hollywood studios - as well as independent and local content from around the world. The system can also be easily expanded to distribute virtually any digital media content, such as video games, e-books, and mobile apps.

## Freedom to Play Content Anywhere

Video content from the kiosks is in GreenPlay™ format, a new format based on industry standard CPRM for SD-SD Video. Endorsed by Hollywood content providers, it enables consumers to download entertainment content from self-service kiosks. They can play their selections on any Windows PC and a growing number of consumer electronics devices at home or on the go - no Internet connection needed. To jumpstart the adoption of the digital download kiosks, MOD Systems is working with consumer device manufacturers to produce a wide range of compatible devices. It has already created Player software and several hardware devices to give customers multiple, cost-effective options to play their video content.

Music tracks are in DRM-free MP3 format and can be played on any of the millions of MP3-compatible devices, including iPods and iPhones. Retailers can promote and sell a wider selection of devices in-store, further enhancing revenue streams.

## Bridging to Online

Soon, the solution will enable retailers to easily add an online component to their in-store offering, giving customers the ability to buy digital content in-store and have a copy saved in a “digital locker”. This simultaneous cloud-based delivery provides consumers with personalized online storage for content where they can download or stream it later for use on a broad range of Internet-enabled devices.

## 12.0 Appendix

### 12.1 Company Overview

Futuresource is uniquely positioned to assess market forces, competition and technological developments across the entire value chain.

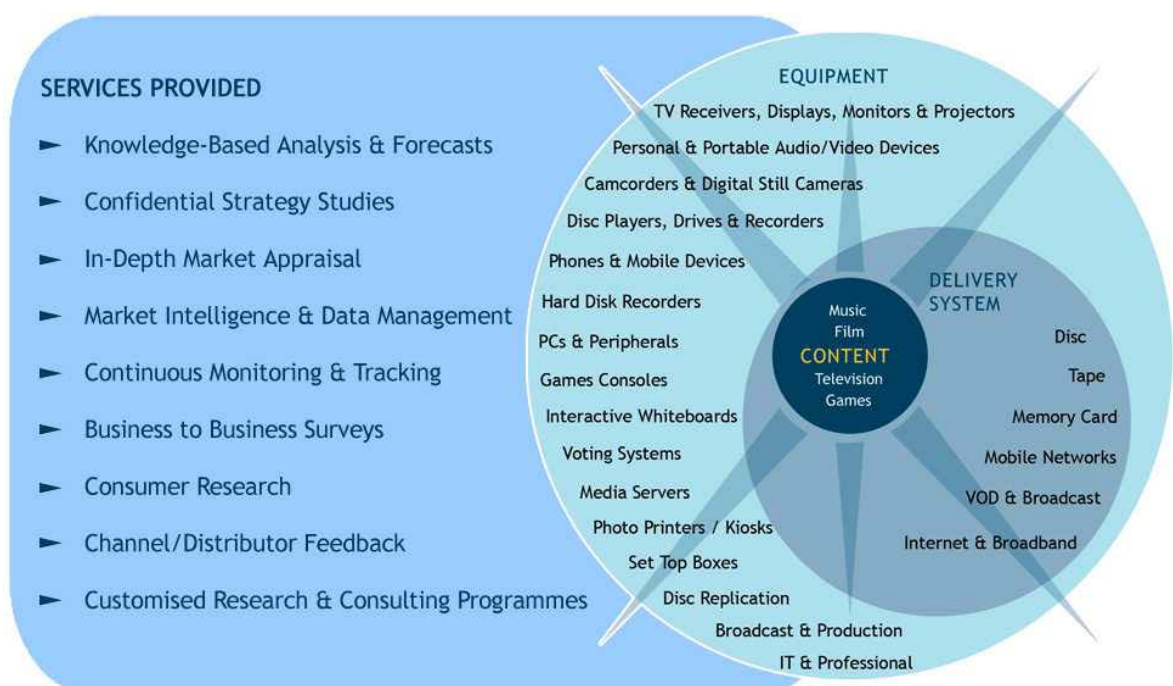
Independence, detailed market knowledge, research and unparalleled knowledge-based forecasting skills ensure a unique partnership

A wide range of subscription services, incorporating detailed data updates and market forecasts, supported by strategic insights and independent assessment

Continuous industry tracking includes product, market, technology and competitive developments

One-off, in-depth assistance and custom studies available.

The ability to put data into a valuable commercial context, evaluate the competitive environment and forecast future market developments ensures clients maximise their opportunities, both now and in the future.





# talk to us...

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