Technicolor SA : Corporate Strategy in Media Case Study
Word count: 5,443

Declan Russell*
Research Engineer, Bournemouth University

1 Introduction

Technicolor, a French organization formed 24th of August 1985 defines itself as a "World wide technology leader operating in the Media & Entertainment industry, is the forefront of digital innovation" [SA 2015, pg 8]. The company generates its success through the production of various media and technology including connected home, innovative technology solutions and entertainment services. Within the last 10 years Technicolor has seen a shift towards generating revenue towards media creation. With media being a renowned turbulent and rapidly changing environment it is important for Technicolor to adapt with the change to stay relevant as "Predicting the future with intelligent insight enables companies to change proactively to ensure they maintain competitive advantage" [Edgar et al. 2013]. With alternative media sources (e.g. Youtube, Netflix and Amazon Prime) becoming ever more popular it is evident that change is on the horizon.

This paper will identify future opportunities and threats to Technicolor and address them through scenario planning, creating a variety of potential forecasts based upon a key focal issue to therefore "avoid surprises by breaking through the "illusion of certainty."" [Garvin and Levesque 2005].

2 Orientation

All scenario planning processes are built around a critical choice or key focal issue [Garvin and Levesque 2005]. This should be a subject of importance to the organizations future which the effects of which hold a level of uncertainty. We can define this issue by assessing the market landscape to identify areas of competition or new areas in which the company extend their perimeter to and create themselves a new uncompetitive market place also known as a "Blue Ocean" [Kim and Mauborgne 2005].

As of 21st December 2015 Technicolor has 16,720 employees in 32 countries. Technicolors activities are organized into three operating segments, namely Connected Home, Entertainment Services and Technology divided amongst 41 operational organizations (see A.1). Connected home represents a portfolio of Customer Premise Equipment (CPE) (e.g. digital set top boxes, broadband modems and gateways) as well as software solutions for device communication and smart home applications. Entertainment Services is split between two subcategories Production Services and DVD Services. Production services representing Visual Effects, Animation and Post production services and DVD Services which is the distribution of optical disks including video, game and music DVD, Blu-Ray and CD discs. Finally Technology which is also split into two subcategories Research & Innovation and Patent Licensing and Trademark & Technology Licensing i.e. the protection and monetization of the groups IP portfolio. Table 1 displays the revenue generated through these operational organizations. Over the last 10 years Technicolors scope has shifted towards technology, products and services related to content creation in the Media & Entertainment industry [SA 2015, pg 8]. Technicolors current strategy is defined under their "Drive 2020 plan" which is made up of 3 pillars [SA 2015, pg 12],

1. Grow operating businesses through continued innovation and market share expansion
   - This includes the acquisition of various companies and the investment into future technologies such as VR, AR and HDR set top boxes.
2. Strengthen leadership in Intellectual Property ("IP") Licensing and expand into Technology Licensing.
   - The promotion of licensed technologies such as Ultra High Definition (UHD) video, High Dynamic Range (HDR) and Wide Color Gamut (WCG).
3. Expand leadership position to serve adjacent markets in Media & Entertainment.
   - Leveraging customer relationships and product development expertise to provide a broader range of products and services in connected media.
   - Leveraging client relationships to grow Animation, Games and Advertising.

Revenues from continuing operations (million euros)				
Activities	2015	% of total	2014	% of total
Connected Home	1,451	40	1,382	41
Entertainment Services	1,676	46	1,432	43
Technology	511	14	490	15
Other	14	0	28	1

Table 1: *Revenues from continuing operations [SA 2015, pg 14]*

*e-mail:DRussell@bournemouth.ac.uk

Reviewing this information we can easily identify two of Technicolors core competencies. Firstly has a large market share in the production of various media distribution platforms in the forms of optical discs and digital set top boxes. Secondly Technicolor owns several successful visual effects companies which have success in the production of media across various media outlets such as film, television and advertising. However as of January 2017 high street sales of DVDs and Blu-ray discs fell 17% [Sweney 2017]. This could be an early warning sign that future revenue streams for optical discs may be heading toward a negative trend. We can further justify this concern by looking at the trends in which media is consumed, refer to A.3. As we can see the ways in which media is consumed is ever changing. With digital video revenue rising by 23% [Sweney 2017] with the help of streaming outlets such as Netflix and Amazon prime. Therefore concluding this section I suggest the key focal issue that will be assessed in this report to be,

"Which form of media distribution should Technicolor invest, in preparation of how future media is consumed?"

This question intends to investigate whether Technicolor after assessing if media consumption is heading towards a more digital streaming form of media consumption that Technicolor innovate or imitate to stay relevant in the media market.

3 Exploration

After identifying our key focal issue our next stage is to carry out more extensive research to identify and achieve a deeper understanding of the driving forces behind the critical uncertainties behind our focal issue [Garvin and Levesque 2005]. To identify these driving forces, a PESTEL analysis has been carried out (see Table 3). This is a helpful tool we can use to help identify an array of influential factors to a company across various key domains. Our PESTAL analysis has identified a total of 31 influential factors. This has then been narrowed down into 7 factors causing the most uncertainty relevant to our focal issue. You can see these highlighted within table 3. The following section will explore these factors in more detailed analysis to narrow these 7 forces down to just two critical uncertainties.

Currently under Technicolors Entertainment Services companies are their flagship brand VFX companies Moving Picture Company (MPC), Mr. X, Mikros and the newly acquired The Mill. These companies produce visual effects for television and advertisement but spend a large proportion of time and resources on feature film. Technicolor states that "a significant proportion of revenues is generated with major and independent film studios. Revenues in the Entertainment Services segment are dependent on the underlying trends of the film industry." [SA 2015, pg 61]. With a recent study over the last 10 years of the revenue generated in the box office (Figure 1) however it is evident that this is a very turbulent market place. Although revenues regularly fluctuate there is a overall positive trend in box office revenue. However further investigation into box office sales could suggest that this may not be a continual trend. If we look at ticket sales over the same time frame the is a downward trend with ticket sales reducing a total of 6.90% in the last 10 years, see figure 2.

With ticket prices continually rising (Figure 3) to overcome this decline ticket sales could continue to decline. This can also be reflected in the media consumption trends, see figure A.3. From this we can see the time spent of the average person viewing media in cinema has a downward trend while in contrast more available forms of media such as Internet and TV are ever on rise. It is becoming ever more apparent that "we live in a world that takes ease of use for granted" [Hamel 1996, pg 72].

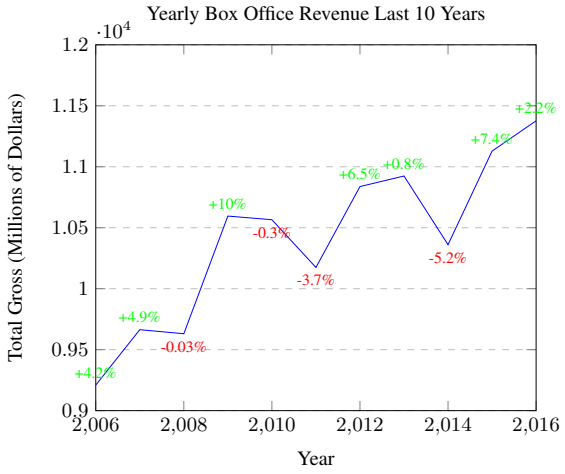


Figure 1: *Yearly box office revenue [Mojo]*

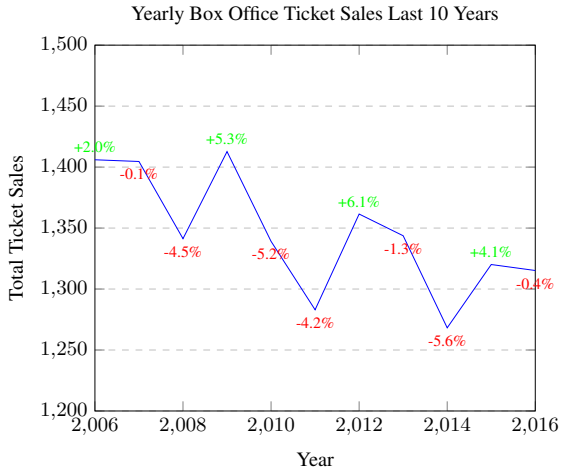


Figure 2: *Yearly box office ticket sales [Mojo]*

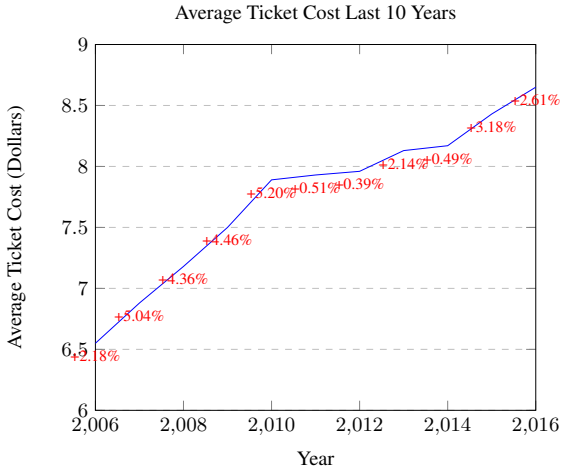


Figure 3: *Yearly box office ticket sales [Mojo]*

Technicolor generates a large amount of revenue from the production of physical media. Catorgorised under entertainment services these operation contribute to 46% of Technicolors revenue streams.

The physical media produced comes in the form of optical discs such as DVDs, CDs and Blue Rays. As stated previously as of January 2017 high street sales of DVDs and Blu-ray discs fell 17%. With the rise of digital video with Apples iTunes, SkyTV, Netflix and Amazon Prime physical media rental market has fell 21% to just £49 million. Trends of digital video for the first time has overtaken physical hardware with trends suggesting that this will only continue see figure 4.

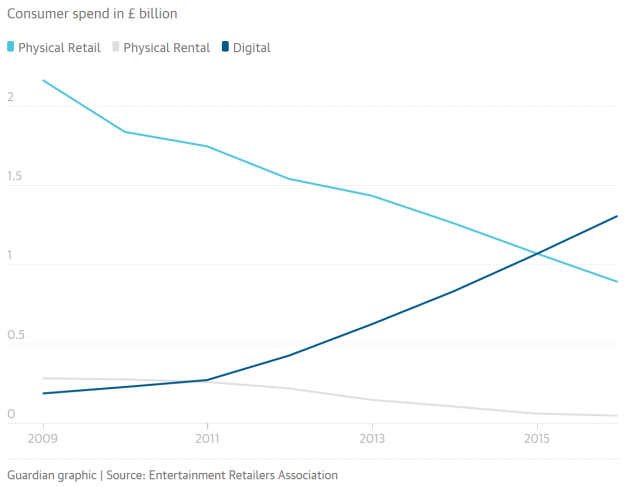


Figure 4: *Physical vs Digital Sales per year [Sweney 2017]*

The trends in music follow a similar pattern with the sales of physical CDs falling by 13% in 2016, see figure 5. Digital streaming services such as Sportify, Apply music and Amazon music which use a subscription based approach however have seen an increase of 65% in revenue. Streaming services now account for over 57% of the music market as of 2016.

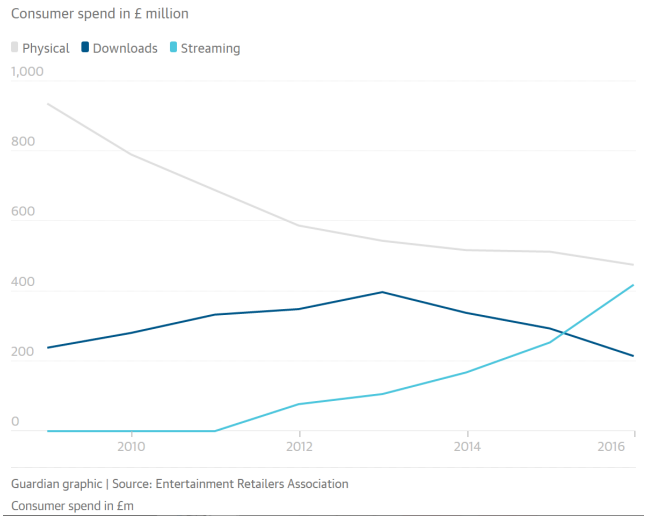


Figure 5: *Physical vs Streaming Sales in music per year [Sweney 2017]*

Technicolor has some investment into researching new emerging technologies such as augmented (AR) and virtual reality (VR). These technologies are still big question marks in the future of the market place with increasing consumer and research interest. VR and AR revenues are expected to increase from $5.2 Billion to $162 Billion by 2020 according to IDC [IDC 2016]. With sales of VR and AR hardware estimated to generate over 50% of these revenues. VR systems are initially expected to lead the market with the consumer demand in form of games and paid content with AR eventually overtaking in healthcare delivery and product design and management-related industries. If these forecasts remain accurate then VR and AR could become a very successful market place for Technicolor as an early adopter or the technology. Currently there are a number of large companies driving the development of these emerging technologies. Most prominent of which consist of Sony, Microsoft, HTC, Oculus, Google and Samsung each with their own variants of VR/AR technology. However the one thing that stays consistent with these technologies is the large price tag for consumers who want to invest. For the most part, except a small minority of exceptionally expensive exceptions, a high end VR capable computer is required to run a VR headset. With "99% of computers on the market" currently not up to the level to handle VR according to Nvidia [Neiger 2016]. A VR ready computer could set consumers back £1000. Furthering this is the cost is the VR headset its self, with high end headsets such as HTC's Vive and Oculus Rift pricing at £804.72 and £499.00 respectively (see Table 2). If costs remain consistent it VR and AR technologies could simply be too expensive for the average consumer.

Costs of the top VR and AR headsets as of 2017		
Headset	**Price**	**Extra expenses**
Sony Playstation VR	£330.97	Playstation 4 (£259.99)
HTC Vive	£805.72	VR Ready Computer (£1000+)
Oculus Rift	£499.00	VR Ready Computer (£1000+)
Microsoft HoloLense	£2,719.00	N/A

Table 2: *Costs of the top VR and AR headsets as of 2017*

Contraindicating to this however is the success of mobile AR applications with Nintendo's "Pokemon Go!" an AR game the runs on your everyday smart phone having huge success. The game was "downloaded more than 100 million times in its first month, reportedly earning $10m per day at the height of its popularity" [Parkin 2016]. Therefore proving that AR mobile games hold potential as a very profitable market place.

Another factor that may need considering is the current advances in "Brexit". Following the UK referendum on the 23rd of June 2016, 52% of voters were in favour of leaving the EU. The UK government intends to invoke Article 50 of the Treaty on European Union (i.e. the formal process in which a country will withdraw from the European Union) by the end of March 2017 [Wikipedia]. The implications of which are still largely uncertainty. However an immediate effect of this is the deprecation in the British Pound. With the pound hitting a 31 year low in July 2016 being valued at $1.3058 to the pound and since has only continued to diminish, see figure A.4. Although the pound continues to vary in value some say that "The expected triggering of Article 50 in the first quarter of 2017 is predicted to push down the value of sterling against a basket of major currencies, dragging it to a 32-year low against the dollar." [Chan 2016]. This could adversely effect consumer spending on the media industry as "Historically in terms of UK growth, higher inflation tends to be negative because it dampens consumer spending which has been the engine of the recovery" [Chan 2016]. Further more a number of Technicolors flagship visual effects companies have there headquarters based in the UK, including MPC, Mikcros and The Mill. Potentially the UK leaving the EU could have a negative impact on UK businesses and could induce huge costs to Technicolor if they were to choose to relocate these companies out of the UK.

As a result of the Brexit referendum there are concerns that this

could lead to a break up of the EU all together. "It is no longer unthinkable that it breaks apart" says German deputy leader Sigmar Gabriel [Hall 2017]. If the euro-zone collapse were to transpire it could have a various negative effects financially for European countries and beyond. [Vidikan 2015] suggests effects of the dissolution could include,

- Dislocations to the financial system
- Recession, in Europe and beyond
- Product shortages
- Reduced spending power
- Financial Dislocation

This would be vastly detrimental to Technicolor given that as of December 2015 they generates 42.9% of revenue through the UK and Europe [SA 2015, pg 194]. The value of the Euro would become extremely turbulent and new currencies would need to created for the exiting countries, likely loosing 50% or more of there value as a result [Vidikan 2015]. With this recession and new currencies likely to hit large inflation rates consumer spending will deteriorate. Consequently due to consumers having a decrease in disposable income sales in Technicolors physical media platforms would significantly reduce with consumers less likely to splash out on these leisure items, looking towards cheaper sources of media consumption.

Reviewing the evidence put forward in this section we can narrow down these forces to two critical uncertainties. Looking at the production services in visual effects it is apparent that although ticket sales in the box office are on a slow decline revenue through film production is still on the rise. Therefore diminishing the uncertainty around the need for visual effects in the future of film. Regarding Technicolors sales in its production of physical media such as DVDs, CDs and Blue rays there are strong trends towards the future of these technologies. We can say with a fairly high level of certainty that they are unlikely remain a prosperous form of media distribution. Emerging technologies such as VR and AR however raise very large question marks in regards to their future. Being such a high growth market place there is potential for VR and AR technologies to be a very profitable, given that they are successfully adopted by consumers and other industries. Consequently for these technologies to be adopted by consumers lies the assumption that consumers have the disposable income to invest in these technologies. This holds a large amount of uncertainty when there are political factors such as Brexit and the stability of the EU at play. These forces could lead to financial instabilities that would reduce consumers investing into such technologies. In conclusion, for our scenario planning our critical uncertainties that we will focus on will be **"Use / Push of VR and AR Technologies"** and **"Disposable Income"**.

4 Scenario creations and options considered

Now that we have identified our two critical uncertainties we can now construct a 2x2 matrix. Each of our uncertainties lie on an axis representing the polar extreme cases for each force. This in turn leaves us with four quadrants of potential futures driven by these forces. The goal to create a few clearly contrasting environments in which we can create strategies for all cases. If you refer to appendix A.5 you can see our four scenarios and narratives consist of,

- Low Use / Push of VR and AR + Low Disposable Income
- High Use / Push of VR and AR + Low Disposable Income
- Low Use / Push of VR and AR + High Disposable Income
- High Use / Push of VR and AR + High Disposable Income

4.1 Scenario A: "A Distant Reality"

Low Use / Push of VR and AR + Low Disposable Income

Narrative

The adoption of emerging VR and AR technologies has been lackluster at best. This coupled with the average consumer having a decrease in disposable income to invest in such technologies has led to the increase other cheaper media platforms becoming more popular. With VR and AR hardware being such an expensive commodity sales have performed very poorly causing many companies that solely specialize in creating this hardware to go out of business. As a result of this very limited user base many content creators have chosen not to invest in creating further products that use this technology to concentrate on other more commercial alternatives.

Furthermore these technologies have yet to make strike a nerve in more specialized market places such as health care, product design and management related industries. With these technologies yet to prove themselves to be a beneficial investment to improve work flow companies stick to tried and tested techniques and look into other fields for solutions.

Implications

As a result of diminished consumer disposable income sales of hardware are drastically less than previously forecast. This has led to either smaller companies to go out of business or for larger companies to begin to discontinue their development in VR and AR technologies in pursuit of investment in more prosperous endeavors. Consumers look to obtain their media from cheaper platforms such as VOD services, traditional television and Internet based media. With the lack of interest in other industries the market place for these technologies becomes very limited. Consequently the lack of revenue generated and demand for the technology forces companies to stop pursuing this field. As a result research and development takes a hit reducing and innovative applications for the products.

Options

Due to the lack of consumer and corporate interest in investing into VR/AR technology it would be wise for Technicolor to divest in these technologies and redirect investment back into more traditional forms of media. Fortunately, owning several media creation businesses this industry is where Technicolor holds strong core competencies. With the market aligning back to more traditional forms or media Technicolor can leverage its previous business relations to continue to prosper.

Having already exiting core competencies in connected home appliances Technicolor could look to invest more into how we deliver these more traditional forms of media. With streaming services increasing in popularity Technicolor could develop their existing solutions to take advantage of these media distributions.

Early Warning Signs

The state of the EU could provide strong early warning signs for that of the levels in disposable income. With a breakup resulting in high financial uncertainties including a global recension. This could be triggered by one of the larger beneficiaries of the EU leaving such as Germany, France, Netherlands, Hungary and Finland. "A Le Pen win in France would trigger a 'Frexit' referendum" [Hall 2017] potentially leading France to vote out of the EU. Additionally

Far-right parties are on the rise in countries such as the Netherlands, Hungary and Finland [Hall 2017] as confidence in the necessity to stay in the EU is questioned. Economic and political strains could force the PIIGS out of the EU, resulting would be more identifiable as a "enlarged deutschemark zone" [Vidikan 2015] causing the EU to loose its European identity. Consequently this could cause devaluation of the Euro leading to an increase in inflation across Europe. Furthermore disposable income could could rely on domestic issues including rise in interest rates or unemployment levels which can be tracked via [Global-Rates 2017] and [OECD 2017] respectably.

Early warning signs in regard to VR and AR usage can be seen in the success of media content created for these platforms. If media experiences perform poorly is could suggest a lack of interest in consumers. In a addition reviewing the applications and research trends in alternate industries would give signs on if these technologies were becoming popular.

4.2 Scenario B: "Medical Marvel"

High Use / Push of VR and AR + Low Disposable Income

Narrative

VR and AR Technologies have become increasingly popular as a platform to deliver media. They have particularly excelled in specialist environments such as health care delivery, product design and management delivery industries being used for a variety of ways from rehabilitation to assisting surgeries. Consequently this has led to bespoke VR and AR related services have become in increasing demand to cater for the integration of these technologies within these specialist industries. With the average consumer having less expendable income most VR/AR hardware solutions have been deem just too expensive for the average consumer. Therefore leading hardware sales to become less than forecasts have previously suggested. Due to a smaller user base media publishers have become less enthusiastic about investing into future products that take advantage of the technology. However the success of Nintendo's Pokemon Go! has paved the way for a new successful market in mobile AR games. AR games now dominate the app store as consumers become increasingly interested in the new technology available for minimal costs on there everyday smartphones and devices.

Implications

The general consensus is that VR and AR hardware is just too expensive for the average consumer. Therefore hardware sales are significantly less then previously forecast with the user base limited to just specialist industries. Due to the smaller consumer base media publishers move away from the investing into films and games that use these technologies to pursue more popular platforms. Sony begin divest in their Playstation VR project much like many other companies invested in VR and AR technology due to lack of sales. However VR and AR mobile experiences become increasingly popular.

Demand for bespoke services is ever on the rise with companies in specialist industries adopting the technology as a successful method to improve business. Being used in various specialized cases from rehabilitation in the health care industry to produce visualization in product design, businesses are willing to invest heavily paying top dollar for there bespoke application. With the need for services to be crafted relative to each industry this sparks a need for research and development into a diverse spectrum of applications.

Options

The market place has become less open to investments into consumer VR/AR hardware. However with specialist industries need for bespoke applications it could be beneficial for Technicolor to develop there own hardware to gain flexibility with integration into these companies.

Consumer interest in VR and AR however still remains high but popularity lies in smartphone applications. Owning several media creation industries, this would align very well with Technicolors core competencies, being able to create content and leverage existing business relationships in media to pursue products within this field.

Early Warning Signs

As mentioned previously in the warning signs of section 4.1, signs can be seen with the state of the EU. A number of factors mentioned in this section can cause in instabilities within the EU and in extreme cases lead to an EU break up, resulting in many financial uncertainties and potentially global recession and ultimately reducing the spending power of the average consumer. Again also mentioned is more domestic issues such as inflation and unemployment rates that also play a factor in disposable income.

Trends in how VR and AR are being used can be seen as early warning signs for the future of these technologies. Seeing a low rate of sales in media products with a higher application in alternate industries would suggest that these products will be more popular in more bespoke uses. As to mobile VR and AR applications trends can be seen in consumer interest by simply reviewing the top downloaded apps in various mobile stores.

4.3 Scenario C: "Niche Market"

Low Use / Push of VR and AR + High Disposable Income

Narrative

VR and AR technologies has struggled to strike a chord as a prominent form of media delivery. While there is still content being developed for the technologies they only real consumer tends to be in academic research purposes and consumer enthusiasts. In general however consumers have become more or less unaffected by the developments in VR/AR, continuing to consume media through other more traditional media platforms such as streaming services, television and cinema. Due to this lack of interest VR and AR, hardware sales have performed less than previously forecast. Consequently with having this smaller user base publishers become less likely to back products that invest in the advantages of these accessories. This has left the majority media content creators for these services to be small time productions and indie studios. Furthermore with other specialized industries such as health care, product design and management yet to take an interest in these technologies, the general consensus of VR/AR technologies portrays them as expensive gimmick only captivating a select audience.

Implications

With the rate of hardware consumption being less than previously forecast many companies companies become less likely to invest in further development into these fields. Furthermore publishers become less likely to invest in producing content for these platforms due to the smaller market size. This in turn, coupled with the lack of interest in alternate industries reduces companies interest to invest

in research and development in these areas to create innovative uses for this hardware.

Traditional media and streaming services however remain more popular than ever. With users having high expendable income they become more likely to spend on cinema tickets, television services and VOD services.

Options

With VR and AR media becoming low in demand Technicolors media creation companies will be contracted with less work to cater for these services. Therefore investments to further developments in these areas should decrease. The lack of interest in alternate industries leads no incentive for Technicolor to invest research and development into catering for these industries. Aligning with Technicolors core competencies investments should continue to be within traditional media creation. Technicolors large market share in connected home appliances could benefit from increase popularity in streaming services if they choose to integrate these services within their products. Furthermore the increase in cinema attendees will only increase the number of box office films that are produced therefore creating more available contracts for Technicolors VFX businesses.

Early Warning Signs

Lack of sales in VR and AR hardware and software lead strong indications that these platforms are just not popular to consumers. Also looking at trends of how these appliances are used in alternate industries would also give an idea of whether these technologies are likely to be adopted.

Interest rates declining along with employment rates increasing suggest strong indications that consumers will have more spending power. Furthermore studies in leisure actives popularity such as cinema could also provide insight into how much expendable income consumers have.

4.4 Scenario D: "A Whole New World"

High Use / Push of VR and AR + High Disposable Income

Narrative

The new must have media platform on the market. Hardware sales a booming as consumers fall in love with the new 360 degree experience. This surge in demand for virtual reality content drives developers to create more content and the flexibility to create new innovative ways to use VR. Given the large user base of VR there is an increase in VR games on the market and also opens the doors for a new market of VR films. Following the success of Nintendo's "Pokemon Go!" this has opened up a very profitable market for AR mobile applications. Research and development into services for VR is at an all time high as the need to improve and innovate user experiences grows. Additionally the usage of VR and AR grows in alternative specialized market places from improving how health care is provided to visualizing products in product design industries.

Implications

With the popularity of this new market place Technicolor will face aggressive competition in the industry with other companies trying to gain market share. Consequently this produces a large amount of imitation in the market with new companies being inexperienced in the field. Additionally with such large user base demand for content is ever on the rise, promoting media publishers to back VR and AR related projects to stay relevant to consumer interests. VR games and films become increasing more popular and AR appliances for everyday activities start becoming the social norm.

Alternate industries have also become more interested in VR and AR technology. Application rise in helping provide health care, visualizing product design and management techniques. Companies look to invest largely in their own bespoke services to improve their own business. This opens a market place to cater for the creating of bespoke software and hardware to integrate these services to these companies.

Options

The market is now more open than ever for Technicolor to invest into VR and AR related technologies. With content creating for VR/AR in high consumer demand due to Technicolor owning several media creation businesses this aligns well with Technicolors core competencies. Holding a unique stance to leverage previous business relationships within the industry to secure more contracts. It would also be beneficial for Technicolor to invest into research and development enter more specialized market places such as heath care, product design and management related industries with these industries likely to pay large sums to gain their own bespoke applications. Additionally it could be beneficial for Technicolor to invest in their own VR/AR hardware creation. Not only to gain flexibility when creating there own bespoke appliances but in with the consumer industry with such intense competition would bring large levels of imitation. When "brands are becoming more similar therefore consumers are selecting by price" [Kim and Mauborgne 2005, pg 108]. If Technicolor could create hardware cheaper than there competitors they could secure a larger market share. Technicolor also has core competencies in media delivery platforms such as set top boxes. With a large market share in these appliances it could also be worthwhile utilize this as a form to deliver VR/AR content.

Early Warning Signs

Trends of VR and AR hardware sales continuing to increase hold a strong sign for these industries to become more popular. Sales in contend from VR/AR games and other media with further serve as a good representation of the popularity of these products with consumers. Increased in use of these VR and AR in alternate industries will show that these technologies will become more popular in more bespoke forms. Rates of disposable income are linked to increase with levels of employment and decrease in interest rates.

5 Integration

Scenario planning is a technique in which is is less important to accurately predict the future of an industry but serves more to identify early warning signs for a number of future possibilities. "firms need to respond to an ever-changing competitive environment by strategizing in a way that allows them to prepare for multiple futures, with multiple strategies." [Oliver and Parrett 2017, pg 6]. Through this exercise we have developed thought into a collection scenarios and how to prepare Technicolor for a variety of potential futures, making important decisions in how to navigate through a forever uncertain world. At the beginning of this exercise we selected the key focal issue of "Which form of media distribution should Technicolor invest, in preparation of how future media is consumed?". Although some strategies in our four scenarios share ideas there is no clear solution that can be applied to all. This indicated that the future of how media will be consumed is an uncertain and turbu-

lent environment. This makes it difficult to produce a single strong strategic plan for the company to move forward. However in each of our scenarios Technicolor holds strong core competencies that will aid them in remain prosperous in a number of potential futures to come. Holding the potential to grow into new market places as the arise gives Technicolor a strong competitive advantage in the future.

References

CHAN, S. P., 2016. Brexit talks to rock pound as article 50 marks sterling's 'final dip'. The Telegraph http://www.telegraph.co.uk/business/2016/12/26/brexit-talks-rock-pound-article-50-marks-sterlings-final-dip/, December.

DAWSON, R., 2008. Seven Driving Forces Shaping Media. http://rossdawson.com/blog/new_framework_s/.

EDGAR, B., ABOUZEEDAN, A., HEDNER, T., MAACK, K., AND LUNDQVIST, M. 2013. Using Scenario Planning in Regional Development Context: The Challenges and Opportunities. *Journal of Science, Technology and Sustainable Development 10*, 103–122.

GARVIN, D. A., AND LEVESQUE, L. C. 2005. Note on Scenario Planning. *Harvard Business School Cases 10*, 1991, 1.

GLOBAL-RATES, 2017. Central banks - summary of current interest rates. Global-Rates http://www.global-rates.com/interest-rates/central-banks/central-banks.aspx.

HALL, A., 2017. Break up of the eu is possible after brexit, warns german deputy leader and rival to angela merkel. Daily Mail http://www.dailymail.co.uk/news/article-4097588/Break-EU-possible-Brexit-warns-German-deputy-leader-rival-Angela-Merkel.html, January.

HAMEL, G. 1996. Strategy as Revolution. *Harvard Business Review*, 70–82.

IDC, 2016. Worldwide revenues for augmented and virtual reality forecast to reach $162 billion in 2020, according to idc. IDC https://www.idc.com/getdoc.jsp?containerId=prUS41676216, August.

KIM, W. C., AND MAUBORGNE, R. 2005. Blue ocean strategy: From theory to practice. *California Management Review 47*, 3, 105–121.

MOJO, B. O. Yearly Box Office Statistics. http://www.boxofficemojo.com/yearly/.

NEIGER, C., 2016. Virtual reality is too expensive for most people but that's about to change. Business Insider UK http://uk.businessinsider.com/why-is-virtual-reality-so-expensive-2016-9?r=US&IR=T, September.

OECD, 2017. Employment database - unemployment indicators. OECD http://www.oecd.org/employment/emp/employmentdatabase-unemployment.htm.

OLIVER, J. J., AND PARRETT, E. 2017. Viewpoint Managing uncertainty : harnessing the power of scenario planning. 5–6.

PARKIN, S., 2016. After the success of pokmon go!, what is the future for augmented reality? The Guardian https://www.theguardian.com/technology/2016/oct/23/augmented-reality-development-future-smartphone, October.

SA, T., 2015. 2015 REGISTRATION DOCUMENT including the Annual Financial Report. http://www.technicolor.com/en/who-we-are/investor-center/financial-information/annual-report.

SWENEY, M., 2017. Film and tv streaming and downloads overtake dvd sales for first time. The Guardian https://www.theguardian.com/media/2017/jan/05/film-and-tv-streaming-and-downloads-overtake-dvd-sales-for-first-time-netfli
January.

VIDIKAN, M., 2015. Consequences of eurozone breakup by michael vidikan. Future in Focus http://futureinfocus.com/in-the-news/indrastra-consequences-of-eurozone-breakup-by-michael-vidikan/, April.

WIKIPEDIA. Brexit. https://en.wikipedia.org/wiki/Brexit.

XE. Xe currency charts: Gbp to usd. http://www.xe.com/currencycharts/?from=GBP&to=USD&view=1Y.

A Appendix

A.1 Technicolor Operational Organization

	Technology	Connected Home	Entertainment Services
France	▪ Thomson Licensing SAS ▪ RCA Trademark Management SAS ▪ Technicolor R&D France SNC ▪ Technicolor Trademark Management SAS	▪ Technicolor Delivery Technologies SAS ▪ Technicolor Connected Home Rennes SNC	▪ Technicolor Distribution Services France SARL ▪ Technicolor Entertainment Services France SAS ▪ Mikros Image SA ▪ Ouido Productions SAS
Europe excl. France	▪ Deutsche Thomson OHG		▪ Technicolor Polska Sp.Z.o.o. ▪ The Moving Picture Company Ltd. (MPC) ▪ Technicolor Disc Services International Ltd. (Hammersmith) ▪ Technicolor Video Services (UK) Ltd. ▪ Thomson Multimedia Distribution (Netherlands) BV ▪ Technicolor Ltd. ▪ The Mill (Facility) Ltd.
Americas	▪ Thomson Licensing LLC	▪ Technicolor Brasil Midia E Entretenimento Ltda ▪ Technicolor Connected Home USA LLC ▪ Thomson Telecom Mexico, S.A. de C.V. ▪ Comercializadora Thomson de Mexico S.A. de C.V. ▪ Technicolor Connected Home Canada Inc.	▪ Technicolor USA Inc. ▪ Technicolor Videocassette of Michigan, Inc. ▪ Technicolor Home Entertainment Services Inc. ▪ Technicolor Creative Services USA Inc. ▪ Technicolor Canada, Inc. ▪ Technicolor Home Entertainment Services de Mexico S. de R.L. de C.V. ▪ Technicolor Mexicana, S. de R.L. de C.V. ▪ Technicolor Home Entertainment Services Southeast, LLC ▪ The Mill Group Inc. ▪ Mr. X Inc.
Asia		▪ Technicolor Delivery Technologies Australia, Pty, Ltd ▪ Technicolor (China) Technology Co., Ltd. ▪ Technicolor Malaysia Sdn Bhd ▪ Technicolor Connected Home India Private Ltd.	▪ Technicolor, Pty, Ltd. ▪ Technicolor India Privat Ltd. ▪ Technicolor Distribution Australia, Pty, Ltd.

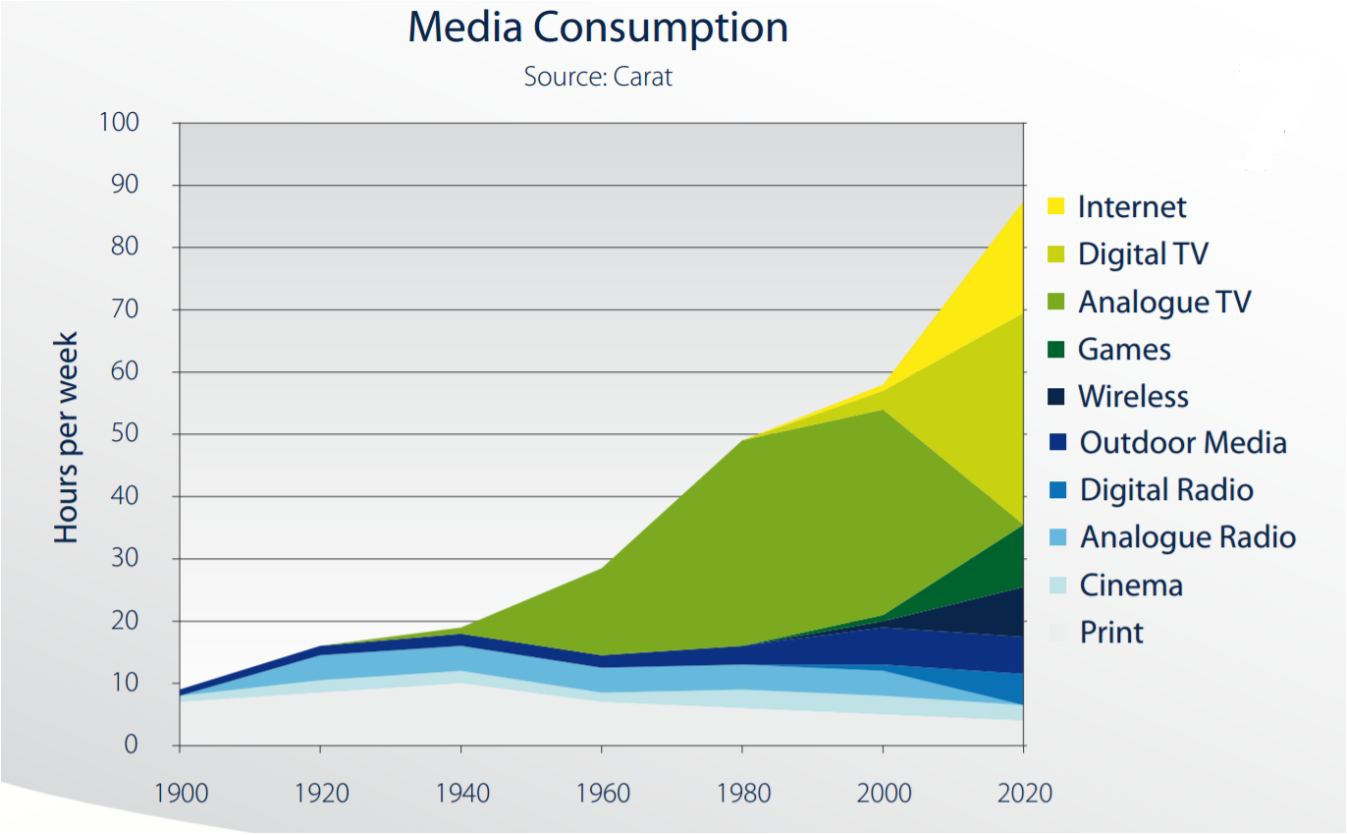
Technicolor Operational Organization Table. [SA 2015, pg 164]

A.2 PESTEL Analysis

Technicolor PESTEL Analysis					
Political	Economical	Social	Technological	Environmental	Legislation
• Change in Prime Minister (UK) • Trump now President • Break up of the EU	• Pound depreciation • Cinema ticket price increase • Advertising revenue uncertainty • Exchange rate fluctuation • Interest rate fluctuations	• Less people going to the cinema • Streaming services more popular • Increase in self driven content • Social networks media presents • Increase demand for portable media • Less disposable income • Increase in Internet media consumption	• VOD Services (e.g. Netflix & Amazon Prime) • Digital Piracy • Emerging Technologies (e.g. VR & AR) • DVD loosing popularity • Cyber Security • Live Streaming • Mobile Devices • 3D Movies	• Global warming	• Global Patent laws • Various ongoing lawsuits • Visual Effects Tax Credits • China film censorship • Debt • Liquidity • Expiring Patents

Table 3: *Technicolor PESTEL Analysis*

A.3 Media Consumption Trends

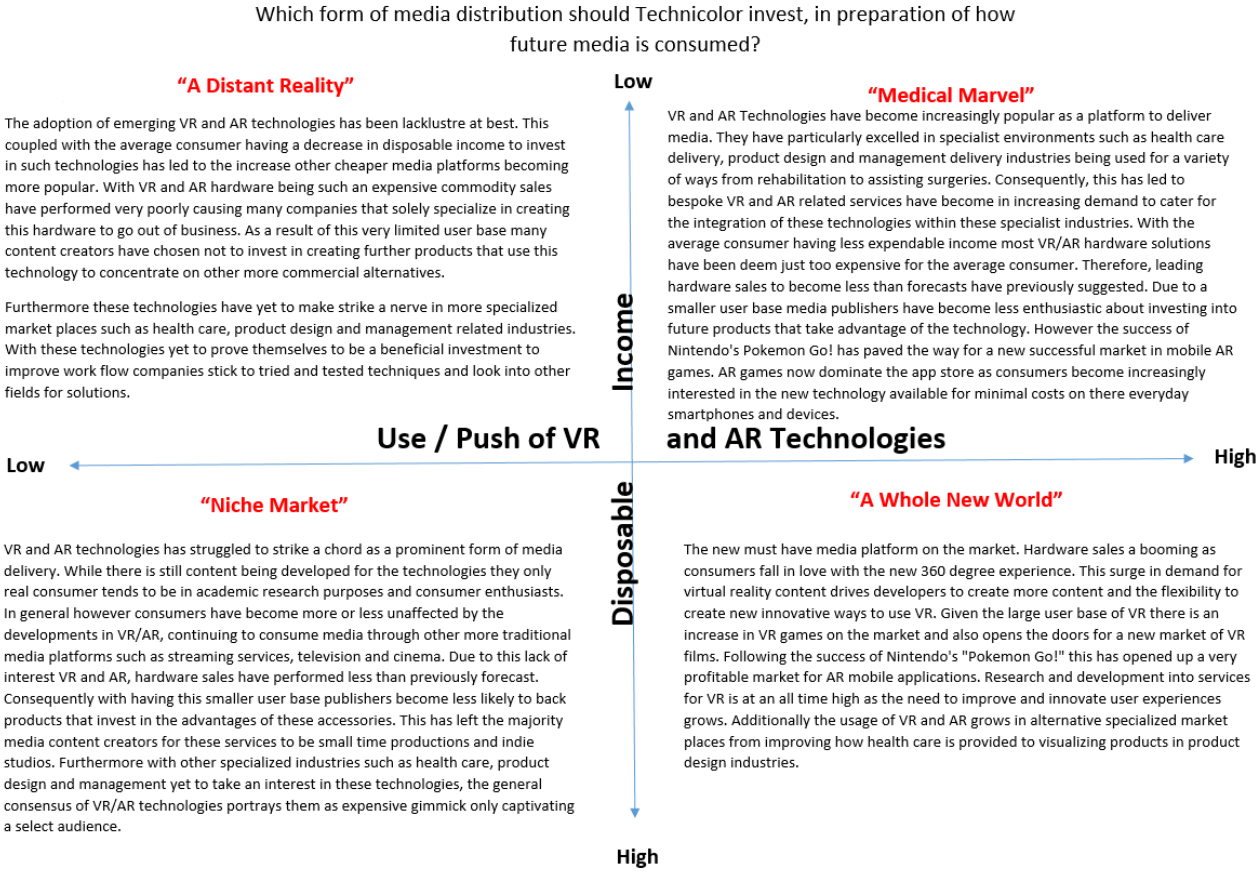


Media Consumption by platform and year [Dawson 2008]

A.4 GBP value compared to USD

GBP value against USD [XE]

A.5 Scenario Planning



Scenario planning framework