

The Value of Digital portfolio on Placing Graphic Design Graduates from Worker-to-Work Matches in Online Advertisement

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Abstract The main purpose of this study is to identify the value of a digital portfolio in placing graphic design graduates for relevant matches of skills requirement expectations from online advertisements. A total of 30 job advertisements posted on the Facebook social media platform were analysed in a cross-examination of the hiring process. The skillset outline in the advertisements for a job position consists of what graduates are expected to; a) deliver, b) to know, c) to have – in preparing the graduates digital portfolio and identifying current employability skills that are valuable in the organizations' decision making. These findings are useful for the Graphic Design graduates towards meeting the employers' expectations. The result indicates that almost all the preferences posted in hiring potential candidates require necessary digital technical skill and expertise thus necessitate the training to equip them for authentic task.

Keywords: digital portfolio, graphic design skill, online advertisement, employability

1 Introduction

The dynamics in creative industry set the challenging course for graphic design graduates as requirements from industry players in job applications and positions would push them for a transition to an increasingly digital society. Recruitment of freshly graduate graphic designers for the next few years can be a meticulous but an interesting process as Careerplanner.com [8] had suggested that recruitment for graphic designers is expected to rise at a rate of five percent between 2016 to 2026, almost as fast as the average for all occupations. Emerging technological environment and social media networking for the last few decades have led companies to become competitive in selecting qualified design employee who could perform the required skillset and expertise. With the dynamic impact and intense evolution of the internet, companies have made use of social media platforms to recruit online. Despite specifying the job skillset for the posts of graphic designers, tracking the right candidates' competencies through their digital portfolios suitable to the skill requirements are still relatively low [1,8,9]. Nevertheless, there is also the case in which information and

requirement are sometimes unclear to what employers want and value in an applicant's portfolio. In reverse, the graduates are also uncertain in their career path to comply with what employers expect as posted in their advertisements.

In addressing the circumstances, this study aims to identify the skillset and competencies required by employers through an online advertisement from graphic design graduates (GDG) at the Faculty of Art and Design (FSSR), Universiti Teknologi MARA (UiTM), Puncak Alam campus. This would provide the GDG some recommendations to consider for their digital portfolio and identify the applied skillset that matches for the design position requirements. Thematic and critical analysis on the skills required and qualifications of graduates that meet employers' criteria were analysed. Therefore, findings from this research are instrumental in providing some fundamentals for graduate students in preparing and developing their digital portfolio while offering other stakeholders especially the university and employers in identifying the graduate skillset and employability factors in the industry.

2 Problem Statement

Prospects in graphic design employment is unceasing as various businesses would require diverse design faculties for multiple commercial activities [2,3,15, 24,18]. The ability to translate ideas into visual solutions and communicate ideas via visual elements require graphic design graduates to adapt and blend into diverse working environment which places them in a position to match the advertised employment expectations. However, several studies claimed that the graduates' quality of performance failed to meet the employers' demands in contemporary industry venue as specifically advertised [2,9,24, 27]. These factors are believed to be due to several conditions. First, there is insufficient appreciation and respect for the graphic designer profession [2,27]. Second, the mismatch between what is learned at the university and what graphic designers are expected to perform in design practice [3,19] may cause conflicting dispositions. Third, the practice of design thinking and entrepreneurial mindset are not sufficiently emphasized in the curriculum [4,24]. With growing interests in the field of digital arts, the contemporary design market is swamped with Arts students from multiple design faculties. Hence, higher design learning institutions need to develop a curriculum that bridge the educational ground to meet the trade requirements. Critically, identifying the skills required in the trade for design institution could provide the assurance that the curriculum remains relevant and current in producing high-performing graduates [9].

Reports by TalentCorp Malaysia and the Institute of Labour Market Information (ILMIA) [32] revealed that the design sectors are experiencing talent shortage, particularly in acquiring skilful talents for specialized software tools. This further entrenched that graduate with impeccable digital skills are of high demand in 21st century digital economy. Report from LinkedIn 2020 on emerging jobs in Malaysia highlighted that labour market creativity, persuasion, and emotional intelligence remain top in soft skills pre-requisites by employers. More sagaciously, higher learning institutions need to critically intensify efforts to up-skill and re-skill students while enhancing their knowledge and training students to be adaptable in the kaleidoscopic design industry. Ultimately, 21st century design graduates would be more

perceptive in co-curating their transformative learning journey and rapid advances of the discipline.

Design students' transformative journey into employment however may be obscured if they cannot discern of what they need to deliver, to know, and to have. These include the ability to identify their competency areas through demonstrating individual knowledge and skills while reflecting personal characteristics with the credentials presented in their employment portfolio. Thus, preparing graduates to begin their career in professional design practices requires well documented and organized digital portfolio or e-Portfolio that showcases the range of professional qualities as advertised by employers to fit into their company. However, there is paucity of evidence on how employers are willing to accept a graduate's digital portfolio as proof of competencies and skillset for the positions which are advertised online. Employers will only select the right candidate for the right task by considering certain factors including the applicant's specialized skills, talents, and abilities as the company can gain market advantage by leveraging the design talents. The variegated graphic design job domain entails for heightening the professional aspects of graphic design graduates at FSSR UiTM. This study set out to address the employability demands in the development of an e-Portfolio that matches online advertisements

3 Literature Review

3.1 Job description requirement through advertisement

Recruitment has been largely advertised through newspapers, radio, banners, billboards and direct enlistment. With the advent of the fourth industrial revolution (IR 4.0) that weaves connection between the digital to the real worlds, employers have steered their vacancy advertisements online through social networking platforms or their organization website. Digital recruitment is cost-effective as it reduces advertising expenditure and have immediate response rate in searching and profiling candidates that fit the job specifications, eases administrative burden, while improving the organization's image and profile [4].

With various values that online recruitment offers to both employers and job seekers, more job agencies provide online platform for recruitment and job application which include Jobstreet.com to its contemporaries Monsters, Glassdoor, Jobs Malaysia, Job Majestic, Best Jobs PartTimePost.com, Freelancing.my, and Remotelah in Malaysia. It is reported that 60% to 92% of employers and recruiters use social media to screen and discover high-quality candidates [17,30]. The practice of using social media and professional networking platforms such as Facebook, Instagram, Twitter, and LinkedIn are popular in hiring professionals [17]. Essentially, these online platforms provide access to a wider audience that enable various organizations to reach potential candidates based on a specific job description. As Facebook becomes one of the world's largest and most popular social network platforms [31] that are easily accessible by job seekers through smart mobile devices, most employers find it convenient to advertise job vacancies in their organizations.

Job vacancy advertisements for graphic design would usually indicate specific criteria and the requisite competencies from applicants which are also supplemented with work experience, personal characteristics with educational and professional credentials [20,21]. Employers

would also require evidence that demonstrate the applicant’s knowledge in design fundamentals, conceptualizing visual, creative thinking skills, engagement in various media, ability to translate requirements in design, and most importantly a team player [13, 37]. However, other industries may request differently in the scope of work as advertised.

Meanwhile, research by Dziobczenski, Person, and Meriläinen [11] on 230 job advertisements for graphic design positions in Finland identified that employers have a preference to select candidates with the longest years of working experience in their criteria selection. Another study conducted by Dziobczenski and Person [12] in identifying the relevant skills of graphic positions by employers in the United Kingdom require that candidates must be highly competent in the 2D software, a team player, good in project planning and administration, substantially creative, able recognize the intricacies of aesthetics and detailing through the demonstration of production skills. A study by Yang, You, and Chen [41] discovered that companies also demand abilities in diverse areas such as software, language, and ingenuity when analysing 265 job offers for industrial designer positions in China and Taiwan. Findings by Opaku et al. [33] revealed that graphic design firms in Ghana prefer to hire new graduates who are technology-driven, particularly in interactivity as the sector advances with new dimensions of digital media, mainly UX and UI. However, as contemporary designers are multi-skill in various design areas including communication, media and branding [34,36] mapping out the qualification and job descriptions in advertisements would provide clear direction for job seekers with their job applications. Figure 1 exhibits two samples of recent job advertisements for graphic designers through social media.



Fig 1: Sample of local recruitment advertisement for graphic designer positions

Messum [28] conducted a qualitative integrative review on studies examining employability skills through content analysis of advertisements on job vacancies. Their analysis revealed that communication skill is the most common seek after requirement followed by teamwork quality, job-specific abilities, experience, interpersonal skills, organizational skills, leadership flair, personal qualities, creativity, innovation skills, analytical aptitude, problem-solving dexterity, and ability to work independently [36]. Surveys conducted by Sarkar [35], Dunbar [10], Warwick and Howard [39] have also indicated that employers put emphasis on soft skills to complement the technical skill requirements.

Although it is acknowledged that diverse perspectives have been used in classifying the competencies of graphic design graduates, some common elements have been identified which include knowledge, skills and personal attributes. As design practices progress with the new digital platform graphic designers not only need to get accustomed to the technologies but are required to develop new skills and competencies to stay relevant in the job market [6].

3.2 Hiring employer's perception through the digital portfolio

Using digital portfolio or ePortfolio as evidence for employers to verify the candidate's skills, knowledge and personal characteristics for the position applied have been discussed by scholars. For instance, Cochrane [26] described that the need for an integrated student experience has been recognized for some time, along with the need to address the concerns by employers and professional associations regarding graduates' preparation for the workplace. The e-Portfolio provides support in the integration of students' academic experience as they transition towards employment [26].

The move towards employability requires that students should be able to showcase their work of art that demonstrate the highest level of performance and marketability suitable with new technology tools for employers to view [1]. Other prior studies have also highlighted how portfolios are viewed by employers. A survey conducted by Hart Research Associate [14] indicated that 83% of employers consider students' digital portfolios as an indicator of skills and competency for employment [1]. Essentially, a digital portfolio combines the element for success and career advancement [40]. A study by Hinton [16] on the essential employability skill and how employers in Ontario, Canada value students' digital portfolios in the recruitment process provided evidence on the advantage of the e-Portfolio. Among 4,185 employers surveyed, 326 responded positively and believed that digital portfolios enable better understanding on the applicant's skills, knowledge and abilities. Other reasons include ease of access to information, provide better overall picture of an applicant, give better understanding of an applicant's skills and abilities, and assists with the hiring and screening process to provide more information about the applicant's educational experience. However, Hinton [16] further discovered that the primary reason employers did not adopt e-Portfolios is the lack of familiarity as non-users. Nevertheless, 65% of the employers would consider using the e-Portfolio in the future to get "more accurate and thorough presentation of the candidates" and if using the approach is helpful in the hiring process. Likely, employers responded that written skills and computer organization skills are on their top list in hiring which validate the candidate's professionalism and ability to work independently.

In viewing the candidate's professionalism, Brammer [7] described the differences of students resume and e-Portfolio in employer's recruitment decision. While a resume offers information about academic credentials with employment history, an e-Portfolio may include links to the student's sample of coursework. Importantly, the e-Portfolio also provides real evidence of the individual's activities including oral and reflective written communication skills that would reflect on the critical thinking ability. Additionally, students e-Portfolio is perceived as more desirable by employers if they could have a reflective component presented from their collaborative efforts to further illustrates the applicant's credentials. In terms of e-Portfolio presentation, Ward and Moser [2008] reported that 95% of employers preferred to access e-Portfolio online in the form of social networking to enable screening of the applicant's personal background. It was implied that this approach is time saving and cost-effective in

terms of accessibility and qualification matching [16,34], particularly for job scope descriptions.

Essentially, the e-Portfolio showcases students' talent and work demonstrated during their academic years while providing access to employers and other stakeholders for viewing [29]. Chang [20] stated that creating an e-Portfolio showcase demonstrates the job applicant's learning experiences and research projects in a broader context that directly exhibits prior artwork or other work in progress. Lieven [23] further implied that an e-Portfolio showcase sets a two-way communication system that allows mutual understanding of competencies both from the perspective of job seekers and employers [16]. Through this initial tool, students can enhance their ability and critically reflect on their vital skills especially when employers can constantly view their work achievements in relation to their developmental goals.

The use of e-Portfolio from an applicant's study years would benefit them in manifold. According to Watty and McKay [42], providing the evidence of skills in an e-Portfolio enhance the opportunity for future employers to source the best candidate in a broader context. Through their interview among business employers in Australia, the researchers identified that graduates' e-Portfolio should contain items such as evidence and background relevant to the job application such as; applicants critiquing something, evidence of learning, progress, thinking, and judgement; and information being presented more visually. Simply, e-Portfolio provides students creative options to transfer their experiences in interactive and meaningful displays of visuals that indicate their design skills level. Subsequently, it will reveal and validate their talents in job scope areas.

As this study relates to graphic design in context, employers expect that the students should be independent, self-analytical and critical thinkers also equipped with other soft skills requirements. Since graphic design students' digital portfolio is recognized as evidence for performance of skills and aligned with the assessment for process and product, it is valuable for design students to document their artistic evolution.

4 Methodology

This study involves non-participant observation in a selection of online job advertisements from social media. The intended observation is to find the employability skills requirement listed in a job advertisement that fit into the three major means of competencies in a graphic graduate digital portfolio on what to deliver (competencies and transferable skill), to know (development and evidence of learning), and to have (personal characteristic) [11,12,33]. The observation also includes vacancies with 'graphic designer' in the job title. As a method of profiling, the three competencies of graphic design graduate in their digital portfolio and data from job advertisement were collected compiled. These data are thematically analyzed to ascertain an initial set of patterns on what employers require from graphic design applicants according to a job specification. Thematic analysis is suitable while working with a large amount of written information without losing context [22]. The analysis is further expanded through content analysis of the data set which provide a structure by examining the applicant's skills, knowledge and abilities on how they critically reflect their design skills in the digital portfolio presentation for employment.

Fifty-eight local job advertisements were randomly collected between January to June 2020 on Facebook from various companies which were recruiting graphic designers. These advertisements were selected after removing duplicates and upon discussing the samples with the researchers' colleagues through a qualitative online survey for analysis. Following this screening process, 28 advertisements were eliminated for further study, leaving 30 advertisements for content analysis. It is worth noting that the advertisements contained various information with some advertisements were more comprehensive and lengthier than others. These differences may be attributed to organizational factors such as the firm's size and reputation.

In analysing the descriptions available in the job advertisements, the frequency and significance were reviewed according to categories. This is done by exploring the dominant skill requirement as extracted in the advertisement to the required graphic design skill set. In the process, the job description categories were divided into different domains as structured for the outcome of the analysis to what a graphic designer can deliver, know, and expected to have. The analysis then further categorized and coded each of the advertisements according to the companies' descriptive requirements. The subsection consists of three parts - job responsibility, job requirement, and job scope. Subsequently, data were analysed using the content analysis method, a commonly used method in studies of job advertisement [43] consisting of an assemblage of procedures that are systematic, replicable analysis of texts, and provides a structured way of analysing data that are typically open-ended and relatively unstructured. In analysing job advertisements, the content analysis assists in identifying the contemporary skills in demand and the shifts of the skill set patterns over time.

The competence areas address the job responsibilities of a designer that include digital design works, creative concepts and visuals, and photo manipulation. This is further enhanced by knowledge and skills areas as part of the job requirements that identify creative, technical design skills, software design skills, video editing, knowledge and design elements, and the ability to fastidiously manage social media platforms. Additionally, the requirements in the job advertisements also include statements that qualified applicants should display personal characteristic involving work experience, able to work under pressure, be team-oriented, motivated, versatile and adaptable, passionate about design, independent, and hardworking. Table 1 describes the domain of descriptions and requirements from the local job advertisements as posted on Facebook.

Table 1: Online advertisement description and requirements analysis (adapted from [1])

Competence Areas (to deliver)	Knowledge and Skills (to know)	Personal Characteristic (to have)
Job Responsibilities	Job Requirements	Job scope
Design digital works	Creative	Working experience
Creative concepts and visuals	Technical design skills	Able to work under pressure
Photo manipulation	Software design skills	Team oriented
	Video editing	Motivation
	Knowledge of design elements	Versatile and adaptable
	Social media expert	Passionate towards design
		Independent and hardworking

Various skills have been identified as crucial by employers for graphic graduates based on an analysis of the job advertisement content. The three main categories of skills are competence areas, knowledge and skills, and personal characteristics. The data analysis displayed in Table 2.

Table 2: *Tabulated data of digital portfolio employability skill requirement by companies in online advertisement*

		Percent %
		<i>N=14</i>
To deliver	Design digital works	93.3
	Creative concepts and visuals	66.6
	Photo manipulation	30
To know	Creative	90
	Technical design skills	93.3
	Software design skills	100
	Video editing	16.6
	Knowledge of design elements	13.3
	Social media expert	20
To have	Working experience	23.3
	Able to work under pressure	36.6
	Team oriented	73.3
	Motivation	33.3
	Versatile and adaptable	10
	Passionate towards design	63.3
	Independent and hardworking	86.6

[To deliver] Results from Table 2 on the delivery skills required from the graphic design graduates revealed that 93.3% of employers sought for talents who can design digital works. This is significant as the design industry is advancing with the development of cutting-edge digital technologies. Meanwhile, the ability to deliver creative concepts and visual are expected at only 66.6% by employers. This may suggest employers already put the expectation that design students should readily be conceptually and visually creative to be involve in the field. Although the requirement for candidates to be able demonstrate skills in photo manipulation is only at 30%, it is interesting to know that employers are considering this skill. With digital technologies are wide-ranging and being highly used for various purpose, this is expected in the design area.

[To know] Candidates are not only expected to demonstrate their competencies in delivering creative works but should also have applied knowledge in their skillset. In the digital edge of IR4.0, it is not surprising to identify that all of the advertisements require that candidates are skilful in design software skills followed by 93.3% want candidates with technical design skills. This is followed by 90% requirement for candidates to be creative. Although skills in social media, video editing, and knowledge in design elements are relatively low, these skills are relevant in digital design.

[To have] Essentially, soft-skills abilities are also crucial in recruiting new talents and it is really interesting to identify that the list for the requirement is substantially varied. Most employers (86.6%) look for applicants who are independent and hardworking but are still able

to be a team player (73.3%). It is crucial also that a team player needs to be passionate of design work (63.3%) and able to handle pressure (36.6%) while maintaining motivation (33.3%). Only 23.2% of the employers seek for applicants with working experience and this may be due to the fact that design is also an academic practice thus, fresh graduates are expected to have the fundamental experiences. Meanwhile, 10% of the advertisements require that applicants should be versatile and adaptable.

5 Results and discussions

The findings suggest that employers have their own specific anticipated skillset and traits that they look for in potential applicants. Therefore, this study documents an initial attempt to understand critical competencies that graphic graduates should have based on job advertisements produced and examined in the data collection. The analysis revealed that some critical skills are in high demand which require graphic graduates to acquire a wide range of specific skills relevant to the industry. It is imperative that graphic design graduates to be critical in both theory and practice while being open in the interest of other areas useful in problem solving. With the coming of IR4.0, the data revealed that skills in design software skills are in high demand which implied the need for graphic graduates to be skilful in software know-how. UiTM has now provided its graduates with the ability to use design tools to assist students in developing the necessary skills in preparing them for the working world. Currently, the graphic curriculum incorporates the industry related technical abilities and competencies to ensure the graduates well-equipped and able to meet the demand of potential employers.

Results also suggested that the industry is currently focused on technical design skills and digital design. Hence, graphic graduates should develop their digital design knowledge and skills to be relevant in the job market. This study has also identified the list of abilities that employers highly value and sought after in graphic design graduates' digital portfolios. Importantly, this study lays the foundation for deeper knowledge of graphic graduates' critical competencies as they prepare for industrial needs. The skills listed serve as the fundamentals for identifying core competencies required from UiTM graphic graduates.

Several suggestions for further research can be considered. The construction of a digital portfolio by graphic graduates should be done to determine the appropriate content to meet the industry demands. This is to ensure that the digital portfolio will consist of values that meet the worker-to-work match with the online advertisements' requirements. Consequently, it is suggested that a digital portfolio guideline should be implemented to ensure that graphic graduates are adequately prepared to work in the design industry. As this study is a foundation to the preliminary research undergoing within the graphic design graduates, further research on models and theory could discuss and expand for more comprehensive approach on digital portfolio which include valuable employability requirements.

6 Conclusion

Graphic design students in FSSR, UiTM are accustomed to producing a portfolio to display their work for assessment in final year evaluation process, and to prepare them for employment. The emphasis on digital skills and practice has improved the development of

traditional portfolio content with the virtual and digital format in line with the digitalisation of industrial practices [14-15]. The development of an e-Portfolio that demonstrate a designer's strong contextual awareness, proficient design skills, planning and integration capabilities, design knowledge, programming skills, and knowledge of how to utilize design tools would open up more possibilities for employment [11,12]. Using technology has proven to be essential and advantageous for students while exposing them with various learning styles and background [5]. Studies have also suggested that educators are challenged in equipping students with the necessary skills needed by the students for employment since the design industry is also expanding into the digital and virtual medium [33]. It was implied by Lievens [23] with challenges in securing a job, a digital portfolio provides better worker-to-job matches, increase mobility, and reduce unemployment levels [17]. Lievens also suggested that it has become a significant component of the job-searching process and reduces the duration of unemployment among job seekers [18]. Additionally, a digital portfolio can serve as an initial launch for students' professional identity [20] and guiding them to develop a personal brand in their career trajectory and professional development. This would allow them to develop more comprehensive learning experience and growth over time [21-23]. Hence, preparing design students for more digital learning experience is inevitable with the forthcoming of IR4.0.

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