



# Determining critical success factors of construction projects in the hospitality industry: A conceptual framework

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## Abstract

Construction projects in all sectors have experienced cost overruns despite project management measures in place. Many studies have been conducted to determine the critical success factors for project execution in infrastructure related construction projects. However, there is no study on the determinants of the critical success factors across the project life cycle. This study identifies specific critical success factors contributing to poor performance of construction projects in the hospitality industry. By developing a conceptual framework that will test the critical success factors during all project phases, this study fills an existing gap in the project management literature regarding the lack of understanding of the critical success factors for each phase of the project. From practice perspective, the framework will assist project management personnel to determine critical success factors during each phase of the project and to develop better tools to manage projects.

**Keywords:** Critical success factors, hospitality industry, construction projects, partnerships.

## Introduction

The construction industry plays an important role in public infrastructure development projects. Construction infrastructure projects are mostly complex, and a number of risks emerge throughout the project life cycle. This leads to projects not being completed on time and cost overruns at completion significantly higher than normal.

The construction industry contributes to the economic growth of a country once the projects identified by the government are completed. This industry plays an important role in public infrastructure development projects and the socio-economic conditions of a country. For hospitality industry it means better service, attracting more customers, and the outlook of the industry and the country.

Hospitality is one of the areas identified by the South African government that can contribute to the economy of the country. The tourism sector is one of the fastest growing industry and promoting tourism can enhance economic growth (Zhidkoblinova, Stavbunik & Spanova, 2016). There are a number of construction projects associated with hospitality industry such as upgrade of public facilities, improving road infrastructure to access the tourist attraction areas, accommodation and housing. While the South African hotel market is reflected upon as being mature and recognized, hotel development projects are continuing in the major nodes of the country. The sustained hotel development highlights investor confidence in the country and in the strength of the hotel and tourism industry. For example:

The major nodes in South Africa for hotel development remain Cape Town, Johannesburg (more specifically, Sandton), and Umhlanga, which has taken over as the economic and commercial hub in KwaZulu-Natal. Of the major regional and international hotel operations active on the African continent, Radisson Hotel Group, Marriott International, Hilton



Worldwide Holdings, Premier Hotels & Resorts, and ONOMO Hotels, to name a few, are currently undertaking the hotel development projects in these nodes within South Africa. In recent years, Cape Town has seen a large number of hotel development projects entering the market with more than 1 000 rooms entering since 2017... The hotel development in Sandton has not been as aggressive as in the other nodes due to its hotel market already being mature. The most recent hotel development projects to enter the Sandton market include The Signature Lux Hotel by ONOMO (218 rooms) and The Capital On The Park (305 rooms). These two hotels are unique and have added diversity to the Sandton hotel market, which has historically included more traditional hotel development projects (HTI Consulting, 2019).

Other contributions of the construction industry in the hospitality industry are when the country hosts a major sporting event. Lessons learned from South Africa with regard to 2010 Soccer World Cup event is that poor planning is destructive. This affected a number of projects such building stadia, road infrastructure and other auxiliary scope associated with the event. The role of the project stakeholders in contributing to the success of the project was also overlooked. There were project critical success factors (CSFs) that were not given enough attention. The CSFs were originally applied in management and organisational strategies. Bullen and Rockart (1981) define CSFs as “Critical success factors are the few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his goals”.

For the project management discipline the CSFs are the areas of activity that are critical and require the project manager or the project team to have appropriate information to determine the progress in each activity throughout project life cycle. The CSFs can assist the project team to concentrate on the interface issues of the project scope. Interface arises when there are a number of contractors working in the same areas or the execution of a scope require another contractor to have completed the other scope independently, but one contractor has to get access to the construction site once the other contractor has completed its scope. Construction in the hospitality industry is growing rapidly as far as can be ascertained:

When looking at South African regional data, Cape Town retains the biggest share of planned hotel development in South Africa despite showing a decrease in total planned rooms. The city has 25% of the South African development pipeline, with 1,063 rooms in six hotels. Durban now has 16% with 697 rooms in five hotels, an increase of 40% in terms of total rooms on last year. Pretoria has 11% of the pipeline with 463 rooms in three hotels. Johannesburg has only 10% of the pipeline with 432 rooms in four hotels and Umhlanga has 7% of the pipeline with 298 rooms in two hotels. Compared to last year, the data indicates that development is slowing in Cape Town and Pretoria, with the number of planned rooms down 22% and 28% respectively. By contrast, Durban, Johannesburg and Umhlanga are seeing growth of 40%, 23% and 113% respectively (Business Tech, 2018).

Construction projects have to be completed on time and on schedule. According to the Project Management Institute (PMI, 2013), projects should be managed within the triple constraints, i.e. cost, time and scope. Despite these measures, projects continue to experience cost overruns and other delays. The purpose of this study was to determine the critical success factors for construction projects in industries such as hospitality.

## Literature review

A number of studies were carried out to determine the critical success factors for construction projects. Other studies refer to failures of construction projects while other studies focus on a specific aspect contributing to the failure of construction projects. For example, Alaghbari, Al-



sakkaf and Sultan (2019) studied the factors affecting construction labour productivity in Yemen. Alaghbari et al. (2019) identified five factors as being critical for labour productivity, i.e. labour experience and skills, availability of materials on site, leadership and efficiency in site management, availability of materials in the market, and political and security situations. These factors should be integrated into other factors that are critical for the overall success of the project. These labour productivity related factors have an influence on the constructability of the project scope. Constructability deals with alternative and efficient construction methods that are efficient and time effective.

Experience and skills of the project team will guide the teams on how best to execute the scope and how best to procure material on the project site. Project team members are expected to come up with innovative ways of improving the delivery of project activities. In most of the cases, labour productivity contributes to cost overruns in that cost associated with labour is significantly higher than the cost associated with the physical completion of construction activities.

The literature review for this study identified 30 critical success factors which are categorised into 9 knowledge groups as stated in the next few pages.

### **Project team skill and competency**

Construction projects are executed by people who are supposed to possess adequate knowledge and skills in project management. The roles and responsibilities for these resources should be clearly defined. A number of studies has identified skills and competency of project resources as one of the critical success factors for success projects (Chileshe & Haupt, 2005; Koutsikouri, Austin & Dainty, 2008; Li, Song, Sang, Chen & Liu, 2019; Nguyen et al., 2004; Sinesilassie, Zafar, Tabish & Jha, 2017; Sinesilassie, Tripathi, Tabishi & Jha, 2019; Zuo et al., 2018; Yong & Mustaffa, 2012).

Project manager plays a central role in leading and managing project activities. Project manager's performance and knowledge was also identified as critical success factor for any project (Sinesilassie et al., 2017; Li et al., 2019). Commitment and the competency of the project owner was also identified as a critical success factor for the project team (Sinesilassie et al., 2017; Li et al., 2019). The commitment from the project owner will ensure adequate skilling and resourcing of the project team. It is will also give assurance to the project stakeholders that the project is likely to be managed efficiently, and management will provide adequate support to the project team.

### **Financial Management**

Financial viability of the project should be determined long before committing funds from the project owner. There are various project valuation techniques which incorporate thorough scoping and costing of project activities and other auxiliaries associated with the project. Cost estimation exercise of the project activities should involve all stakeholders affected by the project. Exclusion or omission of certain scope activities will lead to variations or claim related costs. Financial management also require cash flow projections for the duration of the project. Projections should take into consideration possible emerging risks during the project life cycle. This will ensure adequate budgeting and governance of the project related costs.

Financial management play a role throughout the project life cycle. Critical success factors include financial capability, budgeting management, costing and value of the project (Chan & Adabre, 2019; Chan, Chan, Lam & Wong, 2010; Gupta, Gupta & Agrawal, 2013; Meeampol & Ogunlana, 2006; Nguyen et al., 2004; Shokri-ghasabeh & Chileshe, 2016; Silverio-fernandez & Renukappa, 2019).



## **Resource Management**

Successful project execution requires adequate resource management. Resource management will ensure timely deployment of materials and labour throughout the project life cycle. Shortage of material or poor labour productivity could lead to project cost overruns. Factors that are critical to labour productivity include labour experience and skills, availability of materials on site, leadership and efficiency in site management, availability of materials in the market, and political and security situations (Alaghbari et al., 2019). Poor human resource management has been identified as a contributing factor for schedule performance of Ethiopian public construction project (Sinesilassie et al., 2017).

The literature review on critical success factors for resource management include human resource management and construction resource management (Chileshe & Kikwasi, 2014; Tripathi & Jha, 2018; Meeampol & Ogunlana, 2006; Nguyen et al., 2004; Sinesilassie et al., 2017; Srinivasan & Dhivya, 2019; Yong & Mustaffa, 2012).

## **Contracts management**

Successful completion of construction projects should be governed by adequate contracts management. Contracts management goes beyond the legal aspects and the contract documents. It is a discipline that integrates technical aspects (project management) and legal aspects (the actual contract). It is expected that project managers should be adequately trained and be conversant with the contract governing their construction scope. Literature is falling short on this aspect. For an example, the critical success factors under contracts management include concession agreement, selection of concessionaire and long-term commitment (Cheng & Li, 2001; Gupta et al., 2012). The critical success factor under this category should include the selection and management of construction contracts. Management of constructs is skills and knowledge required for projects team.

## **Project management**

Construction project management requires the execution of the project to be governed through adequate management of scope, cost and schedule. For an example, time measurement was identified as one of the critical success factors for affordable housing projects (Chan & Adabre, 2019). Sinesilassie et al., (2019) identified scope clarity as a critical success factor for public construction projects. The scope should be well-defined long before the start of the project and it should be documented in the contract documents or the project brief (Chan et al., 2010). This will ensure proper project co-ordination, controls and planning (Toor & Ogunlana, 2009; Li et al., 2019; Chan & Adabre, 2019). Literature review has identified the following critical success factors for project management: scope clarity, planning and control, co-ordination, time management, construction methods, project risk management (Chan & Adabre, 2019; Chan et al., 2010; Cheng & Li, 2001; Chileshe et al., 2014; Jefferies et al., 2014; Li et al., 2019; Kassem et al., 2019; Koutsikouri et al., 2008; Meeampol & Ogunlana, 2006; Shokri-Ghasabeh & Chileshe, 2016; Silverio-Fernandez et al., 2019; Sinesilassie et al., 2019; Srinivasan & Dhivya, 2019; Toor & Ogunlana, 2009; Wu et al., 2017).

## **Management support and innovation**

Senior management is expected to provide support and leadership during the project life cycle. The support should be extended to all project configuration structures. For an example, Cheng and Li (2001) identified the support of top management as a critical success factor for construction partnering. Top management should not take sides and should manage conflict arising from these structures. Critical success factors for management support and innovation as identified by literature are: organisational structure, involvement of client/contractor, management support (Toor & Ogunlana, 2009; Chan et al., 2010; Koutsikouri et al., 2008; Cheng & Li, 2001; Silverio-Fernandez et al., 2019; Srinivasan & Dhivya, 2019).



## **Stakeholder management**

Stakeholder management is one of the most important project management knowledge areas. Involving stakeholders throughout the project life cycle will facilitate smooth running of the project and also minimise other risk that might emerge during the project life cycle. This requires structures to be in place to manage conflict among project participants (Sinesilassie et al., 2017). The project structure should allow for communication and cooperation among project participants (Li et al., 2019) and this should include all stakeholders. The following critical success factors for stakeholder management were identified through literature: conflict management, communication, participation, customer service (Chan & Adabre, 2019; Cheng & Li, 2001; Meeampol & Ogunlana, 2006; Sinesilassie et al., 2017; Srinivasan & Dhivya, 2019).

## **Knowledge management**

Knowledge management is one of the critical success factors for construction projects and it should be given adequate attention. There should be knowledge sharing among project owners to avoid repeating similar mistakes as experienced by other projects. Continuous improvement and learning climate were identified as critical success factors for knowledge management (Cheng & Li, 2001; Jefferies et al., 2014; Lindhard & Larsen, 2016).

## **Partnerships**

Some of the construction project are executed through partnerships. Partnerships are meant to apportion risk allocation on projects. Risk could be due to lack of financial management or inadequate skilling on the project. Critical success factors for partnerships that were identified in the literature include: partnership experience, partnership expertise, partnership structure, risk sharing (Ahmadabadi & Heravi, 2019; Chan, Chan, Lam, & Wong, 2010; Jefferies, Brewer, & Gajendran, 2014; Jefferies, Marcus; Gameson & Rowlinson, 2002; Sinesilassie, Tripathi, Tabishi, & Jha, 2019).

Partnerships include project configurations structures such as joint ventures, subcontracting, management oversight company and any form of structure that delegate certain project responsibilities to other party other than the project owner.

## **Methodology**

This research used a systematic review of literature. This methodology is relevant for the current study as it conducts content analysis of the literature sources to determine the emerging themes. The literature searches were confined to construction projects specific for infrastructure projects. These projects cut across all sectors including hospitality. The main aim of the study was to determine the pattern of the critical success factors for infrastructure construction projects.

## **Findings and Discussions**

There is a total of 30 critical success factors for construction projects. These factors were identified through a systematic literature review. The factors were further grouped into 9 knowledge areas, i.e. Project team skills and competency, Financial Management, Resource Management, Contracts management, Project management, Management support and innovation, Stakeholder management, Knowledge management, and Partnerships. The studies for the critical success factors for construction projects mostly adopted a quantitative research methodology using data surveys as a data collection technique. The respondents of these surveys are people associated with the project itself regardless of their time spent on the project. One of the critical success factors is project team skills and competency. This is problematic since project team members that completed the survey concurred with this finding. Their integrity as project team members is also questionable.



The other problem with literature assessment of the critical success factors is that the factors are viewed separately. The critical success factors are interrelated, and their assessment should zoom into the relationship among these factors and how they impact on the project itself. Ranking the critical success factors is not enough as it gives an indication that only those factors that are ranked high should be given enough attention. The other problem with the methodological approach for the critical success factors is that the survey does not consider the impact of these factors during the project life cycle. A combination of both primary data collection through surveys and the secondary data collection through project documents should provide adequate information on the impact of the critical success factors during the project life cycle. For an example data on the claims and variation could provide rich information on the type of claims and the costs. This will cover most of the critical success factors and this data is collected throughout the project lifecycle.

Data collection through surveys could serve as a validation for the information already documented in the project itself. For an example, a claim log will provide information on the type of claim, root causes of the claim, cost of the claim, time related delay and other allowable associated with the claim. A survey data could focus on the governance and the performance of the project team in resolving the claim and how they manage claims. This also cuts across other knowledge areas such as financial management, project management, competency and skills of the project team. It is therefore important to assess the impact of the critical success factors on other critical success factors.

The following conceptual framework is proposed:

**Table 1:** Conceptual framework for CSFs

CSFs	Type of data		Project Life cycle
	Surveys	Secondary project data	
Contracts management	X	X	X
Project Management	X	X	X
Stakeholder Management	X	X	X
Resource Management	X	X	X
Partnerships	X	X	X
Knowledge Management	X	X	X
Project team skills & competency	X	X	X
Management Support & Involvement	X	X	X
Financial Management	X	X	X

Data relating construction project's CSFs should be collected throughout the project life cycle. This could be both secondary data and primary data collection through surveys. Secondary sources should be done through project documentation. This should be part of knowledge management.



The interrelation among these factors should be analysed throughout project lifecycle. One CSF might be ranked highly during a certain project phase but ranked lower on another project phase.

## Conclusions

Successful construction project implementation requires adequate knowledge of CSFs and how they are interrelated. The CSFs identified in the literature are mostly assessed through the survey method at a point in the project life cycle. In some of the cases the people completing the surveys are responsible for poor performance of the project itself and yet acknowledge the CSFs as valid. The ranking and analysis of the CSFs only identifies the problem areas but do not provide solutions. Furthermore, the CSFs do not zoom into the project phases. The proposed conceptual framework should consider data collection through both primary sources (surveys) and secondary source (project documents). This process will allow the ranking of the importance of the CSFs to be aligned with project phases.

## Limitations

The limitation of this research paper is the research methodology which used the thematic synthesis of the critical success factors for construction projects. It is also qualitative in nature and the finding might not able to be generalised. Since this is a conceptual paper, future research should focus on testing the proposed conceptual framework empirically. The data should cover the entire project lifecycle to check the validity of the critical success factors.

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