# Quais as discussões mais recentes sobre Gestão do Processo de Projeto?

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BLOCKCHAIN PARA CONSTRUÇÃO: O QUE É E COMO APLICAR?





BIM será obrigatório em projetos de construções públicas a partir de 2021



#### Artigo: A aplicação de Data Science na construção civil

Por Gabriela Torres\*

Data Science é um termo em inglês que significa "ciência de dados". Ele faz referência a análises e estudo de dados, de forma que seja possível a geração de insights e tomada de decisão com base nas informacões analisadas.

A ciència de dados pode ser utilizada para direcionar decisões de negócio, reduzir custos e aumentar a eficiência. É uma tendência importante para o setor de construção civil, pois empresas que adotam essas soluções melhoram seus projetos e resultados, garantindo mais assertividade, ponto fundamental para competir neste mercado.



Com isso, surgiram e vêm surgindo vários aplicativos e métodos de análise de dados que permitem a aplicação desse tipo de inteligência em diversos setores da construção civil.

Lens = Big Data + BIM

#### Diante da tempestade....

Tecnologia Uso extensivo da informação Demandas contundentes para reverter os cenários de ineficiência da indústria da Construção Civ

Atualmente quais discussões sobre o processo de projeto fazem sentido?

Em 2 anos? Em 5 anos? Em 10 anos?



design process is concerned with reducing the time it takes to design. Contrary to that idea, we argued that the efficiency of a process cannot be at the cost of effective design solutions. Thus, to improve the design process could mean that, sometimes, processes are lengthened to accommodate improved practices. As architectural, engineering and construction companies change their design practices by adopting Building Information Modelling (BIM) enabled tools, methods and standards of work, comes the opportunity to reflect on reconfigured design processes (be they shorter or longer).

Inovação

Comunicação

Criptografia

Ética

Assertividade

Cliente

Construção

Conhecimento

Tecnologia

Tomada de Decisão

Empatia:

Operação

Responsabilidades: Ambiental, Social e Econômica

Revolução Digital

Colaboração

Volatilidade

Requisitos/ Desempenho: -Segurança, Conforto, Acessibilidade, Durabilidade, Manutenabilidade, Impacto **Ambiental** 

Comportamentos

Eficiência Energética

Muldisciplinaridade

Requisitos do cliente Foco no Cliente

Uso da Informação

Data Science

Mudança

Restrições: tempo, custo, espaço, pessoas

Riscos

Resiliência

Eficiência Operacional



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#### Building design management - key success factors

Vegard Knotten, Ola Lædre & Geir K. Hansen

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#### **ABSTRACT**

The architectural, engineering, and construction industry is facing challenges related to increased productivity and improved quality. Most of these challenges need to be dealt with early in the design phase of the projects. This requires an effective design process and increases the need for effective building design management (BDM). This paper explores the success factors for BDM by addressing the following research questions: (1) What are the key success factors in BDM according to literature? (2) Which of these key success factors are considered important by practitioners? Based on a literature review, a tramework with 10 success factors for BDM is proposed. The success factors were then assessed with a case study. Afterwards, 22 design managers (DMs) have ranked these success factors according to importance. The case study shows that not all 10 success factors were equally dealt with, underlining the need for a broader perspective on successful BDM. The case study findings emphasize the design team and communication as the most important success factors, while the DMs rated communication and decision-making as most important. The proposed framework should enable building DMs to better handle the challenges of the design phase.

#### Research methods

The research was carried out in three steps. The first step was a literature search looking for success factors in BDM. The second step was an empirical study based on two case studies. The third step was a modest survey to rate the importance of the success factors. Although empirical research is not enough to validate the theoretical framework, case studies can contribute to new and valuable insights (Flyvbjerg, 2006; Ragin & Becker, 1992).





Table 1. Success factors in BDM (sorted alphabetically).

Success factors the BDM handles	Keywords	Reference		
Client	A good budget, brief, client team, understanding the clients need	Blyth and Worthington (2001), Boyle (2003), and Eynon (2013)		
Communication	Communication, network, negotiation, meeting structure, coordination, flow of information, design solutions	Blyth and Worthington (2001), Gray and Hughes (2001), Jerrard et al. (2002), Boyle (2003), Sinclair (2011), and Eynon (2013)		
Decision-making	Timely decision-making, dient involvement, getting it right the first time, crucial points of decision	Gray (1994), Blyth and Worthington (2001), Gray and Hughes (2001), and Emmitt and Ruikar (2013)		
HSE focus	Health, Safety and Environment focus	Eynon (2013)		
Interface management	Design dependencies, control of interfaces	Boyle (2003) and Sinclair (2011)		
Knowledge management	Feedback of experience, set of tools, stakeholders, knowledge organized and contracted	Gray (1994), Blyth and Worthington (2001), Gray and Hughes (2001), Jerrard et al. (2002), Boyle (2003), Sinclair (2011), and Eynon (2013)		
Performance evaluation	Audit in design, measurements, benchmarking drawings, process measurements (social and performance)	Jerrard et al. (2002), Sinclair (2011), and Eynon (2013)		
Planning	Defining the process, planning, cost plans, change control, quality plan, time, progress reports	Blyth and Worthington (2001), Gray and Hughes (2001), Jerrard et al. (2002), Boyle (2003), Sinclair (2011), and Eynon (2013)		
Risk management	Managing risk	Sinclair (2011)		
Team management	Relationships, management support, subcontractors, procurement, delegation of work, involvement, holistic working	Gray (1994), Blyth and Worthington (2001), Jerrard et al. (2002), Boyle (2003), Sinclair (2011), and Eynon (2013)		

## Estudo de Caso

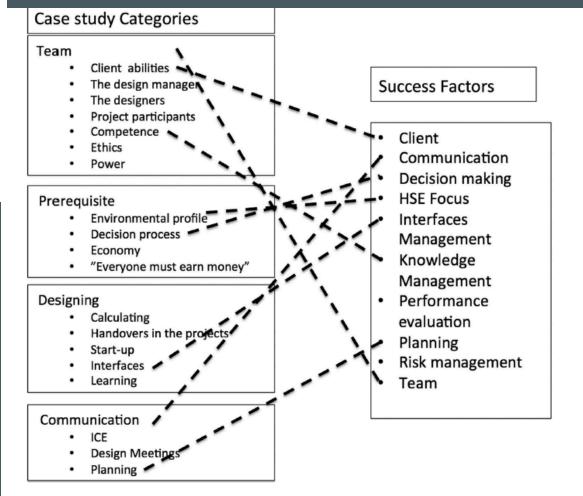


Figure 2. Findings from the second case study aligned with the success factors from literature.

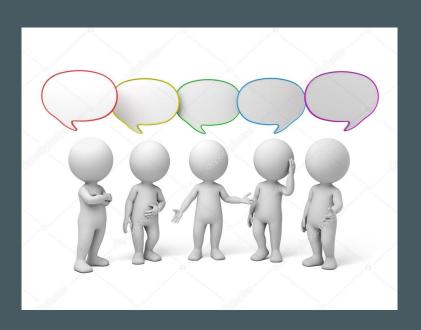


Table 2. Success factors rated by DMs with a comparison of case study findings.

Survey (n = 22)			Case study	
Success factor	Average	5	Interview	Observation
Communication	2.18	1.53	yes	yes
Decision-making	3.55	1.63	yes	no
Planning	3.91	2.29	yes	yes
Client	4.05	1.62	yes	yes
Interface management	4.36	2.06	no	yes
Team management	5.05	2.28	yes	yes
Risk management	7.55	2.65	yes	no
Knowledge management	7.77	2.07	yes	yes
HSE focus	8.09	1.63	no	yes
Performance evaluation	8.50	1.41	(yes)1*	no

Note: 1\* was mentioned in the interviews but not handled in the process.

### Discussão

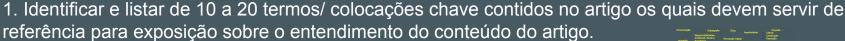


BIM-QA/QC in the architectural design process

Vincenzo Donato, Massimiliano Lo Turco & Maurizio Marco Bocconcino

#### PARTE A

A partir da leitura do artigo:



2. Identificar e agrupar termos/ colocações que remetam ao conteúdo do slide 3 desta apresentação.





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#### PARTE B

As seguintes questões serão debatidas:

- 1. Qual a discussão trazida pelo artigo a respeito do Processo de Projeto?
- 2. Na atualidade, quais temas e discussões são relevantes no contexto do processo de projeto diante:
- Diretrizes mandatórias e expontâneas sobre a adoção da modelagemda informação na Industria da Construção Civil?
- Uso extensivo da informação visando à efetividade dos processos de tomada de decisão, garantia da qualidade e minimização à exposição à riscos?
- Reversão dos cenários de ineficiência da Industria da Construção Civil?

