QUANTUM MERUIT CLAIM IN CONSERVATION PROJECTS

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ABSTRACT
Quantum meruit claim is an ordinary claim that arises in the construction industry which is compensated for works and labor where no price has been agreed in the contract. Most of the quantum meruit claim cases drawn by the court rulings were focusing on the practice of new construction projects only. Currently, the quantum meruit claim is little known in the construction industry especially for the conservation projects. Conserving an existing building involves inaccurate pre-determined works in terms of extent, specifications, duration, and cost. There are many major drawbacks and limitations of conserving a heritage or old building which will thwart the process of quantum meruit claim. This systematic review article focuses on the use of quantum meruit claim in conservation projects. The objective of this study is to investigate the limitation factors of quantum meruit claim in conservation projects. This study adopted Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) by utilizing an online database. Accordingly, 20 articles and 23 precedent court cases were resulted to be analysed systematically. This study managed to develop 4 limitation factors of quantum meruit claim for conservation projects which are (i) non-availability of contract, (ii) undetermined price, (iii) lack of experiences and skillful parties, and (iv) improper documentation provided for conservation projects. Eventually, two recommendations for the use of future researchers were presented at the end of this research.

Keywords: *Quantum Meruit* Claim, Conservation, Limitation

INTRODUCTION
Construction Industry Development Board (CIDB) reported the decrement of construction cases taken into the court from the year 2015 to 2016 by 38% for criminal cases and 34% for the civil cases in the construction industry. Malaysian Judiciary reported that 266 construction cases at the High Courts, 253 construction cases at the Sessions Courts, and 158 construction cases at the Magistrates' Courts were disposed of in 2015. Referring to the Malaysia Law Journal, most of the construction cases focused on the disputes on payment, claim, and breach of contract. Asian International Arbitration Centre (AIAC) reported that the average amount claimed since the CIPAA was enforced is at the lowest of RM2.1million for a fiscal year. It implicates that the claims were filed even when the amount in dispute is small. However, the dispute of claim commonly results from the new construction projects only. In Malayan Law Journal Unreported (MLJU), the only single case study that shows the claim involved in conservation projects. Moreover, there is no precedent study on the claim issues in conservation projects, especially on quantum meruit claim. Quantum meruit claim is an ordinary claim that arises in the construction industry for new building projects which it expounds as an action of reasonably deserved to be compensated for works and labor where no price has been agreed in the contract (Elhakiem, 2020). The concept approaches that no one should unfairly benefit from other labor or materials (Zairra, 2011). This view has been supported by Chow (1988) that law also allows for the recovery in the absence of a specific contract. Most of the quantum meruit claim cases drawn by the court rulings were focusing on the practice of new construction projects only. Such expositions are unsatisfactory because construction

projects are not restricted to the new buildings only, but it includes maintaining and conserving the existing buildings which are salient for heritage preservation. Maintaining and conserving the existing buildings are believed to be riskier than other construction projects due to its nature and the characteristics of works (Hadirah, 2019). Umi et al. (2012) described that conserving an existing building involves inaccurate pre-determined works in terms of extent, specifications, duration, and cost. Hence, the quantum meruit claim is important during the period of conservation projects due to the uncertainties that occurred. Conservation projects are a non-duplicate project due to the uniqueness of the building. Umi et al. (2012) defined conservation as preservation and protection of something (monument, buildings, or sites) with thorough handling. The works were executed mainly to prevent any loss or injury and to maintain the authenticity of the building, monument, or sites. Besides, conservation projects also included other activities such as restoration, repair, and rehabilitation, reconstruction, and adjustments or any combination of the activities (Afifi, 2017). Thus, this study aims to synthesize the use of quantum meruit claim in conservation projects.

METHODS AND MATERIALS

This study employed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) for selecting the articles. Generally, the use of PRISMA aims to enhance the quality and rigor of the previous studies on conservation and quantum meruit claim by reporting in systematic reviews. The methods of reviewing were conducted using one main online database, namely LexisNexis which specifically use to identify all the precedent court cases. Moreover, to enhance the output of obtaining the relevant articles, manual searching efforts on several established sources such as Science Direct, Taylor & Francis, Academia, and Research Gate which contained relevant journals related to the built environmental study and legal studies. Furthermore, there are three main stages involved in selecting the relevant articles which firstly is the selection process of databases that hold comprehensive citation lists related to the built environment, social science, engineering, and management study. Secondly, by referring to Table 1, the databases were searched explicitly related to conservation and claim management by developing the key search terms.

Table 1 Key search terms

Database	Search string
LexisNexis	*Quantum meruit* claim OR conservation
Science Direct	Conservation OR claim management OR building AND Malaysia
Taylor & Francis	Conservation AND heritage building OR claim management AND Malaysia
Academia	Building conservation OR heritage AND Malaysia
Research Gate	Conservation OR claim management OR building AND Malaysia

Third narrowed down the search results by filtering the title according to the title, location, year of publication, and to the inclusion and exclusion criteria as presented in Table 2. Also, there is two number of book chapters that were not extracted from the online database search but are included in the review due to prior knowledge. Collectively, this study managed to extract 18 articles related to conservation works and 22 number of a precedent court case related to quantum meruit claim. Hence, the appropriate themes and sub-themes were developed from the collected data through thematic analysis by focusing on the objective of this study i.e. to investigate the limiting factors of quantum meruit claim in conservation. Therefore, by adopting PRISMA, nature, concept, and issues in conservation and quantum meruit claims were compiled. Figure 1 illustrates the flowchart diagram of the process of data abstraction.

Table 2 Inclusion and exclusion criteria

Criteria	Inclusion Criteria	Exclusion Criteria
Publication type	Research articles	Other than research articles (review articles, book chapters, book review, etc.)
Publication years	2000 - 2020	<2000
Language	English	Non-English
Publication country	Malaysia	Other than Malaysia
Area of study	Built Environment, Engineering, Social and Behavioral Sciences	Other than Built Environment, Engineering, Social and Behavioral Sciences
Access type	Open access	Open archive

1. General findings and background of studies

This **s**tudy analysed two (2) main themes and a total of thirteen (13) sub-themes related to quantum meruit claim in conservation projects. Table 3 presented the analysis of the two main themes which are conservation projects with seven (7) sub-themes and quantum meruit claim with six (6) sub-themes. However, most of the previous studies on quantum meruit claim were referred to as the precedent court cases. Table 4 listed the analysis of court cases with a total of twenty-three (23) Also, it should be noted that all previous studies only focused on the Malaysian construction industry. The general findings of this recent study have been specifically categorized into the year of publications. Moreover, Table 5 depicts the analysis of the previous studies according to the year of publication which ranges from the year 2009 to 2019. However, there are additional studies related to the quantum meruit claim, which ranged below the year 2000 due to the unavailability of current studies.

Table 3 Overview of the main themes and sub-themes

Authors	Conservation projects							*Quantum meruit* claim					
	D	CR	PC	PR	CM	PT	DS	D	NR	CD	CM	MT	LF
Alan & Kayan (2009)	/						/						
Aziz et al. (2014)							/						/
Fridman (1999)								/		/			
Ghafar et al. (2011)			/	/									
Hadirah (2019)		/		/	/	/							
Harun (2011)	/	/	/	/	/		/						/
Hisham & Hassan (2015)					/	/							
Iamandi (2015)						/							
Kamal et al. (2008)							/						/
Kealy et al. (2017)	/												
Lee & Lim (2009)				/	/	/							
Lee (2009)						/	/						
Lim & Ahmad (2015)		/			/								/
Lucia et al. (2014)			/										
Roy & Kalidindi (2017)		/											/
Shankar (2019)							/						/
Sharifi et al. (2013)								/					
Umi et al. (2012)	/	/				/							
Wee & Lim (2010)													/
Zairra (2011)								/	/	/	/	/	/

	D = Definition of conservation CR = Characteristics of conservation projects PC = Principles of conservation PR = Process and procedures CM = Comparison between new building and conservation projects PT = Parties involved in conservation DS = Disputes in conservation projects	D = Definition of *quantum meruit* claim NR = Nature of *quantum meru*it claim CD = Conditions for *quantum meruit* claim CM = Circumstances entitlement for *quantum meruit* claim MT = Methods of assessment LF = Limitation factors for *quantum meruit* claim in conservation projects

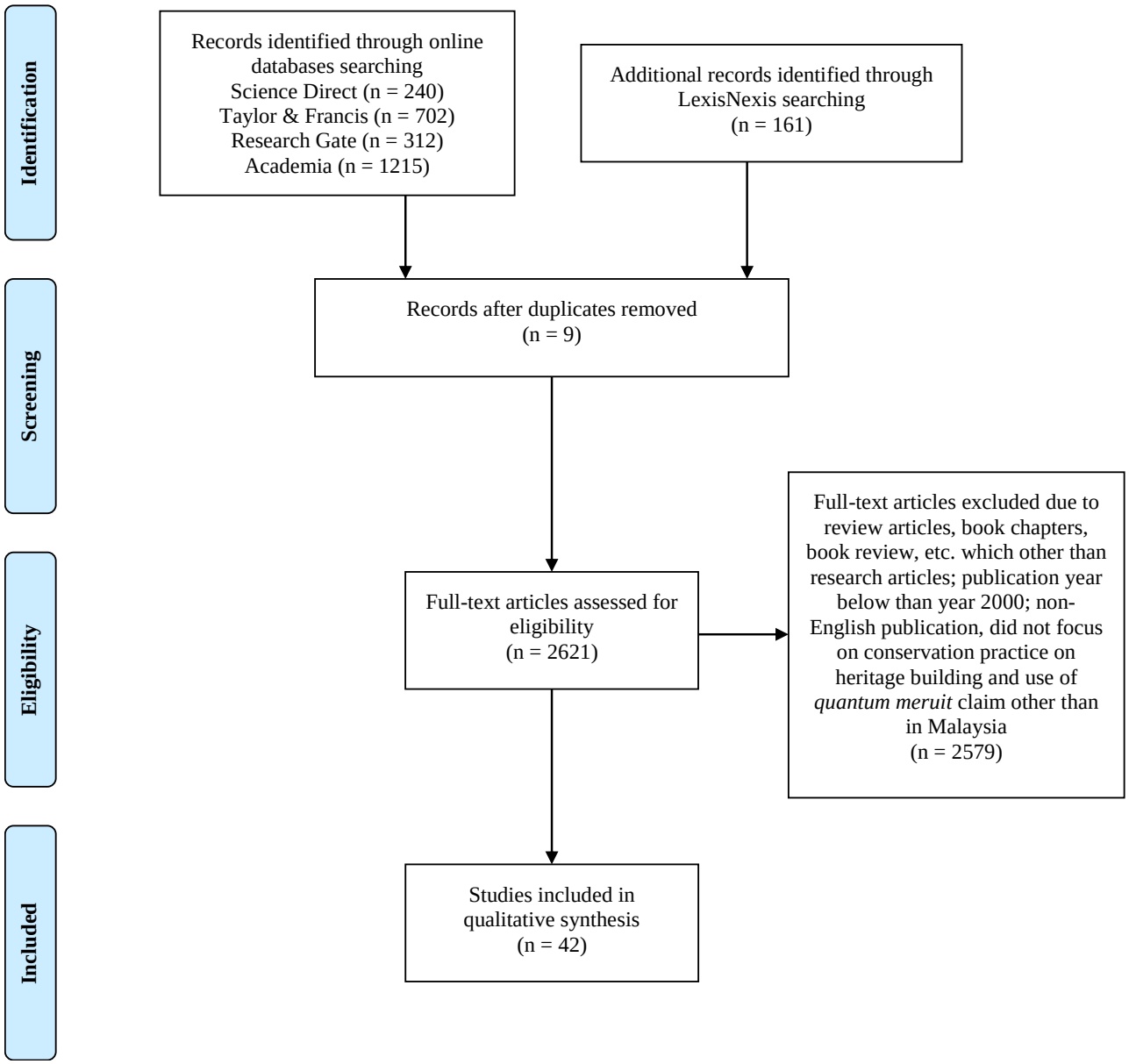

Fig. 1 PRISMA flowchart (Adapted from Moher et al., (2009)

Table 4 Overview of the court cases

Code	Year	Dockets	Cases
1	1884	-	Robinson v Harma
2	1949	2 K.B. 632	Parkison v Commissioners of Works
3	1965	-	Siow Wong Fatt v Susur Rotan Mining
4	1971	SC 712	Puranial Shah v State of Uttar Paradesh AIR
5		9 BLR 24	Turriff Construction Ltd v Regalia Kniting Mills Ltd
6	1974	1 MLJ 21	Lau Kee Ko & Anor v Paw Ngi Siu
7	1987	9 Con LP 139	Amantilla Ltd v Telefusion PLC
8	1993	CILL 896	Laserbore Ltd v Morrison Biggs Wall Ltd
9		VR 221	Victoria in Brenner & Anor v First Artists' Management Pty Ltd & Anor
10	1994	2 MLJ 754	Ayer Itam Dredging Malaysia Berhad v YC Chin Enterprise Sdn Bhd
11		85 BLR 77	Costain Civil Engineering Ltd v Zaamen Dredging & Contracting Ltd
12	2000	4 AMR 4706	Hasbullah Chan & Associates Architect v Rahika Development Sdn Bhd
13	2002	HCCT 17	Four Seas Union (Holding) Ltd v Hong Kong & Macau Scents Engineering &
14			Construction Ltd
15	2009	BCSC 1053	Infinity Steel Inc. v B&C Steel Erectors Inc
16		2 MLJ 546	Syarikat Binaan Utara Jaya v Koperasi Serbaguna Sungai Glugor Bhd
17	2011	SGCA 45	Foo Sang Mee v Ho Kiau Seng
18		9 MLJ 121	Lee Yok Swee & Son Engineering & Construction Sdn Bhd v Standard Quality Sdn Bhd & Anor
19	2014	8 MLJ 38	Spatial Ventures Sdn Bhd v Twintech Holdings Sdn Bhd
20	2015	9 CLJ 1002	Tanjung Teras Sdn Bhd v Government of Malaysia
21	2016	MLJU 943	GDP Architects Sdn Bhd v UiTM
22	2017	MLJU 639	Dama Design & Build Sdn Bhd v UPSI

Table 5 Overview of the year of publication

No	Year of Publication	Authors	Total of Articles/Thesis
1	2019	(Hadirah, 2019; Shankar, 2019)	2
2	2017	(Kealy et al.., 2017; Roy & Kalidindi. 2017)	2
4	2015	(Hisham & Hassan, 2015; Lim & Ahmad, 2015; Iamandi, 2015)	3
5	2014	(Lucia et. al., 2014; Aziz et.al., 2014)	2
6	2013	(Sharifi et al., 2013)	1
7	2012	(Umi et al., 2012)	1
8	2011	(Harun, 2011; Zairra, 2011; Ghafar et al., 2011)	3
9	2010	(Idrus et al., 2010; Wee & Lim, 2010)	2
10	2009	(Alan & Kayan, 2009; Lee & Lim, 2009; Lee, 2009)	3
11	1999	(Fridman, 1999)	1

2. Theoretical framework – *quantum meruit* claim in conservation projects

Grant and Osanloo (2014) pointed out the analogy to develop the theoretical framework as a blueprint to guide and structure the whole study. By developing theory-driven thinking, this study able to synthesize two themes by outlining the concepts and definitions relevant to quantum meruit claim and conservation projects. Figure 2 depicts an overview of the theoretical framework for this study.

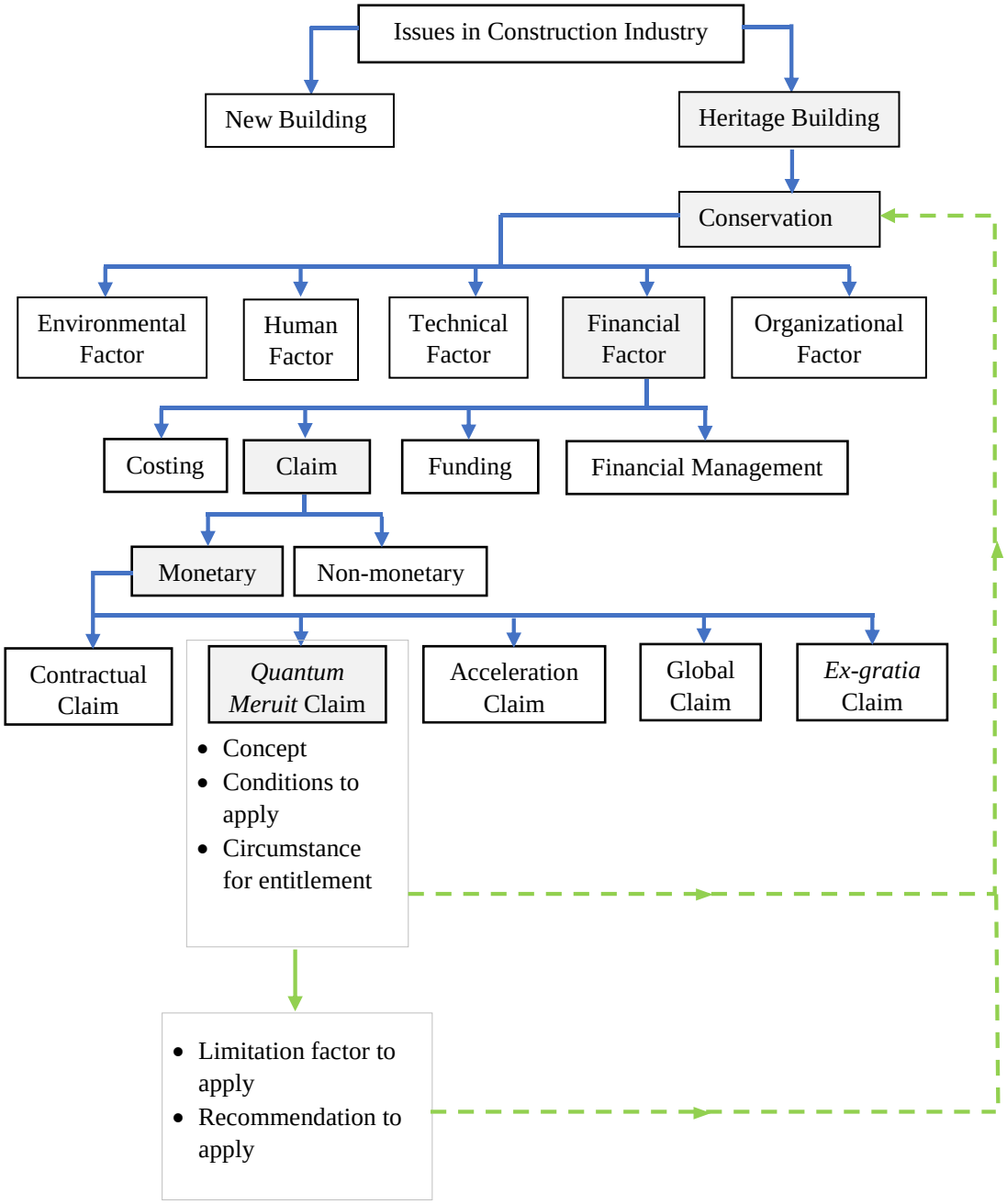

Fig. 2 Theoretical framework

3. Main findings

Referring to Table 1, this section reveals the discussion of two themes which are conservation projects and quantum meruit claim. The discussion emerged a total of thirteen (13) sub-themes.

3.1 Conservation projects

Conservation projects are the most important theme for this study to identify what constitutes the idea of using quantum meruit claim in conservation projects. Hence, a total of 18 articles were analyzed through systematic review encompassed seven sub-themes.

3.1.1 Definition of conservation (D)

The word 'conservation' needs to be clarified before reviewing the whole scenario of conservation projects in the construction industry. Harun (2011) defined conservation as a technical activity towards historical buildings that involved physical actions to preserve the material and fabric of the heritage buildings. Umi et al. (2012) described conservation as preserving and protecting the heritage building, monuments, or sites with careful handling in preventing any loss or damages and other changes. Most of the previous studies defined conservation as works that include adaptation, maintenance, preservation, refurbishment, restoration, reconstruction, rehabilitation, and renovation. Similarly, in the National Heritage Act 2005, conservation expounds as a general meaning of conserving and preserving and with that, the definition can be annotated in accordance to each category with the various approach of conservation works which are adaptation (Kealy et al., 2017), maintenance (Alan & Kayan, 2009), preservation, refurbishment, restoration (Harun, 2011), reconstruction, rehabilitation, and renovation.

3.1.2 Characteristics of conservation projects (CR)

The uniqueness and complexity of conservation work made it different with other construction projects by having various of characteristics which are (i) emphasize on the value of a building, (ii) maximize the authenticity, (iii) uncertainties and risks, (iv) skilled labor and craftsmen, (v) construction works on occupied building, and (vi) the use of measured drawing (Hadirah, 2019; Harun, 2011; Roy & Kalidindi, 2017; Umi et al., 2012; Lim & Ahmad, 2015).

3.1.3 Principles of conservation (PC)

The Burra Charter (ICOMOS) described that conservation aims to retain or recover the significance of the culture in the heritage are including its security, its maintenance, and its future. Good practice of conservation allows the heritage fabric to be maintained or to be evolved and adapt to meet changing needs. It is vitally important that all the features of the building can be used for future generations by having four principles which are (i) retention or restoration of historical significance, (ii) conservation process based on research, (iii) minimum physical intervention, and (iv) maintenance of visual setting (Lucia et al., 2014; Ghafar et al., 2011; Harun, 2011).

3.1.4 Process and procedures (PR)

The Burra Charter (2013) emphasized the conservation processes shall by Articles 14 to Article 25 which encompass all approaches mentioned in item 2.2 of conservation work by developing all the principles of conservation. Article 14 stated that there might be circumstances where no action is required to achieve conservation. It is because conservation commonly seeks to prolong the building's life and slow the deterioration at the discretion of the significance of the place. Jabatan Warisan Negara outlined the basic five important stages to be adopted in conservation projects by distinguishing into pre-contract and post-contract stages.

Pre-contract takes place after the contractor has been nominated for the projects, but it restricted before commencing the works on site. There are three sub-stages involved during pre-contract stage which are (i) preliminary investigation to determine the need of conserving the building by preparing the historical research and measured drawing, (ii) study damage (dilapidation survey) and building investigation - to identify and record the building defects through photographic and digital documentation before any conservation works and this survey needs to be conducted by having in-depth analyses of the building defects, and (iii) preparation of tender document which will specify all the agreed conditions in term of price specifications and quantity. In the third stage,

all necessary data will be gathered for tender preparation and quantity surveyors (QS) play their tole to conduct quantity take-off (Harun, 2011; Ghaffar et al., 2011; Lee & Lim, 2010). Meanwhile, Post-contract starts from the construction works until the completion of works. It includes the risk management and maintenance of the building after the completion of works. Following the stages during pre-contract, the next stage is (iv) building conservation works which the process involved in construction start adopted top-down approach; from roof repair and continue with others part of building elements. The last stage in the post-contract stage is (v) management and maintenance of heritage sites. Professional management is needed during conservation works for maintaining the functional and durability of the conserved building to serve its functionality as the original purposes. Also, the significance of maintaining the conserved building is to increase the economic return in the value of heritage asset, thus, the government may generate the economic returns through heritage tourism (Harun, 2011; Hadirah, 2019; Robiah, 2017).

3.1.5 Comparison between new building and conservation projects (CM)

The dispute is inevitable in any construction projects neither new building projects nor conservation projects. Despite, conservation projects are believed to be riskier than new build projects due to the complex and unique process (Umi et al., 2012). Lim & Ahmad (2015) supported that the conservation works have different characteristics from new build, but they found the similarities to the refurbishment works which are; small labor-intensive operations, works scattered throughout the existing building, lack of as-built drawings to guide designer and builder and extent of work not discovered until demounting work. Thus, Hadirah (2019) compiled the differences between new building and conservation project by categorizing into several factors which are; (i) construction methods, (ii) scope of work, (iii) design process, (iv) preliminary items, (v) form of contract (vi) bill of quantities, and (vii) materials. Table 6 presented an overview of the comparison between new build projects and conservation projects.

Table 6 Comparison of new build projects and conservation projects

Comparison Factors	New Build Projects	Conservation Projects
1. Construction Methods (Lee & Lim, 2010)	• Works start from WBLFF to roof structure • Bottom-up approach	• Works start from roof structure to the subsequent structural elements • Top-down approach
2. Scope of Work (Harun, 2011; Lee & Lim, 2010; Hadirah, 2019)	• No contact with any existing building which the works conducted on a clear site	• Involved with the existing building
3. Design Process (Hadirah, 2019; Hisham & Hassan, 2015; Lim & Ahmad, 2015)	• Adequate information during design stage which will avoid design changes made by architect or client • Availability of drawings for every element	• Building information will only be discovered during the construction works, hence the design changes is inevitable • Unavailability of drawings especially for old building and no as-built drawing
1. Preliminary Items (Lee & Lim, 2010)	• Consist of project brief, description of works, project tender, guideline related to project, contract's obligation	• Encompass of detailed building history, survey, HABS, necessary documents and reports, cost running, recognized charters and guidelines
2. Form of Contract (Lee & Lim, 2010)	• PAM Contract for private projects • PWD Form of Contract for public projects	• *Ad hoc* contract which prepared by client's lawyer
3. BQ (Lee & Lim, 2010)	• The items were described accordingly to the element • i.e. WBLFF, Excavation, Sanitary Fittings	• The items were arranged accordingly to their location • i.e. Zone, room, block

4.	Materials (Harun, 2011)	• New material • No problem in getting the original material • Low cost	• Maintaining the existing material • Consideration on the need of materials replication • High cost

3.1.6 Parties involved in conservation (PT)

Hisham and Hassan (2015) described that conserving the building or sites involve various professionals and experts such as town planners, conservation architects, landscape architects, quantity surveyors, specialized engineers, building contractors, archaeologist, art historians, craftsmen, antiquaries, chemists, geologists, biologists, urban designers, conservator, materials scientists, surveyors, curator and including the building's owner. Most of the researchers urged all parties involved in building conservation to be more skillful and expert. It is because the involvement of the parties was only limited to minor works in overall building maintenance and conservation. Hence, additional costs need to be allocated for inviting foreign building conservation experts to conduct the training activities. Hadirah (2019) highlighted that employing experienced and knowledgeable team is vital for improving the performance of heritage conservation projects and preserving the authenticity of the building (Lee, 2009; Lee & Lim, 2010; Umi et al.., 2012; Iamandi, 2015).

3.1.7 Issues in conservation projects (DS)

Issues and problems in the construction industry are inevitable, and conservation project has no different which will lead to disputes or confusion among the team player. Disputes arise when there is a disagreement between involved parties who are responding to real or perceived threats to their interests, values, identities, or rights; fears that one's heritage is disrespected create highly charged emotions. The disagreement between the parties involved in conservation works will impede or prevent mutual understanding among them. Disputes cannot dissipate over time, whereas it became the barrier to performing good conservation projects and outcomes for all parties. Hence, Azizi et. al. (2016) found five common issues arise on conservation projects from the precedent studies on historic building conservation which are (i) environmental, (ii) human, (iii) technical, (iv) financial and (v) organizational. Table 7 depicts an overview of the issues according to the factors.

Table 7 Overview of the issues in conservation projects

Authors	Factor	List of disputes
Azizi et al., (2016); Shankar (2019); Harun (2011); Kamal et. al. (2008); Lee (2009); Alan & Kayan (2009)	Environmental	Caused by the external factors such as economy pressure, building conditions, location, business opportunity and third-party interference. For example, the redevelopment of Kampung Baru, Kuala Lumpur been proposed due to the disorganized situation and congestions of the area. The limitation of parking space and difficult with vehicular accessibility will reduced the property value and difficult to subsist. Additionally, the location of the historic building determines its chances to be maintained.
	Human	Human errors consist of poor communication, stringent by law requirements and poor knowledge. In conservation projects, the involvement of multi-disciplinary professionals engaged with multiple organizations that led miscommunication. Additionally, inadequate of tradesmen in conservation project will cause of employing the skillful foreign works. Collectively, it was resulted due to the language, culture, and society.
	Technical	Limited availability of resources and financial support are the biggest challenge in conservation project. Insufficient of funding for

		conservation building will left the building remain vacant and unpreserved. Technical issues also include the shortage of material and labor which almost all the conservation projects involve both repair and maintenance stages that required understanding and analysis of building defect diagnoses.
	Financial	The nature of conservation work is unpredictable during the inception stage. Hence, the final cost of conservation projects is difficult to pre-determined and ascertain because the suitable method to be approached in the conservation projects are yet to be determined. Due to this, most of the building contractors will allocate and increase the contingency cost for the conservation project. The client or the building owner will face difficulties to manage and allocate their budget. Additionally, banks do not provide loans for the conservation projects due to high uncertainties and risk arise in the conservation. Thus, the financial stakes are usually high, and conservation is viewed as unattractive from the business point.
	Organizational	The issues found in the organizational culture are related to shared values and beliefs which govern behavior and actions in making the decision. In conservation industry, it is an alarmingly common practice for old buildings to be demolished and replaced by new developments. The developer viewed the property as an opportunity to be exploited while conservator viewed the building as an inheritance to be preserved.

3.2 Quantum meruit claim

Following the nature of conservation projects, it rarely engaged with the quantum meruit claim. It appears that there is no known precedent study or literature review on assessing quantum meruit claim conservation projects. The second theme in this study; quantum meruit claim comprises 23 precedent court cases and 11 articles for the relevant search.

3.2.1 Definition of quantum meruit claim (D)

Quantum meruit claim is made alternative to a contractual claim which defined in various ways. Hence, before reviewing the whole concept of the quantum meruit claim, the term quantum meruit claim shall be clarified. Generally, quantum meruit is a Latin phrase meaning "what one has earned" or "how much he deserves" which expressed as a reasonable sum of money to be paid for services rendered or work done when the amount due is not stipulated in a legally enforceable contract. Briefly, a common terminology for the word "quantum meruit claim" is an act of general assumpsit to recover payment or reasonable sum for the value of labor and services (Zairra, 2011; Sharifi et al., 2013; Fridman, 1999). Table 8 shows the summary of different interpretations of the definition of quantum meruit claim following the court cases (Refer to Table 2).

Table 8 Definition of *quantum meruit* claim

Code *(Refer to Table 2)*	Definition of *quantum meruit* claim
16	"a claim made on the basis that one party had derived a benefit from the work done by another; and if this is so, a reasonable remuneration has to be paid to the party who executed the works"
17	The application for *quantum meruit* claim must consist of a promise to pay for the work done, the intention of the parties at the time when the work has done, and the services rendered shall be expressed clearly.
4	*Quantum meruit* claim involved when there is no contract at all to restore the innocent party to the position which he would have been in if the contract had never been entered. Also, *quantum*

	meruit claim is not seeking for amount arise from the adjustment of contract sum or contract rates but as an amount resulting of some wrongful act on the part of parties at fault.
20	*Quantum meruit* claim is the compensation or amount measured by the worth of work done which exclude the profit.

3.2.2 Nature of quantum meruit claim (NR)

Quantum meruit claim is a claim which the claimant merely seeks to be compensated for an amount representing the reasonable amount of work done which purposes to restore the claimant to the position which he would have been before the contract (Zairra, 2011). Referring to Table 2, (12) described the nature of the quantum meruit claim as a remedy designed to restore the actual benefit or the value of the benefit that one party has conferred to the other. However, it is significantly different from an award of damages. Additionally, the quantum meruit claim is part of the rule of the common law. In (1), the nature of the quantum meruit claim expressed when a party sustains a loss because of a breach of contract (7) hence the injured party needs to be placed in the same position as if the contract has been performed (11).

3.2.3 Conditions for quantum meruit claim (CD)

There are five conditions for quantum meruit claim highlighted by Zairra (2011) which are (i) the recipient must have requested or acquiesced in the doing of the work lawfully (Refer to Table 2; 21, 18), (ii) the contract must be discharged, (iii) the recipient must have known that the work must be done for another person and not be intended to be done gratuitously (Refer to Table 2; 20), (iv) the events which have happened must not be events whose risk were borne by the plaintiff and other person enjoys the benefit of the act, and (v) claim must be brought by a party, not in default (Refer to Table 2: 6).

3.2.4 Circumstances entitlement for quantum meruit claim (CM)

John and Will (2008) have also argued that quantum meruit may arise in various situations which not all of it derived from the breach of contract. They opined that the common situations are either no contractual relationship or no contractual assessment of the reasonable amount due. In the context of the construction industry and relating to the conservation projects, there are six circumstances for the entitlement of quantum meruit claim analyzed from the LexisNexis online database presented in Table 9.

Table 9 Circumstances entitlement for *quantum meruit* claim

No	Circumstances entitlement for *quantum meruit* claim	Code (Refer to Table 2)	Authors
1	When the contract contains an express agreement to pay a reasonable sum or similar terms in return of the services rendered. Also, in certain contracts the work required to be done was not specified with the fixed price.	-	John & Will (2008); Zairra (2011); Fridman (1999)
2	When the contract does not specify expressly on the amount to be paid, the employed party may claim for *quantum meruit* claim.	2	
3	When the contractor commenced the works or services requested by the client under a letter of intent, but no price is agreed or there was no fixed price mentioned in the contract for the work to be done.	5	
4	In a quasi-contract situation where the contract exists by order of a court or based on the contract but not by the agreement of the parties and a price fixing clause in a contract fails to operate.	10	

5	When work is performed outside a contract. For instance, the contractor entitled to be paid for reasonable sum based on implied contract for which the contractor commenced the works outside the contract but at the client's request	11	
6	When work is done under a contract subsequently found to be void, uncertainty for any other reason, unenforceable by law and the contract has been repudiated by the client	-	

Table 10 Method of assessment for *quantum meruit* claim

No	Method of Assessment	Formula	Code (Refer to Table 2)
1	Cost plus percentage profit	Cost of materials, labors, worker's accommodation, site staffs' salaries + 15% profit margin and overhead cost = Reasonable sum	14
2	Reasonable price or rate	Sum derived from the reasonable price or rate of the works given by the fair market or market rate to the work done. May refer to the Schedule of Rates or from the BQ.	19, 20
3	Measure the value of benefit conferred	[working hours x reasonable rates] + expenses (worker's accommodation, union remittance, overtime, etc.) = reasonable remuneration	9, 16

3.2.5 Method of assessment for quantum meruit claim (MT)

According to the precedent studies of court cases, the assessment of *quantum meruit* claim does not seem to be uniformed in cumulating the reasonable amount. From the findings, there are three approaches to assess *quantum meruit* claim based on (i) cost plus percentage profit, (ii) reasonable price or rate, and (iii) measure the value of benefit conferred (Zairra, 2011). Also, it should be noted that the claim for *quantum meruit* is not based on the whole project, but only for the work done carried out by the injured party.

3.2.6 Limitation factors of quantum meruit claim in conservation projects (LF)

By integrating the issues outlined in Table 7 and the entitlement of quantum meruit claim (Table 9), there are four limitation factors of quantum meruit claim found in previous studies which are (i) non-availability of contract that specific for conservation works, (ii) undetermined price of conservation works especially on the schedule of rates; no specific schedule rates provided for conservation works. Currently, the schedule of rates uses in conservation projects is referring to Schedule of Rates for Repair Works (PWD) which causes the problem to determine the reasonable amount for quantum meruit claim. (iii) Lack of experiences and skillful parties involved in conservation projects, hence it will disrupt the process of quantum meruit claim to identify the expert witness. (iv) Improper documentation provided in conservation especially on documenting the claim applications. This is important for preparing the evidence in submitting a quantum meruit claim. (Azizi et al., 2016; Shankar, 2019; Harun, 2011; Kamal et al., 2008; Lee, 2009, Alan & Kayan, 2009).

DISCUSSION

The limitation factors for quantum meruit claim in conservation projects identified in 3.2.2.6 are grouped into two categories i.e. positive limitation factors and negative limitation factors. The former is a non-dependent on the nature of conservations works which can be practiced

independently regardless of the conservation situation. The latter is a dependent factor to the nature of conservation works which cause the intervention or enforcement from the third party. Moreover, all the limitation factors classed under the second category were classified as a time-consuming solution in determining the limitation factors of quantum meruit claim in conservation projects.

- **Positive limitation factor**

The lack of experiences and skillful parties involved in conservation projects were heightened up in the context of conservation works, which most of the parties involved have low awareness of the nature and criteria of conservation projects (Hisham & Hassan, 2015). These behaviors would impact the whole progress of conservation works. Generally, Harun (2011) emphasized the problems arise in conserving the heritage buildings rooted in the negligence of parties involved. According to Shankar (2019), most of the parties involved were lack of experiences and knowledge in understanding the intricacies of conservation works. Inadequate of tradesmen in conservation project will cause of employing the skillful foreign works. Meanwhile, the main concern of poor knowledge among the building professionals is their inability to differentiate the work approaches for new building and conservation projects. Generally, if the parties involved were not able to understand the principle and nature, the process of determining quantum meruit claim will disrupt especially during the process of detailing the description and rates of the works. Moreover, this is believed to be a positive limitation factor strategy to be adapted because, in improving and enhancing the knowledge, one should able to improve his ability to acquire and apply knowledge in the conservation area. Also, this is voluntary and no enforcement or interference from any party to urge the need of improving the knowledge. Thus, it can be practiced independently regardless of conservation situations.

Poor documentation records practices by parties involved in conservation either client, contractor, or consultants would limit the use of quantum meruit claim in conservation projects. In determining the quantum meruit claim, the evidence on the work done must be sufficient and adequate. However, poor documentation prepared by the practitioners in conservation projects will thwart the confusion in the claim procedural (Roy & Kalidindi, 2017). In supporting the view, Lim and Ahmad (2015) opined that unclear documentation will lead to the contractor's confusion i.e. the descriptions of BQ are unclear and vague hence the contractors will make their assumptions which will lead to different pricing. Thus, it shows that documentation is essential where it applies for effective claims management especially of appropriate documentation of hindrances, discrepancies, and changes. Moreover, the parties involved in conservation may improve in documentation records hence able to understand that this issue can be addressed successfully without depending on any situations in conservation. Besides, it is important to identify which limitation factors of quantum meruit claim in conservation projects shall be categorized under the positive factors because the results would impact on the further recommendations to enhance the use of quantum meruit claim in conservation projects.

- **Negative limitation factor**

A study by Kayan (2003); cited by Aziz et al., (2016) found that the laws about the conservation works are not specific and inflexible. The need for the revision of the guidelines was urged by the respondents in the study. The non-availability of the standard form of contract that specified all the works description following the nature of conservation works is believed to be one of the limiting factors of quantum meruit claim in conservation projects. In the conservation project, an ad hoc contract was introduced as an additional form of contract to be used. This contract will be prepared

by the client's lawyer specifically for the proposed conservation project. Dealing with great uncertainties and risks in a conservation project, the common standard form of contract is not suitable to be used because some conditions of the contract do not meet the nature of conservation works (Lee & Lim, 2010). It is recommended to have modifications and amendments to the common standard form of contract to suit the criteria of conservation works. Nevertheless, in enforcing and appraising a new standard form of contract which specifically design for conservation works, it would take an ample period and tedious to be done successfully. It should be noted that the description of the work in the contract is salient to the consultants for preparing the drawings, costing, and coordinating the projects. However, conservation projects are non-standardized works, hence the descriptions of the works would vary according to the nature of works. Therefore, this limitation factor of the quantum meruit claim was classed under the negative factor because it is depending on the conservation situation and intervene by the third party.

Meanwhile, in determining the quantum meruit claim, the scope of works and the schedule of rates is the subject matter which affected the conditions to claim and evidence on the work done (Harun, 2011). In executing conservation works, the contract price is only able to be pre-determined during the inception stage where the contractor will only foresee the scope of works when he starts to 'open' the building. Therefore, the schedule of rates would vary under the intricacies of conservation works. It was recommended by the practitioners to establish a new schedule of rates that specifically design for conservation works. It is because the current practice employed Schedule of Rates for repair works established by PWD. Hence, the process of establishing a new schedule of rates implicates a similar process with establishing a standard form of contract for conservation. On top of that, the process involved would also depend on conservation situations.

RECOMMENDATIONS

From the findings of the systematic review study, two recommendations may be helpful for future studies. Firstly, the negative limitation factors shall be the center of attention by the future researcher to establish a proper standard form of contract and schedule of rates for conservation projects due to its nature with various uncertainties. With this, it will smoothen the process of determining quantum meruit claim for conservation projects. Nevertheless, it is recommended to have an amendment or addendum to the current standard form contract or may opt for the use of a bespoke contract or ad-hoc contract. Also, the future researcher may figure out the reasons why the previous researchers constantly urged and recommended establishing a new standard form of contract for conservation projects even knowing that such recommendations are tedious and offer a long-term solution. Secondly, this study is believed to give an insight and be a reference to the body of knowledge in claim management for conservation projects to opt for quantum meruit claim as one of the alternative methods to claim for the works or service rendered in the conservation projects.

CONCLUSION

The systematic review study on quantum meruit claim in conservation projects reflects a basic understanding of the limiting factors to apply for quantum meruit claim in conservation projects and the suggestions on enhancing the use of quantum meruit claim in conservation projects. Furthermore, there are two main themes identified through the systematic review which represent the connectivity between conservation and quantum meruit claim. The first theme refers to the

issues in conservation projects which encompassed a total of five categories of issues arise; environmental factor, human factor, technical factor, financial factor, an organizational factor. In identifying the issues, the nature of the conservation projects was emphasized in the sub-themes. Second, the theme refers to quantum meruit client which the main concern is on the limiting factors of quantum meruit claim in conservation projects. Overall, by knowing and acknowledge the limiting factors of quantum meruit claim in conservation projects, it would enhance and smoothen the process of determining quantum meruit claim in conservation projects. Thus, further broadening in understanding the principle of quantum meruit claim may be able to assist the parties involved to be familiar with quantum meruit claim in the context of conservation projects.

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