

THE INFLUENCE OF
TECHNOLOGY IN ART
APPRECIATION AND
SALES AS A FACTOR IN
THE SUSTAINABILITY OF
THE RETAIL ART
INDUSTRY

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The Brundtland Commission defined sustainable development as “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs” (UNWCED, 1987). Sustainability is the ability to sustain action or life indefinitely. In a business context, many companies apply sustainability via a triple bottom line approach. The triple bottom line involves three bottom lines of focus: people, planet, and profits. A triple bottom line measures the company's degree of social responsibility (people), environmental responsibility (planet), and economic value (profits). Multitudes of real life business cases provide undeniable evidence that sustainable business practices lead to increased profitability in the long term. This paper will apply the triple bottom line approach to the retail art market and find what effects technology has had on the overall sustainability of the market.

Through the ages, technology and art have been intrinsically linked. From the pyramids at Giza to St Peter's Basilica, from the most basic sketch to the grandest cathedral, humans build not only for function but also with an eye to form.

Today, the word “technology” evokes a very different meaning. It conjures images of whirling lights and bundles of

and subsequently sold. There are many ways that technology has influenced the way that we appreciate and buy art. These ways have also impacted art retailers.

This paper will cover many of the ways that technology is affecting the retail art industry, both positive and negative, and come to a conclusion about the overall effect of technology on art appreciation and art sales, and whether the industry will be sustainable in light of these influences.

discover many new artists and keep up to date on the latest and greatest accomplishments of their favorite artists.

When you analyze sustainability using the triple bottom line approach, you are concerned with three factors: people, planet, and profit. This section shall focus on how technology has made the art market more sustainable as concerns the planet.

Technology has helped to reduce waste in the industry as a whole, and for individual artists. Because of technology and the ability to share and send, traditionally printed media, digitally, less pamphlets and promotional materials are printed. There is also less waste on the part of the individual artist. Artists who use technology are able to create sketches, edit photographs and preview design changes before creating a final product. This allows artists to use fewer materials in their creative process, thus reducing waste. Adobe has created a series of promotional videos, “Make it with Creative Cloud,” that demonstrates artists using Adobe’s computer programs to edit, preview and test drive a design before printing or building a final product (Adobe, 2013).

Technology has also made some art disciplines more sustainable. In its early years, film and photography both required harsh chemicals to develop negatives and images revealed onto photo paper. The move to a digital medium has greatly reduced the amount of harsh chemicals that were being disposed of down darkroom sinks.

Technology can also reduce the need for travel in the art industry. Previously, art dealers and gallery owners would travel to a client’s home in order to assist in deciding which work of art would best suit the client’s home and taste. These dealers often brought multiple works with them on these house calls. Today, apps like ArtMatch make it possible for clients to choose a

piece that they like, and then use their phone to visualize the artwork in their home. Digital photography and programs like Photoshop can also be used to remotely assist potential customers in deciding what pieces would look best in their homes, further reducing the need for travel.

The economic impact technology is having on art is perceived as both positive and negative. Technology is making art more accessible to the public, especially to those who do not necessarily understand art, or who cannot afford either the time or the money, to visit galleries or museums. There are various projects currently underway that help art reach the masses. These include the Google Art Project, Artsy.¹⁸ 475.51 Tmd mor51 Tmd mem[(museums. m[(roje71 3Alp ar. Tm[(that

information about all the artworks and customers can learn about the work of art, the artist, the provenance and exhibition history and browse additional artworks from the artist or gallery” (Wakoba, 2013).

Artsicle.com is another site that makes art accessible to the public, this site allows you to “try before you buy.” What this means is that for a \$50 a month, “art lovers can choose a painting, sculpture or print they like from the collections of 30 emerging and more established artists, hang it in their homes and decide whether they like it or not. If they do, they can purchase the art - where prices range from \$500 to \$5,000. If they don't, they can send it back or rent another one” (Hassan 2011). Artsicle aims to address the fear of buying art online, namely, how to know what will look good in your home. This method lets collectors live with the art for a while and have time to decide whether it's something they really love and want to invest in and live with.

Phone apps have opened up new opportunities to access art with an immediacy and convenience never imagined before. There are a wide variety of phone applications that allow people the ability to create their own art and also, to browse current art collections from an unbelievable number of sources via the internet. Websites like Etsy, and Artsy host their own apps, and companies like Christie's and Sotheby's have also created apps for their customer's convenience. Other apps like Art, ArtAuthority, Behance, Brushes, New York Art Beat, ArtSpotter, Flyer, ArtNear, Adobe Photoshop Express, and ArtMatch are all examples of apps that allow users to create and discover art. Those ten aren't even the tip of the iceberg when it comes down to what is available. A cursory search in the Apple App store for the word “art” yields 2200 results, and yet new apps are being released weekly. Apps currently in existence are constantly updated to keep current with customer needs.

they have seen online. More so, online art sales are shifting toward a more interactive experience where art collectors and consumers can better appreciate art before purchasing it. For example, industry player VIP uses computer technology that allows online visitors to zoom in to examine details of a painting's surface, get multiple views of a three dimensional work, watch videos of a multimedia piece, and even have private chats with art dealers” (Everett, 2013).

Not only have big galleries and auction houses been using technology to their advantage, but small galleries, museums and independent artists are using technology, the internet, and, social media to improve their daily operations, their promotions strategies, their relationship with their customers, and their security. Social media helps businesses with marketing and customer service which in turn help to build brand awareness and increase sales.

Promotion is more inexpensive than ever now compared to more traditional means of promotion like mailers and posters. Artists, galleries, and museums can promote themselves via the internet to whole new markets of people. With just a few clicks of a mouse and some fancy graphics, you can promote everything from an event, to a website, to a sale that might be running and you can also develop a dedicated following. The potential for market penetration is incredible, it is targeted and inexpensive. Social media has created new techniques for artists and art businesses to promote themselves and their products. Marketing on social media can take a variety of different forms, from targeted marketing to customers who follow the arrival of new products, to mass marketing to anyone within an identified target demographic. Facebook, for example, allows business level users to create a profile for the business and then guides those business level users through creating advertisements that will be displayed to their targeted demographics. Social media has introduced whole new strategies to the marketing discipline.

The same can be said for social media and customer service. Now, customers can voice their satisfaction or dissatisfaction with a particular firm and share their opinions with all their friends and acquaintances with the click of a button. Conversely, companies can also address customer service issues in record time, once they have been alerted to them via the social media site.

One especially unique species of social media are the crowdsourcing sites. In “2011 alone, crowdfunding website Kickstarter raised almost \$100m in pledges with more than 27,000 art-related projects” (Gever, 2012). Crowdsourcing is the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community. Crowdsourcing can be used for a multitude of things, from funding to soliciting volunteers and ideas. Museums are using crowdsourcing to engage the community and solicit ideas, help select future exhibits, and even to solicit volunteers. According to a report by the American Association of Museums, “technology enables broader, deeper, more accessible engagement with a growing universe of amateur experts who may not otherwise be engaged with the museum and may reside halfway around the world” (Merritt & Katz, 2012). One example of museums using crowdsourcing is at The National Library of Finland. “

preserve and secure the most precious and valuable works from theft. Though most art heists these days are very low tech operations, the security systems in place alert staff in record time that there is a problem, giving the security personnel more time to try and catch the thieves. Sensors are also protecting pieces of work from every-day damage. The oils on our hands can ruin a very antique piece, which is why museum staff wears gloves when handling many of the works. But people like to get close to art to be able to experience it and commune with it, so infrared sensors are used to create a barrier, that if broken will set off an alarm and alert guards that a piece is being touched. This is just one method of warding off stray hands from pieces of art and securing the work.

Forgeries are also a serious risk to value in the art market. While technology plays a lesser role in helping the con-artists to create their frauds, it does help the FBI and other agencies to inspect suspected fakes and establish their verisimilitude. Technology is not widely used when creating art forgeries. The best forgeries are painted by very talented artists who imitate the original creator's style. Tec b M y

The same infrared and x-ray imaging that is helping to identify forgeries also helps to rediscover works from old masters, which helps us to learn more about the history of our most admired artists. In the case of the self portrait of Rembrandt van Rijn that was donated to British National Trust, the owners never dared to hope that they had an original Rembrandt in their collection. Technology allowed imaging of the painting and revealed that it was indeed painted by Rembrandt. The analysis of the piece revealed that the style and dating was accurate for a self portrait that Rembrandt would have painted at 29 years old. This new revelation increased the value of the work to over 30 million pounds; that is 46.5 million dollars.

In this section, we will discuss how technology has increased the scope of an entire market. The craft- craze is a well established market. People want to feel like they are making a difference by supporting the little guy rather than the big bad corporation, and they also want to feel like their item is one-of-a-kind. A Businessweek article points out that “although the craft craze is well-established, with sales hitting \$31 billion in 2007,

million investment from, among others, Union Square Ventures and Accel Partners, investors in Facebook, Twitter and Tumblr; and in 2012 announced \$895 million in sales with over 850 thousand sellers. Although Etsy is the biggest seller, there are other sites like Etsy with similar models but different products and markets. Technology has allowed this established market to reach new, unprecedented heights.

For all its benefits, technology poses some challenges to the industry. The first challenge to such rapidly evolving technology is first, the initial cost of installation and second, the cost of upgrade since new and improved technology is released every 6-8 months.

The second challenge is that technology has made copyright infringement much easier; with so many more people creating art, many of whom are not educated about copyright laws, and sharing their works online, a copyright infringer has their pick of interesting and pretty works. This theft of designs reduces the sales income that these artists might earn.

The third challenge comes in the form of privacy issues stemming from social media.

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