

# CCC Method: The Rules Of Professionals As A Building Certifier

R. Zakaria<sup>1</sup>, A.I. Che Ani<sup>2</sup>, A. S. Ali<sup>3</sup>

<sup>1,2</sup> Department of Architecture, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, Bangi, Selangor

<sup>3</sup> Centre for Construction, Building and Urban Studies, Faculty of Built Environment, University of Malaya, Kuala Lumpur

**Abstract.** In order developers handing over a building to the client, the building must comply with the various rules and procedures set by the respective local authorities. Before submission for CCC can be carried out by the developer, it is necessary to get a certificate of completion for the building construction. For this purpose, a more effective system introduced by the Malaysian government namely the Certificate Completion and Compliance (CCC). This system used respective professional services to recommend the issuance of building certificates for the building to be occupied. Under this approach, professional architects and engineer have been identified by government as a profession who is responsible for overseeing the entire project's development and building that resulting in the issuance of CCC. Appointed architect or engineer called the Principle Submitting Person (PSP). This research uses qualitative method involving seven local authorities as respondents based on the "Snowball Sampling". This approach asked the last respondents' opinions on who are the next respondent that are appropriate for interview. The selection of respondents in a row expected to acquire direct information for the subject issue. PBT of Selangor and Malacca only (developed states) was selected and all types of buildings involved in this study. Reliability and normality tests of the variables showed normal distribution and a high level of reliability (above 0.8). Research results obtained through interview revealed that all respondents agreed that the implementation of the new system CCC is rather effective than the old system. However, to achieved the CCC goal comprehensively the PSP appointed needs to maintain their work ethic and a best practice in ensuring the service provided could be able to satisfy all stakeholders.

## 1 Introduction

The Government has introduced a new system after it was decided in the meeting of the Cabinet held on June 21, 2006, CCC's issued by the Professional as replacing Certificate of Occupancy or better known as Certificate of Fitness (hereinafter referred to as CF), formerly issued by the Local Authority (hereinafter referred to as LA) (1). The professional in question is the "Prinsiple Submitting People" or more commonly known as PSP (hereinafter referred to as BSE).

The introduction of the new certificate is made after taking into account the strengths and weaknesses based on study conducted by the Ministry of Housing and Local Government (hereinafter

referred to MHLG) together with the parties directly involved or with an interest in the construction industry (2007e MHLG ). The purpose of the study is to get feedback from LA on the effectiveness of services provided by PSP under CCC method.

## 1.1 Certificate Requirements for Each Building

George [1] noted that the purchase of a building to produce high cost then with the certificate to ensure that the quality of the building being purchased are reasonable and adequate to the costs incurred. However, John [2] further explain that before issuing any certificate of the building, the building inspector from authority need to visit and check on site to the schedule in order to ensure that the construction work carried out in accordance with the approval. Although the certificate will not be issued an assurance or guarantee that a building been constructed perfectly in all aspects, but at least it could be confirmed that the building was constructed according to the terms, provisions of the law and procedures.

## 1.2 Definition of Building Certificate

Joyce [3] defines "certification" as a certificate while "building" is defined as a building. With other words building certification is a certificate for a particular purpose issued by certain parties on the structure erected. Denis and William [4] defines as a building certification documents issued by the authorities stating that all structures built is safe for occupation and the construction and repair has been carried out in accordance with the approval granted building permits.

## 1.3 CCC definition

Malaysian Institute of Architects (PAM) [5] defines the CCC as a certificate issued by the professional under a self-certification approach after all the construction work completed and comply with design, plan and all documents have been submitted and approved by the local authorities. Hevesi [6] defines the CCC method as a license or authorization given to the professionals to certify all components involved in the construction process. Denise and William [4] also defines the CCC as a document issued by the Architect, Engineer or qualified parties acknowledge that the projects undertaken are completed and comply with all building plans and specifications approved.

## 1.4 Provisions of Law

Building certificate is part of the construction process to ensure that its own building plans and construction work undertaken to comply with a prescribed norm under the provisions of the applicable law in a country [7]. In Malaysia, the matters set forth in the building certification under the Law of the Uniform Building 1984 (PW 5178/85) and the Street, Drainage and Building Act 1974 (Act 133) [8],[9]. Under clause 25 (1) (Act 133), states certificate of completion of a building shall be granted if:

(A) current qualified people have recognized the work carried out in Form E as set out in the Second Schedule to these Bye-Laws that they have supervised the construction of the building, and their knowledge and belief the building has been constructed in accordance with these by-laws and any conditions imposed by the local authorities and they agreed to accept full responsibility on the parts related to them and their local council or an officer authorized in writing by him for that purpose have examined the building.

(B) all necessary services, including access roads, landscape, parking, drainage, installation of sanitary equipment, water and electricity, fire lifts, fire hydrant, etc. if required, the requirements of the sewage and garbage disposal were available.

### 1.5 Issuance of Certificate of Building By Professionals

In Malaysia under the CCC method is for the professional development project to be undertaken are the architects who act as the PSP. Implementation of CCC aims to improve public service delivery as well as protect the interests of the buyer of the building. Under the CCC method uses self-certification approach in which only one party responsible professionals appointed to oversee the project's development than before, while so the project could be delivered to the buyer. Apart from this method to ensure more responsible architect of performing his duties and not wash his hands after the building is completed. The issuance of CCC is liability for architects and this indirectly can speed up the production process without having to wait for CCC inspection made on the project by the local authorities [10]. Apart from that according to them further apart CCC method can reduce the workload of local authorities it will improve the professional self-regulation to be appointed.

The issuance of building certificate by professionals that implemented in Honolulu (CCC method) because of the lack of staff in the Division of Planning and Permits (PBT) in the city [11]. The professionals who have been authorized to issue building certificate may be legal action against them should they fail to carry out these responsibilities and must return the license granted to issue building certificate [12]. To ensure that the CCC's business becomes easier and smoother every architect who was appointed to be responsible to ensure all contractors involved must comply with all conditions of approval before the certificate can be issued building [13].

Feng et al. [14] state that professionals did issue a building certificate may enter or occupy the building. Project Architect shall ensure that all repair work has been done according to the regulations and have been satisfied with the repair work that is done then the certificate can be issued [15]. This is to ensure that the building is to be delivered in good condition and can be used.

### 1.6 Efficacy variables PSP Services Under the CCC method

Through literature review found that there are two major factors and 12 sub-factors were identified which may impact the issuance of certificate of PSP in this building. Factors and sub-factors are shown in Table 1: -

**Table 1:** Factors and Sub-Factors Variables Effectiveness PSP Services

VARIABLE THROUGH LITERATURE REVIEW	
Factor	Sub-Factor
Work Ethics Baharuddin (2007) dan Azmie (2008)	Credibility of PSP - Aion dan Abdullah [16]; and Kirk and David [17]
	Knowledge And Expertise of PSP - David and Andrew [18]
	conflicts of Interest - Ahmad and Rosman [19] dan Wan [20]
	Ability PSP Faced Problems - Richard dan Susan [21]
	Accountability of PSP - Holly and Vessela [22]
Working System Theo & Martinus (2008) dan Norhani et al. (2009)	Birokrasi - Michael [23]
	Organization and Management Company of PSP - Sharifah and Hardiman [24]
	Regulation - Azlan-Shah et al. [25] and Norman and Shamble [26]
	Documentation - James and Nigel [27]
	Financial - Simon [28] dan George [29]
	Information System - Nigel dan Ellen [30]
Process Dan Procedur of CCC - Stuart [31]	

## 2 Methodology

The scope of the study covers the state of Selangor and Malacca as both a developed state in Malaysia [32, 33]. Since there is no difference in the process and procedure of issuing the building certificates then study takes into account all categories of buildings. For the selection of the respondents as it is made up of local authorities monitor the CCC (2) and the local authorities assess

the services provided by the PSP. Research strategy used in this research is in the form of qualitative methods. Qualitative methods to select the feedback from the respondents by interviewing respondents directly. Sekaran and Bougie [34] stated that interviews with respondents could involve more difficult questions and could be explained in more details. Researchers contacted the selected respondent and make an appointment to do the interviews. The qualified and appropriate respondents were identified based on suggestion made by the current respondent. This method are normally known as "snowball sampling" Moleong (3).

Data Analysis

Table 2 shows in detail the quantitative results obtained through interviews.

**Table 2:** Quantitative Results through Session Interviews

Variable	N	Feedback Scale					Comment
		1	2	3	4	5	
CCC accelerate the production of building certificates	7	-	-	-	2	5	- No need to wait for reviews of other agencies. - The certificate issued by the parties PSP (Developer)
CCC is more efficient than CF	7	-	-	-	7	-	- The PSP must carry out their duties professionally and responsibly as to issue certificates of CCC buildings make it more efficient.
PSP power lead to enactment of a conflict of interest and bureaucracy	7	-	-	-	5	2	- PSP is empowered to regulate the entire project - PSP is more in accordance with the developer without considering the interests of buyers.
Work ethic and job system guarantees service kualitt PSP	7	-	-	-	3	4	- Adopting a system of ethics and work will ensure that the work complies with all processes, procedures and conditions of approval.
Credibility influences the quality of the PSP work from the safety and comfort	7	-	-	-	6	1	- PSP which has only served to confirm the credibility of what is on site. - Ordered sub-contractors to make corrections to the approved compliance.
PSP knowledge and expertise influence the safety and comfort	7	-	-	-	2	5	- Using the knowledge and expertise that is certainly able to produce the best quality buildings. - With the knowledge and expertise of the PSP can ensure the safety and comfort of buildings constructed.
Conflicts of interest may affect the safety and comfort	7	-	-	-	-	7	- This is because the PSP without the responsibilities according to the rules and conditions of the approval. - When developers give priority to profit and PSP developer directions to set aside the interests of the buyer because the power in the hands of a certificate certifying the PSP.
Failure PSP solve project problems affecting the safety and comfort	7	-	-	-	6	1	- As an example problem is not enough materials or substances used are not according to specifications but the project is still ongoing. This affects the quality of the constructed building and compromise the safety and comfort of the building.

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Accountability PSP guarantee safety and comfort	7	-	-	-	1	6	<ul style="list-style-type: none"> <li>- Without the accountability of a PSP is unable to perform his duties properly and with quality.</li> <li>- By having an accountability PSP perfectionist work. This guarantees the security and comfort of buildings constructed.</li> </ul>
Bureaucratic factors affect the implementation of the PSP work	7	-	-	-	4	3	<ul style="list-style-type: none"> <li>- When there is bureaucracy disrupted the smooth implementation of the PSP work as necessary in accordance with the developer without complying with the terms and conditions approved. This happens because the power to issue building certificate in the hands of the PSP and PSP are appointed and paid by the developer.</li> </ul>
Organizational charts and management company focused on PSP help of his duties	7	-	-	-	1	6	<ul style="list-style-type: none"> <li>- Complete organization chart and the smooth management of the company can help PSP to focus fully on his duties.</li> <li>- Not being able to force PSP organizational charts do work outside their fields due to lack of staff or PSP had to do too much work on at any one time. This cause cannot be given full attention by the PSP on such an arduous task.</li> </ul>
Perfect quality guarantee documentation project from the safety and comfort	7	-	-	-	7	-	<ul style="list-style-type: none"> <li>- Documentation of something important in the construction of buildings as reference materials for evaluation.</li> <li>- Documentation is not complete, causing many matters cannot be referred to and PSP had to take time to make sure certain things. If the incorrect reference made as an example of reference materials used then it certainly affects the safety and comfort of buildings constructed.</li> </ul>
Financial guarantee high quality buildings constructed from the safety and comfort	7	-	-	-	4	3	<ul style="list-style-type: none"> <li>- Finance plays a very important role to ensure a quality building.</li> <li>- This lack of financial cause a lot of materials used is insufficient, poor quality and did not follow the proper specifications. If this happens so delicately constructed building definitely are not safe and comfortable to be occupied.</li> </ul>
Extensive use of information systems to ensure the safety and comfort of buildings constructed	7	-	-	-	5	2	<ul style="list-style-type: none"> <li>- The use of a comprehensive information system on a development project can provide the best of facilities. This is due to a construction process that is complex and PSP requires an information system for storing all the latest information and data safely and orderly.</li> <li>- With the use of advanced information systems also can help PSP in designing buildings easily and perfect. This can save a lot of time is required if doing it manually.</li> </ul>
Interfere with the process and procedures CCC PSP focus on safety and comfort of buildings constructed	7	-	-	-	3	4	<ul style="list-style-type: none"> <li>- PSP should be careful and take a long time to ensure that all processes and procedures are fully complied (unranked certification process). Because there are so many processes and procedures to be followed in the fraud resulted in compliance with established processes and procedures to make it easier.</li> <li>- When fraud happens, the quality of buildings constructed are not guarantee the security and comfort for the occupied.</li> </ul>

[1] strongly not influence    [2] not influence    [3] neutral    [4] influence    [5] greatly influence

### 3 Conclusions

From the study it shows that the respondents are more likely to say the CCC method implemented by the government is better than the old system. By using the services of professionals (architects) as the body responsible for issuing certificates of buildings to ensure they did not wash his hands after the building is handed over. Architects had been appointed as the PSP (producer of building certificates) are the perfect choice as they are overseeing a project from before, during and after the project is to be delivered to the buyer.

However, for the goals of the implementation of this method is achieved by fully CCC PSP appointed to provide quality services to ensure that all processes and procedures and requirements are followed. Through literature review, there are variables that need to be give more attention by PSP in processing CCC application. The variables consist of two main factors, namely the work ethic and work systems, respectively 5 and 7 supported by other sub-factors. All these variables found to be significant to the effectiveness of the PSP under this CCC method.

The success of CCC method is entirely depend on PSP whereby they needs to play their role as the professional responsible for the overall project undertaken undoubtedly a result of building quality built and ensure the safety and comfort of building occupants. Thus by keeping the work ethics as professional architects and comply with the prescribed system of work is certainly the quality of their service is always maintained.

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