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THE EVOLVEMENT IN PRINTMAKING ARTWORK MAKING PROCESS AND TECHNOLOGY IMPLEMENTATION AS AN APPROACH TO PRODUCING AN ARTWORK

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ABSTRACT

Printmaking is an approach to art-making which need patience and good discipline throughout the process. Usually, the production of printmaking artwork is done manually, starting with the production of the drawing, transferring the image or design onto the block, and continuing to the next processes to deliver the idea. Historically, much evidence has been proven that the usual process of making printmaking artwork takes a long time because it has to follow an organized process. However, in the printmaking artwork-making process, there is a need for a solution that can help artists upgrading the process of making printmaking artwork. This underlying study intention is to compile and establish the process effectiveness of technology involvement in printmaking artwork process. This research will implement qualitative research through observation on techniques, processes, and materials of the technique. By involving this technology aspect as part of the printmaking artwork-making process, this research will find a new knowledge for artists which can understand the process of producing artwork more efficiently and competitively. As a conclusion, with suitable and evolution in technology, the artist will have the opportunity to value printmaking and upgrade their skills in the future in parallel with the current technology development.

Keywords: printmaking, artwork, process, technology, evolution

INTRODUCTION

Research Background

Printmaking is one of the fields that mediates materials and processes in producing works of art. Techniques in the art of printing become a leap for artists when producing works of art not only in the art of printing but also in the art of painting and drawing. The need for print art in the art industry has a positive impact on the development of visual art around the world. As the fine print was produced multiple times, A.Zelozko (2021) expressed that, it is also known as multiple originals associated with the unique process and outcome

of the artwork within the possibilities and limitations of the techniques. In printmaking, the artist vastly discovered new ways of artwork-making through the techniques chosen. Conventionally, has been mention by E.Rodriguez (2019) and Met Museum (2022) community printmaking begins with the process of sketching, transferring the image onto a matrix, and then transferring the image onto another surface such as paper or fabric. In P.Carouther's (2020) article, printmaking is an ancient way of transferring information to society. Traditional techniques in printmaking are woodcut in the category of Relief print, etching, and engraving under the category of Intaglio and lithography. Modern techniques that are widely used also include the screen-printing technique.

In general, the process in all these print art techniques is the same even though the techniques are different. The difference is in terms of the use of materials and the time of manufacture. Scientifically, printing is the first step in the introduction to the printing process in conveying current information in ancient times. Eventually, Kings Framing and Art Gallery (2020) community believe that printmaking is significant because there are different kinds of works of art associated with printmaking and the artist produces them originally by hand. A.Sunil (2020) also believe that printmaking brings diversity to the world of fine art and allows artists to challenge themselves and experiment with different techniques that do not limit their exploration in terms of creating a series of identical prints, a one-time printing of a certain number of pieces and in value over time, as artists gain recognition and an edition gets sold out. Futhermore, in E. T. Ijisakin's (2019) writing, he mentions that printmaking is technically known as an "impression" where it is an evolution of artistic expression.

Problem Statement

Printmaking is one of the methods in the production of works of art. For a long time, print art was still not accepted as one work of art. It was normally classified as a social communication material in the past (M.Vojvodić & S.Sredanović, 2019). This approach changed when Albrecht Durer made a point to start changing the perception of the understanding of printmaking in the history of European printmaking. It opens up space for artists to explore techniques in print art. However, the development of printing art is not only about exploring techniques and materials, as technology also plays an important role. This statement is supported by R. M. Noor (2014) where printmaking used to be more convenient because it was tied to established traditional methods. It is very different from today's printing art which is increasingly free to process form and style as a result of the influence of technology on world boundaries. The existence of technology is now a question mark in the production process of printed artwork, does it change the conventional process and give side effects. The effectiveness of this study will be perceived when answering the objectives of the study which are to compile the existing artwork-making process in printmaking and to establish the process evolves with technology.

Literature Review

A comprehensive study of the literature shows that there are various processes in the printmaking artwork process. Since 3000 BC, prints have been produced by masterpieces by artists such as Rembrandt, Goya, and Henri Matisse. Each artist has his way and style in the process of creating print art. N.Morley (2016) states in his book entitled *Linocut For Artists & Designers*, every artist needs to start by preparing a studio space to experiment and it is one of the initial processes in the making of an artwork. Starting with the setup of the working space, and the preparation of paper and equipment, these are all taken into account in the process of making art prints. The development of printmaking art is not only focused on its active group, in fact, but the technique and process of this print art are also actively developed in the process of making other artworks such as painting art, ceramics, fashion, and others. According to E.H.Wouk (2017), printmaking indirectly brings other artists together to create new collaborations in art with the production of works. This artist can raise printmaking art to a higher level and create new meaning and value in the process of producing artwork. Coldwell (2015) states that he believes printmaking has a great position and opportunity in providing space for the intersection of ideas, technologies and processes that can arise. This

collaboration gives a new emphasis where collaboration in the production of works brings the art of printing to a future phase. All work produced using printmaking techniques is a originality based on the fact that the work of art is exclusively created by the artist and not produced from previous works. Similar to any other medium of artistic outcome, the standard of printmaking is also under evolving conditions (N.A.Saadi, 2021).

In the development of the 21st century, many new technologies have been introduced such as the use of computers and telephones. The development of this technology is developing rapidly and at the same time also gives a positive space to the world of creative arts. G.F.Peterdi's opinion (n.d.), for people who do not know the art of printmaking, the word print may mean mechanical printing such as books, magazines, graphic printing as well as textile printing. But for an artist, printmaking is a method that has a variety of techniques, styles, tools and creative processes as well. As been mention by M.Melot (1988), printmaking is a process of transferring an image on to another surface. It is a straightforward act and understandable by many. Mostly, the relief print technique is usually used by printmaking artists. Not only artists but also an amateur society are also able to handle this technique. The material is easy to get and the process is much more convenient than the other techniques. However, the details and discussion of all techniques in printmaking still get the attention, and research after research is presented to maintain the sustainability and validity of print art. This concern boosted the art of printing and its existence on par with other arts.

METHODOLOGY

In this study, the research process was built to provide an understanding of how this study was conducted. It will be used as a guide to analyze the study data and at the same time help to find the conclusion of this study. The flow chart (Figure 1) below is research process for this study:

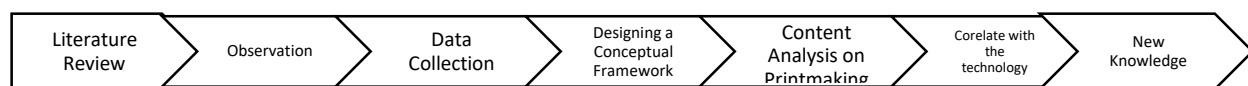


Figure 1: Research process

This study uses qualitative methods and the data collection process is done through observation. This observation aims to obtain information on the process of handling techniques in the art of printing. Figure 2 shows the data collection process that started with the observation of techniques in Printmaking. The possibility of technology being involved in the printmaking artwork-making process will be identified through the analysis process.

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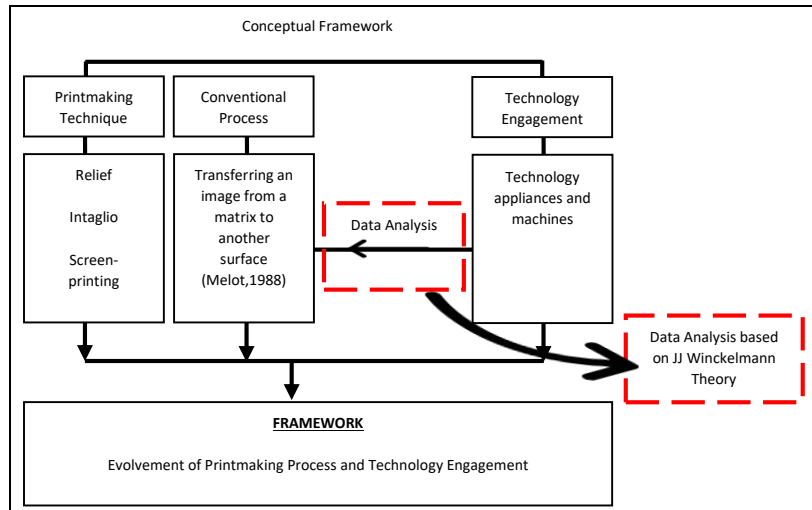


Figure 2: Conceptual Framework

The analysis will be conducted with JJ Winckelmann's theory, The Ideal of Beauty, which contains the steps of collect, categorize, analyze, and use. All the data selected will be compiled and evaluated accordingly to the criteria needed.

RESULT

Content Analysis

The process of making a printmaking artwork is collected from the basic category of printmaking techniques which are relief, intaglio, screen-printing, and lithography that has been used by many artists from the past to the present. What differentiates it from all the techniques mentioned is the aspect of the process as well as the materials. Here is the list of the conventional process for printmaking techniques and materials:

Table 1. Consist of techniques, materials and conventional process of printmaking

Technique	Material	Conventional Process
<p>Relief: Woodcut Linocut Collagraph</p> <p>This process is the commonly used by artist as it is the friendliest process where everybody can learn and producing a printmaking artwork.</p>	<p>Wood Block, carving tools, registration block, roller, ink, palette knife, paper, barren</p>	<p>The process:</p> <p>Figure 3. Relief print process Source from Seni Budaya Asia (2022)</p>

		<ol style="list-style-type: none"> 1.Prepare an image or drawing. 2.Prepare block(matrix) and registration block. 3.Transfer image onto the block and start carved out the image accordingly. 4.Apply ink on the block surface. Place paper on the block and rub it with barren. 5.Once the ink is fully attached to paper, removed it carefully. 6. Continue this process from step 2 if the image has multiple color. 7.Proofing.
<p>Intaglio: Etching Aquatint Drypoint Mezzotint</p>	<p>Files, scraper, burnisher, palette knife, dabber, ink, copper/zinc plate, paper, newsprint paper, nitric acid</p>	<p>The process:</p> <ol style="list-style-type: none"> 1.Prepare an image or drawing. 2.Preparing a zinc or copper plate. 3.Transfer image on the plate. 4.Soak the plate into nitric acid (etching & aquatint for 10 minutes) 5.Apply ink on the plate surface. 6.Wipe ink with newspaper. 7.Prepare paper by soak into the water and remove it after 30 sec. 8.Place the paper onto the plate. 9.Then press the plate through press machine. 10.Lift up the paper and the image will transfer to the paper. 11.Proofing
<p>Screen-printing: Reduction Multiple Layer Stencil</p>	<p>Block, squeegee, palette knife, film, fabric ink, paper, arabic gum, shellac</p>	<p>The process:</p> <ol style="list-style-type: none"> 1.Prepare an image or drawing. 2.Prepare screen block. 3.Transfer image by draw directly on the screen block. 4.Used Arabic gum or wood shellac to cover the positive area. 5.Apply the ink by using squeegee. 6.The image will appear on a paper o surface. 7.Repeat this process until the last layer (if the image had multiple color) 8.Proofing as the last process to complete the artwork.
<p>Lithograph:</p> <p>Artistic approach is slightly differed from the industry. The aesthetic aspect much more impact to the process.</p>	<p>Limestone, aluminum plate, ink, roller, paper, nitric acid, water, drawing tools, greasy black pigment, press machine</p>	<p>The process:</p> <ol style="list-style-type: none"> 1.Prepare a drawing. 2.Draw image on the limestone or an aluminum plate with greasy black pigments. 3.The printer takes over and chemical threats the stone or plate to stabilize the image. 4.Applied a solution of Arabic gum and nitric acid (to etch the stone surface) 5.At the press, the printer sponges the stone or plate with water and keep the surface damp.


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		<p>6. An oil-based printing ink is applied with a roller, adhering only to the positive area/ while being repelled by the wet area.</p> <p>7. Put the paper through the press.</p> <p>8. Proofing as final steps.</p> <p>9. Repeat steps for fulfill the editions.</p>
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For table 1, data been collected randomly and categorized them according to characteristics in the production process of printmaking artwork. The formation of this printmaking art process continues and gives satisfaction to the artist in producing consistent and quality work. Through this conventional process, the basic knowledge of printmaking art is applied more perfectly to create innovation in the printing process. Montada (2012) states that printing is the foundation of traditional art since the Renaissance. Changes in the process through study occur over time from the aspect of technology development besides the materials used. The technique used also received the impact of the change. The role of technology is accidentally altering the production process of printmaking works of art.

The use of technology can be seen in the table below:

Table 2. Consist of techniques, materials and process enhancement of printmaking.

Technique	Material	Process Enhancement
Relief Woodcut Linocut Collagraph	Block, registration block, roller, ink, palette knife, paper, block printing press machine	<p>The process: The same process as the conventional process but at the process of rubbing the paper using a barren, the artist can save time by using a block printing press machine.</p>  <p>Figure 4. Block printing press machine Sources from Scarva.com</p> <p>Even though manually used, this technology helps the artist to manage their production time and keep the process faster.</p>
Intaglio Etching Aquatint Drypoint Mezzotint	Files, scraper, burnisher, palette knife, dabber, ink, copper/zinc plate, paper, newsprint paper, nitric acid, machine press, acid machine	<p>The process: Since the process remained, the injection of technology can be seen in the process when the implementation of the spray etching machine. This technology changes the process to be less dangerous.</p>

		 <p style="text-align: center;">Figure 5. Spray etching machine</p>
<p>Screen-printing 4 color separation (CMYK) Stencil</p>	<p>Block, squeegee, palette knife, film, fabric ink, paper, expose machine, waterjet, transfer image lightbox,</p>	<p>The process: Conventional process remained as it is but the use of technology in this technique is vastly used. The used of material is also changed to be compatible with the machine. The machines are expose machine, light box, water jet and dryer machine.</p>  <p style="text-align: center;">Figure 6. Expose machine Sources from Solver Marketing (M) Sdn. Bhd</p>  <p style="text-align: center;">Figure 7. Waterjet machine Sources from Karcher</p>
<p>Lithograph</p>	<p>Limestone, aluminum plate, ink, roller, paper, nitric acid, water, drawing tools, greasy black pigment, press machine</p>	<p>The process: In this technique, the process is sustained as it is while the machine implementation already exists from the beginning. This process has also been used in other industries such as engineering industry.</p>

In Table 2, data been collected based on the material used in the conventional process. This data leads this research to observe the process of producing printmaking artwork which includes the technology material.

Table 3. Consist of the result of analyzing both data in Table 1 and 2

Technique	Technology Implementation	Remark
Relief	/	Even though manually used, this technology helps the artist to manage their production time and keep the process faster.
Intaglio	/	This technology changes the production process to be less risky while working on with nitric acid.
Screen-printing	/	The use of technology appliances manages to help an artist to be creative and think further to create a variety of artworks. From computer engagement to software application until exposing an image, all the technologies are related and relevant in the printmaking production process.
Lithograph	/	Artistic approach is slightly differed from the industry. The aesthetic aspect much more impact to the process.

As the result of analyzing in Table 3, the connection between technique and technology implementation was described in the remark section. All of the basic techniques are screening the existence of technology in the conventional process however, the technology injection is not shown, but as printmaking art moves forward to the future, the technology slowly appears and grows in the process, but it became the need of the artist in making printmaking artwork.

DISCUSSIONS & IMPLICATION

The development of printing art changes over time. Acceptance of print art today is still relevant to continue even with the rapid creation of new technologies with high demand. In increasing the productivity of work production, the machines used also have implications from the aspect of repair and maintenance. Indirectly, knowing the conventional work process is much more worth it when it comes to the solution aspect. The process of producing works using conventional process is the basis that needs to be continued and applied to the current generation of artists. Furthermore, this process needs to be sustained and preserved for the next generation. It is also representing the artist's relationship with his culture that continues around him and intellectually that requires a relationship with the media because it is the driving force of a culture of creativity associated with talent, genius, and freedom of thought in the production of printed works of art.

CONCLUSION

The above study has evaluated from the analysis of all the techniques mentioned, the use of technological equipment as a support for the artist previously evolved. Printmaking has its strengths. Printmaking art enthusiasts still maintain the conventional process, as usual, merely the injection of technology helps facilitate the making of print artworks. This art tends to cover the process evolvement from past to present. This approach also indirectly increased the aesthetic value of the printmaking artwork. It is positive exposure and encourages artists to think more creatively in the production of printed artworks in the future. Moreover, with suitable and evolution in technology, the artist will have the opportunity to value printmaking and upgrade their skills in the future in parallel with the current technology development. As a recommendation, this study has the potential to move forward and support the idea of expanding the

process of making artwork in printmaking, not only in the technology aspect but also in knowledge and understanding of printmaking will be achieved.

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