

Mass Digitization of Copyrighted Works: Harmonizing the Orphan Work Solution in Malaysia

Nor Akhmal Hasmin^{1,2}, Najwa Azizun³, Siti Marina Amit³

¹ Faculty of Law, University Teknologi MARA, 40450 Shah Alam, Selangor

² Faculty of Law Universiti Kebangsaan Malaysia

³ Faculty of Law, University Teknologi MARA, 40450 Shah Alam, Selangor
norakhmal5559@salam.uitm.edu.my

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Abstract: In the era of fourth industrial revolution, institution such as library, archive and museum around the world has embarked on digitization process in displaying, storing, arranging and even preserving their collection by using latest technologies. However, due to the complexity of the copyright law, digitization activity could not be continued when the copyrighted works is classified as orphan works. Digitization of orphan works without the consent of the lawful owner is amounting to unauthorised use. The elaboration of this paper is to analyse the extent of orphan works problem in Malaysia that has defeated the dissemination of knowledge and creativity through digitization. To analyse the issue, this paper employs doctrinal research design and reference is made to the current legal position concerning orphan in the European Union under the EU Directive on Orphan Work and the United Kingdom Copyright, Patent and Design Act 1988. Finding indicates that, there is a gap in the Copyright Act 1987 that hinders effective digitization activity of copyrighted works. This article also would like to suggest some improvement on the existing law as to encourage digitization activity but at the same time protecting the interest of the owner of the orphan works.

1 INTRODUCTION

The fourth industrial revolution stimulates the advances of science and technology and it goes beyond the organizational and territorial boundaries, comprising agility, intelligence, and networking (Liao, Y., et. al. 2018). The transition to the new digitalization era in a globalized environment, has contribute to massive volume of knowledge, information and data which are available online. Mass digitization refers to projects to digitize all sort of literary or artistic works comprehensively and integrate them in a web or database (Murell, M. 2017). Digitization allows for information to be organized and stored in digital formats using suitable electronic devices because some of the information is in the form of analogue and need to be converted in digital form (Pedro Pina, 2016) and the digitize information can be transmitted and accessible over a network (Lucas-Schloetter, 2011).

The establishment of digital library, museum and achieve by public and private institutions allows for dissemination of knowledge and culture beyond political boundaries. For instance, the availability of

digital library allows for unlimited storage of information at much lower cost and the maintenance of information is much easier compared to maintaining physical collections that is costly. The operation of digital library is not subjected to normal operation hours, the information can be access 24 hours anywhere around the globe (Bamgbade, B.J., 2015). The existence of virtual museum also has changed the accessibility landscape where virtual exhibition of cultural treasures can be explored from our own home, classroom or anywhere else provided that there is an internet connection (Shapiro, n.d.). It allows the world's cultural heritage information becomes more widely available not only for scholarly use but also for recreational purpose (Laine-Zamojska; 2011). Moreover, virtual museum allows for more freedom to manipulate the object in collection, patrons can zoom in the image from different angle which sometimes could not be done with physical tour and the works of art that are locked away from view and in private places is now open to the public (Haber, A., 1998; Donghui et. al, 2017). Despite encouraging access to knowledge, digitization is also important for the purpose of

preservation and restoration of valuable literary, artistic and political works. Digital preservation strategy undertake to convert deteriorating analogue or physical materials to create the high-quality copy for preservation purposes (Iris, X. et. al., 2016)

In Malaysia, digital library is common among higher learning institutions since almost all public and private universities have their own online collections such as Tun Siti Hasmah Digital Library in Multimedia University, Open University Malaysia Digital Library, and Perpustakaan Tun Abdul Razak Digital Collection in Universiti Teknologi MARA. As for digital museum, Teregganu State Museum and Bario Museum are moving toward digitization in exhibiting and preserving their collections. In Europe and North America, the number of virtual or digital museum is increasing, the Virtual Museum of Canada for instance have over 3,000 Canadian heritage institutions, a database of over 600 virtual exhibits and over 900,000 images (Artefacts Canada, 2006).

However, despite various benefits arising out from digitization activity, there is legal concern when the digitized works is subjected to copyright and the institutions that carried out such activity failed to obtain permission from the copyright owner. Although, failure to obtain permission is not intentional but it was done because the owner of the copyrighted works is unidentifiable or could not be located and users of the orphan work still can be subjected to legal action. This is possible when the owner of the copyrighted works resurfaces or reclaim their rights. Digitization process is under the exclusive control of the copyright owner because it amounting to reproduction and communication of the protected works and authorization from the owner is a must (San Tay, P. et. al., 2017; Section 13 (1) (a) of the Copyright Act 1987). If the would-be users continue to digitize copyrighted works, they will be subjected to expensive and tedious litigation process in court and if found liable they will have to compensate the owner (United States Copyright Office, 2015; Nor Akhmal Hasmin and Nurul Jananh Mustapha Khan, 2015).

If the rightful owner of the copyrighted works could not be found, valuable works, not only in the economic sense but historically and culturally, cannot be exploited without the user being exposed legal infringement (Urban, J., 2016). Therefore, to avoid from legal liability it is better for the would-be user of orphan works to forego the use of the work entirely. In this situation, orphan works with valuable information could not be shared globally and the knowledge could not be fully exploited by

global citizens. Orphan work with great potential will be locked away from the public. This has defeated the purpose of copyright law, to encourage dissemination of knowledge to the public and the creation and new work by the public (Usadel, P.M., 2016; Urban, J. 2016).

The issue of orphan work needs to be resolve immediately, this is because the United States Register of Copyrights has warned of the potential economic impact to the country of leaving the orphan works problem unsolved (United States Copyright Office Report on Orphan Works, 2006). Therefore, it is the intention of this paper to examine the legal issue pertaining to digitization of orphan work from the perspective of the Copyright Act 1987 and reference is made to the legal position in other jurisdictions namely the European Union and United Kingdom for comparative analysis and lesson learnt. The research paper adopts qualitative research design because this research paper does not involve any form of scientific or empirical research whereby this is purely doctrinal and library-based research paper.

2 THE CONCEPT OF ORPHAN WORKS

The term orphan works is nowhere to be found in the Copyright Act 1987 however, the interpretation of orphan works is available in legislation form other jurisdictions. Schedule ZA1 of the United Kingdom Copyright, Patent and Design Act 1988 (hereinafter refers to as CPDA) states that, a work is orphan when there is single rightsholder has not been identified or located or when there is more than one rightsholders in the work and none of the rightsholders has been identified or located despite the diligent search having been carried out. Meanwhile, Article 2 (1) of the EU Directive on Orphan Work (Directive 2012/28/EU) considers work as orphan if none of the rightsholders in that work or phonogram is identified or, even if one or more of them is identified, none is located despite a diligent search for the rightsholders having been carried out and recorded.

According to Asian Patent Attorney Association, orphan works refer to original works of authorship of which a good faith prospective user cannot readily identify and/or locate the copyright owner(s) in a situation where permission from the copyright owner(s) is necessary as a matter of law (APAA, 2015). Scholar such as Marybeth Peters provides simpler interpretation, where an orphan works mean

works without clear indicia of ownership that are protected by copyright (2008). Therefore, based on the above interpretations, orphan work is a term used to describe a work of unknown authorship.

3 ORPHAN WORKS IN THE EDGE OF DIGITALIZATION

Orphan works posed greater challenge in digitization activity, the most notable example to illustrate the issue of orphan in relation to mass digitization is Google library projects which was the world largest digitization project (Murell, M. 2017). In 2013, the project was subjected to legal suit from various parties such as Actors Guild and Association of American Publishers due to infringement of copyright where some works were digitized without the consent of the rightful owner. In 2005, Cornell University Library submitted a comment to the Notice of Inquiry Concerning Orphan Works, stated that after spending more than \$50,000 in staff time working on the project, Cornell was unable to identify or locate the rights holders of 198 works which is around 58% of the group (Hansen, D.R., 2013). The Carnegie Mellon University Libraries also have the same issue, the institution outlined the results of its own efforts to identify rights holders for a sample of 368 books from its collections that it sought to digitize (Response by the Carnegie Mellon University Libraries, 2005). Excluding books that were not in the public domain and did not contain third-party visual materials, Carnegie Mellon was only able to obtain permission from publishers for 35% of the books (Response by the Carnegie Mellon University Libraries, 2005).

When discussing on the issue of orphan works some might argue that orphan works are lacking value either economic or artistic value therefore, copyright's protection should not be accorded. This is supported by the statement that the author i.e. the owner himself is reluctant to claim their right especially the economic benefits thus rendering such work less valuable (De Beer, J., 2009). Unfortunately, such argument is inaccurate, because though the works is orphan, but it might be something that is invaluable either economically or aesthetically (Janssens, M. C., &Tryggvadóttir, R., 2016). For instance, artistic works such paintings, design of antique accessories and unique sculptures are valuable creations that deserve copyright protection. Most of the image or visual art available on Google search for instance is classified as orphan

work not because no one owns it, but the owner could not be identified (Holland, B., 2015).

Whereas, archival documents like diary, journals, old photographs, war footage and ancient maps are carrying priceless information for a historian or a filmmaker that intended to write and produce about the related event. It is believed that, orphan works are worthwhile, useful, and extremely valuable (Janssens, M. C., &Tryggvadóttir, R., 2016). These are the invaluable historical asset or cultural heritage that can be protected through digitization process and virtually exhibit to the public. In addition, the law of copyright clearly illustrate that a work is entitled for copyright protection regardless of the quality because what matter the most is the originality of the work (United States Copyright Office Transcript of Orphan Works, 2015; Section 7 (3) (a) Copyright Act 1987). Visual artist argued that, most of the image that they published online without attribution attached to the image (Khaw, L. K.,2001). Most of the website or search engine provides no credit or attribution whatsoever. Multiplying the problem exponentially is the fact that, according to industry service providers, as much as 90 percent of the visual images appearing on the web are posted and shared without authorization or knowledge of the copyright owner (Khaw, L. K.,2001). In such situation, it is hard for the users to trace the origin of the author or owner and sometimes even if the author had protected their work with watermark, but it can be easily circumvented.

4 LEGAL POSITION OF ORPHAN WORKS IN MALAYSIA

Rapid advancement made in the world of information and communication technology, have allowed institutions such as library, museum, achieve or broadcasting station to modernize their service to the users. Access to information can be obtained easily and at any time by the users. Due to this and many other advantages afforded by the modernization digitization project has become a common activity among the academic libraries in Malaysia. There are 22 academic libraries and the Library of Malaysia that has embarked on digitization activity (Mohd, A., 2005). However, there is no empirical data on the scale of material that could not be subjected to digitization due to status of such works as orphan since there is no

official study have yet to be conducted in determining the volume of orphan works in Malaysia (Nor Akhmal Hasmin & Nurul Jannah Mustapha Khan, 2015).

Furthermore, copyright awareness in Malaysia is still at an infancy level as compare to the western part of the globe such as European countries and the United States. Malaysian government is not actively and effectively promoting awareness of the copyright issues to the public (Nasir, R., Ponnusamy, V., & Lee, K. M. 2007). Even though Copyright Act 1987 provides exclusion provisions for the would-be user to exploit orphan works, but it is still not adequate as the Act do not directly address the matters regarding orphan works unlike other jurisdictions.

Theoretically, there are few provisions under the Copyright Act 1987 that can facilitate the would-be users to utilize orphan works for the purpose of mass digitization. First, the would-be user can rely on the provision of fair dealing under section 13 (2). The would-be users need to ensure that the usage of the orphan work fall within the exception of copyright infringement. According to section 13 (2A) there are four factors that need to consider before the use of copyrighted works is regarded as fair dealing, this is also known as four stages test. The would-be user needs to identify whether the use is for commercial nature and non-profit educational purposes, the nature of copyright law, the amount and substantiality of the portion use, and lastly the effect of the dealing to the potential market or value of the copyrighted works. Furthermore, section 13 (2) also list out in details the types of activities that falls within the scope of fair dealing namely non-profit research, private study, criticism, review or reporting current events. If the institutions like libraries, museums or archives, uses the orphan works for research or educational purpose, then the fair dealing doctrine can be made applicable. Thus, the relevant institutions can continue with digitization activity even without the consent of the owner.

Unfortunately, certain digital libraries or museums will impose admission fee or patron need to pay certain amount of money before they can gain access to the digitize information. For virtual museums for instance, admission fee is somehow could not be avoided because the creation of virtual museum itself is costly though it does not require physical building. When digitization is a profit driven activity or for commercial matter, fair dealing exception is not applicable as provided under section 13 (2A). Since the use of copyrighted works is outside the scope of fair dealing, consent or

permission from the author or legal representatives must be obtained.

Second, Section 26 (4) provides for presumption of ownership where consent to use the copyrighted works can be obtained from legal representatives of the author. If the work is published under anonymous and pseudonymous work, the publisher whose name is indicated in the work shall be considered as the legal representative of such work and shall be entitled to exercise and protect the rights belonging to the author (Section 26 (4) (b)). Hence, consent could be obtained from the legal representative of the anonymous and pseudonymous author. This provision is well and good if the legal representative of the copyrighted work is known. The underlying problem is when the owner is unknown for example when the publisher is a company that no longer exists or had undergone liquidation (Castle, C. L. & Mitchellright A. E., 2009). The would-be users will then find themselves in a difficult predicament and dilemma as to how to search and locate the rightful author in order to seek the required permission.

Finally, in relation to the unpublished work, where the identity of the author is unknown, the would-be user may obtain permission from the Minister of Tourism and Culture, Malaysia as provided under Section 26 (4) (c). This is clearly stipulated in the legislation that for unpublished work the copyright shall be deemed to be vested upon the Minister in charged with the responsibility for culture. However, it is contended that to invoke the provision itself is easier said than done. This is because consent must be obtained from the minister himself and the procedure on how to apply is not enumerated under the Act. In addition, matters that should be taken into consideration by the minister in granting consent are not specified in the Copyright Act 1987. If the minister just simply granted the permission without a proper justification, it could jeopardize the right of the author and owner of the copyrighted works. This is because when discussing about protection of orphan works the purpose is to balance up the creation of the rightful owner and the use of the work itself (Band, J., 2015).

Therefore, there is a gap in the Copyright Act 1987 with regard to the right of using orphan works when the legislation fails to facilitate the digitization activity and no sufficient legal protection provided towards the would-be user of the orphan works. Since the provisions in the Copyright Act is deemed to be insufficient to encourage mass digitization activity, reference can be made to current legal

position in European Union and United Kingdom as a benchmarking and lesson to be learnt.

5 LEGAL POSITION OF ORPHAN WORKS IN EUROPEAN UNION AND UNITED KINGDOM

For the purpose of this research paper, the law pertaining to orphan works in the European Union and United Kingdom is chosen as a benchmark for comparative analysis. The selection is made based on the ground that these two jurisdictions has a specific provision on orphan works under their respective copyright laws. The law in both jurisdictions provides instances where it is permitted to use orphan work and the provision were drafted in detail as to avoid any ambiguity. Besides that, the issue of orphan works in these jurisdictions is much more serious as compared to Malaysia based the massive volume of works.

5.1 The European Union

The legal position in the European Union is differs when compared with Malaysia. The European Commission have issued a directive on certain permitted uses of orphan works. This is the most comprehensive effort by European Commission under the European Observatory on Infringement of Intellectual Property Rights to overcome the problem of orphan works. After series of reviews conducted, the European Parliament passed Directive 2012/28/EU (hereinafter refers to as the Directive) on 25 October 2012. The main objective of the Directive is to provide a legal framework to facilitate the dissemination of orphan works which are protected by copyright or other related right for which the rightful owner cannot be identified and located, which make the usage of orphan works possible (Article 1 (1) Directive 2012/28/EU). The Directive also works as a solution to address the issue of mass digitisation of orphan works in the internet (Recital 4 of the Directive 2012/28/EU) and also to enhance European Union competitiveness in realisation of European digital libraries and key actions of the Digital Agenda in Europe (Rosati, E.,2013). The Directive is directed towards institutions such as public libraries, education establishments, museums and archives, educational establishments, film heritage and public service broadcasting organizations in the pursuance of their

public interest missions and for non-profit purposes (Article 1 (1) Directive 2012/28/EU).

The Directive laid down the legal requirement that need to satisfy before the would-be user could utilize the orphan works. According to Article 3 (1), any institution wishing to use an orphan work must first carry out a diligent search in good faith by consulting appropriate sources prior to the use of the work. The Directive also lists down the relevant sources which diligent search could have been conducted as stated in Annex (1) (2) (3) and (4). But the list is not exhaustive, and the would-be user can use other possible means to locate and identify the owner. The search is conducted for the purpose of ascertaining the status of the work and once the work is affirmed as orphan then it is deemed to be orphan throughout Europe (Rosati, E., 2013). After a diligent search has been conducted, the whereabouts or identity of the owner is remained unknown then the would-be user can use the works without being liable for infringement.

Besides Directive 2012/28/EU, the European Commission also had issued the Commission Recommendation on the digitisation and online accessibility of cultural material and digital preservation (2011/711/EU) to the member countries as a guideline for museum digitisation agenda in Europe. Among the recommendation made is to have a proper licensing mechanism if the collection is a copyrighted works (collective licensing management) (European Commission, 2016). These legal frameworks could be a document that provides statutory consent that diminished the liability of the would-be users for copyright infringement in the European Union.

However, there is a criticism directed towards the Directive and contended that it is not comprehensive enough to overcome the orphan work issue in mass digitization. The main reason is, the Directive focuses on the digitization by libraries, educational establishments and museums, as well as archives, film or audio heritage institutions and public-service broadcasting organisations for non-commercial purpose to encourage preservation and dissemination of European cultural heritage, as stated under Preamble 1 and 18 of the Directive. But again, this paper emphasizes that, some of the digitization project is profit oriented for instance digitization by museum or broadcasting institutions. Therefore, it does not resolve the issue where the usage is intended for commercial purpose and private interest. Although there are some setbacks in the Directive but at least there has been an effort taken to protect orphan work but at the same time to

promote mass digitization of orphan works in European Union.

5.2 United Kingdom

In United Kingdom, efforts to overcome the issue of orphan works started even before the European Parliament issue the Directive 2012/28/EU. The government of United Kingdom perceived the uncertainty surrounding the orphan works not only detrimental to the domestic copyright policy, but it will affect the economy because protection of copyright grows to be more imperative in maintaining its status as world economic power (Bunce, A., 2013). In 2006, a report was commissioned by the United Kingdom's Chancellor of the Exchequer to identify whether the intellectual property laws in United Kingdom was well positioned in an era of globalization and technology, which included an analysis of the orphan works situation (Gowers A., 2006). The report proposed to the government for solution to the orphan works situation, however legislative action to overcome the issue of orphan works was implemented a few years after the report was published (Bunce, A., 2013).

On April 25, 2013, the EU Directive on orphan work was transposed into the United Kingdom law by passing orphan works legislation as part of its omnibus Enterprise and Regulatory Reform Act 2013, which resulted in United Kingdom Copyright, Design and Patent Act 1988 (CDPA) to provide a licensing scheme for orphan works. Section 44B and section 76A was inserted into CDPA to permit the use of orphan works in United Kingdom. Schedule ZA1 of CDPA inter alia states that, public library, educational establishment, museum or archive institution does not infringe the copyright in relevant work in its collection which is an orphan work by reproducing the orphan work for the purpose of digitization making available, indexing, cataloguing, preservation or restoration.

However, before the would-be user can digitize the orphan works, user must prove that the relevant work is an orphan work and for the matter, diligent search must be carried out in good faith in respect of the work by consulting the appropriate sources (Rules 5 (1) and (2) Schedule ZA1 of the CDPA). The would-be user must first provide evidence that diligent search has been done to locate the right holders and declare the use that the applicant proposes to make of the orphan works. Part 2 of the same schedule provide a comprehensive list for sources to be searched during the diligent search and the list is divided according to the category of work.

This list is in fact a useful guideline for the would-be user in conducting diligent search. If the authorizing body satisfied with the search result and the status of work is orphan, then nonexclusive license will be issued, and it is valid for 7 years (Section 4 (5) of the CDPA). If in any event, the right holders of the orphan works identify themselves, and license is yet to be granted, then the work will cease to be an orphan work. However, if license has been granted, the orphan license shall continue until the expiration of the term stated on the license. The licensing of orphan works will be carried out by Intellectual Property Office (IPO) UK and the online system to license orphan works was launched on 29th October 2014.

6 FINDINGS AND RECOMMENDATIONS

In Malaysia, there is no formal study conducted to examine the issue of orphan work thus no empirical evidence is available on the severity of this problem. But it is believed that, the issue of orphan work in Malaysia is as serious as in other countries. Another reason why this legal issue needs to be addressed is the main legislation governing copyright law in Malaysia i.e the Copyright Act 1987 is also silence on orphan works. Even though, would-be user may rely on exceptions such as fair dealings, presumption of ownership and obtaining permission from the Minister of Tourism and Culture Malaysia for unpublished work, these three provisions have its own limitation in term application and enforcement where users will still be subjected to action for infringement of copyright.

As for the owner of the orphan work, they are entitled to initiate infringement suit toward the infringers as their rights are guaranteed under the Copyright Act 1987. However, in the age of digitization, sharing and posting a file on the internet is something that is beyond owner's control. Sometimes the identity of the infringer is unknown due to anonymity of the internet thus make hard for the owner to identify the infringer and to initiate infringement proceeding. Furthermore, under the current copyright regime, owners are entitled for automatic rights and protections upon the completion of the work. Article 5 (2) of the Berne Convention clearly forbids any formalities in copyright enjoyment. Without a formal registration system, it leads to less accurate and incomplete identifying information on works which calls for orphan work status.

Therefore, it is suggested that steps should be taken by the relevant authorities such as Malaysia Intellectual Property Office (MyIPO) to properly address the issue of orphan works specifically in providing solution to the relevant institutions to embarked on mass digitization project which may include orphan works. For this purpose, amendment to the Copyright Act 1987 is a must, provision that allows for uses of orphan works must be included. Although, the European Union Directive 2012/28/EU and CDPA is not impeccable legislation on orphan works, but it could be a good guiding principle for our country to regulate on orphan works as a legal strategy to reduce risks for open access of copyrighted works through digitization. It is also suggested that, formal scientific or empirical study need to be conducted to identify the volume of orphan works in Malaysia especially in public library, archive and museum. Hopefully this dilemma could be ended so that it can eliminate barriers to the use of orphan works and encourage dissemination of information via digital platform so that it could increase public accessibility toward the orphan works.

7 CONCLUSION

Overall, the issue of orphan work under the copyright law in Malaysia is still in limbo and call for legislative solution. Malaysia may start by addressing the orphan works that will be used by museum or public libraries and limited to work of art or works that significant to social or historical importance. This problem is worth solving because as long as it remains unsolved, a significant fraction of our culture will be hidden or suppressed. Furthermore, orphan work is as much as valuable as non-orphan work and should be made available to new generations.

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REFERENCES

- APAA Copyright Committee – Malaysian Group Report on Special Topic. Retrieved from http://www.apaaonline.org/pdf/APAA_64th_coun
- Bamgbade, B.J., Akintola, B.A., Agbenu, D.O., Ayeni, C.O., Fagbami, O.O. and Abubakar, H.O., 2015. Comparative analysis and benefits of digital library over traditional library. *World Scientific News*, 24, pp.1-7.
- Band, J. (2015) Thanks, But No Thanks: Evolving Library Perspectives on Orphan Works Legislation in the European Union and the United States. Retrieved from <http://fairuseweek.org/wp-content/uploads/2016/02/2016.02.22-Band-ThanksButNoThanks.pdf>
- Bunce, A., 2013. British Invasion: Importing the United Kingdom's Orphan Works Solution to United States Copyright Law. *Nw. UL Rev.*, 108, p.243.
- Castle, C. L. & Mitchellright A. E. (2009). Unhand that orphan works: Evolving orphan works solution require new analysis. *Entertainment and Sport Lawyer*, 7(1). Retrieved at www.amymitchell.com/wp-content/.../Unhand-that-Orphan-article.pdf
- De Beer, J., 2009. Canada's "Orphan Works" Regime: Unlocatable copyright owners. Retrieved from <http://www.cb-cda.gc.ca/about-apropos/2010-11-19-newstudy.pdf>
- Donghui, C., Guanfa, L., Wensheng, Z., Qiyuan, L., Shuping, B. and Xiaokang, L., 2017. Virtual reality technology applied in digitalization of cultural heritage. *Cluster Computing*, pp.1-12.
- Gowers, A., 2006. *Gowers review of intellectual property*. The Stationery Office.
- Haber, A., 1998. The importance of a virtual museum in a third world country: the experience of MUVA, Virtual Museum of Art's El País. In *Museums and the Web*.
- Hansen, D.R., 2011. Orphan Works: Definitional issues. *Berkeley Digital Library Copyright Project, White Paper No.1*. Retrieved at <http://ssrn.com/abstract=1974614>
- Hansen, D.R., Hashimoto, K., Hinze, G. and Samuelson, P., 2013. Solving the Orphan Works Problem for the United States. *Colum. JL & Arts*, 37, p.1.
- Janssens, M. C., & Tryggvadóttir, R., 2016 Orphan works and out-of-commerce works to make the European cultural heritage available: are we there yet?. Wolters Kluwer International, United States.
- Khaw, L. K. (2001). *Copyright law in Malaysia*. Kuala Lumpur: Malayan Law Journal.
- Liao, Y., Loures, E.R., Deschamps, F., Brezinski, G. and Venâncio, A., 2018. The impact of the fourth industrial revolution: a cross-country/region comparison. *Production*, 28.
- Mohd, A., 2005. Digitization and sustainability of local collection: an observation of digitization activities among Malaysian universities libraries.
- Murrell, M., 2017. Out of print: the orphans of mass digitization. *Current Anthropology*, 58(S15), pp. S149-S159.
- Nasir, R., Ponnusamy, V., & Lee, K. M. (2007). Copyright Protection in The Digital Era: A Malaysian

- Perspective. Retrieved at <https://mpira.ub.uni-muenchen.de/8253/>
- Nor Akhmal Hasmin & Nurul Jannah Mustapha Khan, The Dilemma of the Would-be User of Orphan Works in Malaysia, 4th International Conference On Law and Society 2015.
- Peter, M., 2008. The Importance of Orphan Works Legislation, U.S. Copyright Office. Retrieved at <http://www.copyright.gov/orphan/OWLegislation/>
- Pina, P., 2016. Copyright Issues in the Context of the Digital Library. In *Information Seeking Behavior and Challenges in Digital Libraries* (pp. 70-83). IGI Global.
- Rosati, E. (2013). The orphan works directive or throwing a stone and hiding the hand. *Journal of Intellectual Property Law and Practice*. Retrieved at <http://jiplp.oxfordjournals.org/content/8/4/303.full.pdf>
- San Tay, P., Lim, H.G., Azmi, I.M.A.G. and Sik, C.P., 2017. The impact of copyright law on the digitization of library collections in academic libraries in Malaysia. *Malaysian Journal of Library & Information Science*, 22(1), pp.83-97.
- United States Copyright Office Transcript of Orphan Works Roundtable, July 26, 2005, Page 119
- United States Copyright Office Transcript of Orphan Works Roundtable, July 26, 2005, Page 119 <http://www.copyright.gov/orphan/transcript/0726LOC.PDF>
- United States Copyright Office, Orphan Works and Mass Digitization: A Report of the Register of Copyright (2015), online available at <https://www.copyright.gov/orphan/reports/orphan-works2015.pdf>
- United States Copyright Office, Orphan Works and Mass Digitization: A Report of the Register of Copyright (2015), online available at <https://www.copyright.gov/orphan/reports/orphan-works2015.pdf>
- Urban, J. 2016. Solving the Orphan Works Problem for the United States. SocArXiv, pp 2-55.
- Urban, J., 2016. Orphan Works and the Search for Rightholders: Who Participates in a 'Diligent Search' under Present and Proposed Regimes?. SocArXiv, pp 1-23.
- Usadel, P.M., 2016. *Copyright law and the access to education and knowledge in the digital age: matching limitations and exceptions in Portugal, Brazil and Mozambique* (Doctoral dissertation, Maastricht University).
- Xie, I., & Matusiak, K. (2016). *Discover digital libraries: theory and practice*, Amsterdam, Netherlands, Elsevier.