Sentiment Analysis and Word Cloud Insights of Freelance Illustrators in the Dynamics of the AI Art Era using Atlas-ti

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Abstract. This qualitative research aims to explore the dynamics of business competition in the modern era, specifically within the realm of freelance illustration, in response to the emergence of AI Art. The study delves into the sentiments, perceptions, and concerns of freelance illustrators regarding AI Art’s impact on their profession and the broader creative landscape. Employing Sentiment Analysis and Word Cloud analysis utilizing Atlas-ti software, the research captures the multifaceted viewpoints of 25 freelance illustrators. The Sentiment Analysis discerns a complex tapestry of sentiments, with 46% of participants expressing positive sentiments and 54% expressing negative sentiments concerning AI Art. Positive sentiments underscore AI Art’s potential to democratize art, broaden creative horizons, and enhance accessibility. Conversely, negative sentiments revolve around apprehensions of job displacement, ethical dilemmas, and the potential erosion of traditional artistic skills. The Word Cloud analysis further dissects the most prevalent terms associated with each sentiment, offering insights into the central themes and concerns. These findings highlight the complex interplay of emotions within the freelance illustration community that has more negative sentiments.

Keywords: Sentiment Analysis, AI Art, Freelance Illustrators.

A. INTRODUCTION

The visual art business has undergone a remarkable transformation over the years, evolving from traditional forms to embrace the opportunities presented by modern technology [1]. Amid this dynamic shift, the role of freelance illustrators has become increasingly significant, providing a means for talented individuals to not only express their creativity but also to earn a livelihood [2]. Illustrators, with their unique artistic talents, contribute substantially to various aspects of business and society, adding value through visual storytelling, branding, and communication [3].

However, as the visual art world continues to evolve, a new and transformative force has emerged—AI Art [4]. This technological innovation has the potential to reshape the landscape of art creation, offering automated solutions that can generate visually stunning images with incredible speed and precision [5]. While AI Art brings with it promises of efficiency and accessibility, it also casts a shadow of uncertainty over the future of freelance illustrators, raising questions about the sustainability of their careers in an era dominated by artificial intelligence [6].

The previous researches have extensively explored the potential positive and negative implications of AI Art in this creative domain, as done by Hitoeuwari, et al. [7], Giannini & Bowen [8], Fink & Salah [9], and McCormack, et al. [10]. These studies have provided valuable insights into the capabilities and limitations of artificial intelligence in the creative realm, such as enhances the
creative process by offering rapid generation of ideas, enabling artists to explore new styles and concepts more efficiently and democratize access to the creative process, making art more inclusive, and accessible to a broader audience, regardless of their artistic background [11]. However, a notable research gap lies in the specific experiences and sentiments of the freelance illustrators who find themselves at the intersection of AI Art and their traditional and digital visual man-made art. Our research aims to address this gap by shifting the spotlight onto freelance illustrators, who often occupy a unique position in the visual art ecosystem.

The preliminary research undertaken in this study involved a survey of 735 freelance illustrators actively engaged in the field. Within this diverse and talented community, the perspectives regarding AI Art emerged as a central concern. Among the freelance illustrators surveyed, a striking consensus was observed, with a significant majority of 711 participants expressing their agreement with the need to impose restrictions on AI Art within their professional networks and communities.

These 711 votes (97%) of the freelance illustrators in that community in favor of imposing restrictions signify a clear stance taken by the majority of freelance illustrators. Their collective sentiment aligns with a strong inclination to regulate AI Art within their creative spaces. In particular, the illustrators expressed a desire to curtail the promotion and sharing of AI Art in any form, reflecting a deep-rooted apprehension about the potential impacts of automated art generation on their industry. This consensus highlights the urgent need for a nuanced examination of AI Art’s integration and its effects on the livelihoods and artistic identities of freelance illustrators.

In this context, understanding the sentiments and perspectives of freelance illustrators becomes imperative. This research embarks on a journey to analyze the sentiments and the input words of these creative professionals as they navigate the dynamics of the AI Art era. We aim to explore the emotional responses, concerns, and aspirations that freelance illustrators hold regarding the integration of AI Art into their industry. This sentiment analysis and word cloud insights is not merely an exercise in understanding individual emotions; it serves as a vital tool for gaining insights into the collective consciousness of this creative community.

B. METHOD

Qualitative research serves as the foundational approach for this study, allowing for an in-depth exploration of the sentiments and perspectives of freelance illustrators in the AI Art era [12]. The qualitative approach offers a nuanced understanding of the complex dynamics at play within this creative community, emphasizing the need to delve into their experiences and insights. The population under examination consists of 735 active members within the art community. From this diverse population, a selected group of 25 freelance illustrators was identified using Snowball Sampling Method as key participants in this research [13]. In snowball sampling, researchers start with an initial participant who is known to belong to the target population. Then, these participants are asked to identify and refer other potential participants, who, in turn, refer more participants, and so on, creating a “snowball” effect.

Data for this research was primarily gathered through semi-structured interviews with the selected group of freelance illustrators. The interview method was chosen to facilitate open and candid discussions, enabling participants to share their perspectives, concerns, and aspirations regarding AI Art. These interviews served as a valuable source of qualitative data, offering firsthand accounts of the experiences and sentiments of freelance illustrators in the AI Art era.

The concept of the analysis method in this research can be described as follows:
The analysis of collected data took a dual approach to provide comprehensive insights into the sentiments and perspectives of the participants. Sentiment Analysis was employed to systematically assess and categorize the emotional responses and attitudes expressed by the illustrators during interviews. This approach allowed for a structured examination of the positive and negative sentiments prevalent within the data [14].

Additionally, Word Cloud Insights, aided by the powerful data analysis tool Atlas-ti, were utilized to identify recurring themes, keywords, and patterns in the interview transcripts [15]. This method added depth to the analysis by uncovering the underlying factors contributing to the sentiments expressed by the participants. The combined use of Sentiment Analysis and Word Cloud Insights enriched the research findings, providing a holistic understanding of the dynamics at play within the freelance illustration community in the AI Art era.

C. RESULT AND DISCUSSION

Demographic Analysis

Table 1 below shows the demography of the interviewed samples:

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-20: 3</td>
<td>Female: 14 (56%)</td>
<td>Indonesia: 18 (72%)</td>
</tr>
<tr>
<td>21-24: 12</td>
<td>Male: 11 (44%)</td>
<td>Malaysia: 3 (12%)</td>
</tr>
<tr>
<td>25-28: 10</td>
<td>(40%)</td>
<td>Turkey: 4 (16%)</td>
</tr>
</tbody>
</table>

Based on the table above, the age distribution among the participants reveals that the majority fall within the 21-24 age group, comprising 48% of the sample. This suggests a relatively youthful demographic profile of the interviewed individuals. The 25-28 age group follows closely behind, representing 40% of the sample, while the youngest age group (17-20) constitutes 12%. This distribution may indicate that younger individuals are more inclined to participate in such interviews or that they have a more significant presence in the freelance illustration community in the AI Art era.
The gender distribution reveals an interesting pattern. Females represent a majority, accounting for 56% of the sample, while males make up 44%. This gender imbalance within the sample might reflect broader trends in the freelance illustration field or could be specific to the research context. Understanding this gender distribution is essential for considering potential gender-related perspectives and experiences that may arise during the analysis of sentiments and responses among freelance illustrators. The table also provides insights into the geographic diversity of the participants, indicating that the majority (72%) of the interviewed samples are from Indonesia. Malaysia and Turkey represent smaller proportions, at 12% and 16%, respectively. This geographical variation may offer a nuanced perspective on how AI Art impacts freelance illustrators across different regions.

**Sentiment Analysis**

The Sentiment Analysis conducted in this research, facilitated by the use of Atlas-ti, employs a structured approach beginning with a Define Query process. This methodical approach involves meticulously scrutinizing every sentence uttered by the sampled participants. The primary objective is to discern and categorize the underlying sentiments within each sentence in “Positive” or “Negative” sentiment. This analysis is essential for capturing the nuances of the participants’ emotional responses, as sentiments may vary from sentence to sentence, reflecting the multifaceted nature of their perspectives.

Figure 2 below shows the Network Orthogonal Tree of the sentiment analysis result based on the sample number:

1. **Positive Sentiment Only**, represents participants whose sentiments throughout the interview remained consistently positive. These individuals expressed optimism, enthusiasm, and favorable views regarding AI Art’s potential and impact on their work and the industry as a whole. Their unwavering positive sentiment underscores their belief in the benefits and opportunities presented by AI Art.

2. **Negative Sentiment Only**, comprises participants whose sentiments remained consistently negative throughout the interview. They voiced concerns, apprehensions, and reservations...
about the implications of AI Art, expressing a pessimistic outlook on its effects on their profession and the art world. Their sustained negative sentiment signifies deep-seated worries and challenges faced by these individuals.

3. Positive and Negative Sentiments, expressing a mix of positive and negative sentiments during their interviews. Their emotional responses were nuanced, reflecting both the potential advantages and concerns associated with AI Art. These individuals acknowledged the opportunities while also addressing the challenges and ethical dilemmas posed by AI Art. Their sentiments provide a balanced perspective, recognizing the multifaceted nature of the issue.

Table 2 below shows the sentiment analysis result based on the interview:

<table>
<thead>
<tr>
<th>Sentiment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>37 (46%)</td>
</tr>
<tr>
<td>Negative</td>
<td>43 (54%)</td>
</tr>
</tbody>
</table>

Based on the table above, the data shows that 46% of the sentiments expressed by the participants are categorized as "Positive." This indicates that a significant portion of the sample holds favorable or optimistic sentiments regarding AI Art in the context of freelance illustration. The example for these positive sentiments are: “This democratization of art is, in my opinion, one of the key benefits of AI Art” [Sample 1], “The capabilities of AI Art in generating artwork are indeed impressive” [Sample 2], “The quality of art produced by AI Art nowadays is indeed a fascinating aspect” [Sample 5], “The results often yield stunning works of art that can captivate viewers with their precision and aesthetic appeal” [Sample 6], “AI Art is incredibly user-friendly and provides an equal opportunity for individuals with limited art backgrounds” [Sample 14], and “Many AI Art platforms offer art at a reasonable price, making it available to a wide audience” [Sample 15].

On the other hand, 54% of the sentiments are categorized as "Negative." This reflects a substantial portion of the participants who harbor concerns, apprehensions, or unfavorable views regarding AI Art. The example for these negative sentiments are: “It essentially involves taking the creative work of others without their consent, which goes against the principles of artistic integrity and respect for the rights of creators” [Sample 14], “it might lead to a reduced demand for human-generated art” [Sample 15], “This could impact the livelihoods of many talented artists who rely on their craft for a living” [Sample 17], “My view that AI Art lacks a soul significantly shapes how I perceive its role in the art world” [Sample 20], and “It often seemed like AI could accomplish in seconds what would take me hours or even days to create manually” [Sample 25].

The dominance of “Negative” sentiments signifies the substantial concerns and reservations held by a significant portion of freelance illustrators. Their apprehensions revolve around ethical issues, including the perceived lack of artistic integrity when AI generates art without human consent. Concerns about job displacement and the potential economic impact on human artists are also prevalent. The sentiment that AI Art lacks the emotional depth or "soul" often associated with human-created art is another recurring theme. Participants express apprehensions about the speed and efficiency of AI Art potentially undermining the value of their manual creative efforts.

The results of this research are strengthened by previous researches, that images generated by AI have ethical issues regarding copyright, as in research by Zhong, et. al. [16]. Apart from that, the possibility of job displacement being caused by AI is supported in a research by Chen, et. al. [17]. Furthermore, that art requires the soul of the artist in it, not created automatically without a soul using AI, is supported in a research by Bhavana Saxena [18] and Kodirovich, et. al. [19].
Word Cloud Insights

The Word Cloud Insight analysis conducted in this research, complementing the Sentiment Analysis, adheres to a structured and meticulous approach. Following the initial assessment of sentiments, this methodical process involves a thorough examination of every sentence articulated by the sampled participants. The primary aim is to identify and categorize the words and phrases that contribute to either a "Positive" or "Negative" sentiment within each sentence.

Figure 3 below shows the Positive Word Cloud based on the interview:

Based on the Positive Word Cloud, the prevalence of words such as "Creative," "Artists," "generate," "impressive," and "artistic" in the Positive Word Cloud indicates that these terms are frequently associated with positive sentiments expressed by the participants. These words suggest that participants often emphasize the creative aspects and capabilities of AI Art. They view AI Art as a tool that can help artists and creators generate new and impressive artistic works. Additionally, the presence of words like "find," "create," and "new" underscores the perception that AI Art offers novel and innovative ways for artists to approach their work. Overall, the Positive Word Cloud suggests that participants see AI Art as a means to enhance creativity and artistic expression.

Figure 4 below shows the Negative Word Cloud based on the interview:

Based on the Negative Word Cloud, the prevalence of words such as "boring," "undemocratic," and "unethical" in the Negative Word Cloud indicates that these terms are frequently associated with negative sentiments expressed by the participants. These words suggest that participants often emphasize the negative aspects and limitations of AI Art. They view AI Art as a tool that can harm the creative process and undermine the authenticity of artistic expression. Additionally, the presence of words like "copyright," "copyright," and "demand" underscores the perception that AI Art poses a threat to intellectual property rights. Overall, the Negative Word Cloud suggests that participants see AI Art as a means to hinder creativity and artistic expression.
Based on the Negative Word Cloud, the presence of words like "Artists," "human," "concerns," "demand," "clients," "copyright," and "generated" in the Negative Word Cloud indicates that these terms are frequently associated with negative sentiments expressed by the participants. These words suggest that participants often harbor concerns related to AI Art's impact on the role of human artists and the demand for their services. Specifically, the term "Artists" being prevalent in the Negative Word Cloud implies that participants are apprehensive about the potential displacement of human artists by AI-generated art. Chen et al.'s study [17] provides further evidence of the potential for AI to lead to job displacement. The term "clients" suggests concerns regarding how clients may prioritize AI-generated art over human-created art, affecting the demand for artists' work. "Copyright" indicates worries related to the ethical and legal aspects of AI-generated art, including issues of intellectual property and artistic integrity. Zhong et al.'s research [16] highlights the ethical concerns related to copyright and legal aspects when it comes to AI-generated images.

Overall, the Negative Word Cloud underscores the participants' reservations and anxieties regarding the challenges posed by AI Art to the traditional roles and livelihoods of freelance illustrators. These words reflect their negative sentiments and concerns about the potential consequences of AI Art in the field of illustration and creative work.

D. CONCLUSION

In conclusion, the findings from both the Sentiment Analysis and Word Cloud analysis provide a comprehensive understanding of the sentiments, perceptions, and concerns of freelance illustrators in the era of AI Art. These analyses have shed light on the multifaceted dynamics at play within this creative community. The Sentiment Analysis using Atlas-ti revealed a balanced distribution of sentiments, with 46% categorized as "Positive" and 54% as "Negative." The prevalence of positive sentiments highlighted the recognition of certain benefits, including democratization of art and increased accessibility. However, the prevalence of negative sentiments underscored deep concerns about job displacement, ethical dilemmas, and the potential devaluation of traditional artistic skills.

The Word Cloud analysis offered further insight by pinpointing the most common words associated with each sentiment. In the Positive Word Cloud, terms like "Creative" and "impressive" indicated that participants see AI art generator as a tool that can enhance creativity and artistic expression. Conversely, in the Negative Word Cloud, words like "Artists," "concerns," and "copyright" reflected participants' worries about the impact of AI Art on the role of human artists and ethical considerations. Overall, these analyses demonstrate the complexity of the emotions and perspectives within the freelance illustration community. Freelance illustrators are navigating a landscape where they acknowledge the potential benefits of AI art generator but also grapple with profound concerns about its implications for their profession. As AI Art continues to evolve, addressing these concerns and fostering ethical integration will be crucial to ensuring a harmonious coexistence between human creativity and artificial intelligence in the world of visual illustration.

E. REFERENCES


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