

# Sustainable Development in Construction: Change Our Thoughts, Change Our Management

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**Abstract** The construction business world currently faces new major challenges that affect their production mechanisms. Many great scholars, such as Einstein, have highlighted the importance of new thinking patterns to solve or overcome persistent challenges. In this paper, I present some strategies that would help managers these days to better strive towards construction business sustainability to solve the world's key problems. The proposed strategies are as follows: Greater engagement and integration between public government, corporate construction businesses and development sectors; Greater risk-taking with the aim of sustainability in the construction business; Application of the Adaptive Management concept; Continuous evaluation of the stakeholders' feedback about the organization's construction business functionality; and Optimization of our construction business management models.

**Keywords** Sustainable Development, New Strategies, Adaptive Management, Risk Taking

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## 1. Introduction (First Strategy)

First, having more engagement and integration between public government, corporate construction businesses and development sectors can be the first antidote that the organization can apply to capture the essence of innovative thinking. To put this into a clearer perspective, the population growth can be taken as an example. According to Bush (2003), rapid population growth in big countries such as China and India has resulted in a very high number of low- and middle-income class families. Yet, most of the governments and construction business organizations in the world have not effectively solved this major challenge of overpopulation; this is due to poor communication between them. According to Kapferer (2012), the first step to enhance communication between the government and construction business organizations is to start asking questions together. Applying this to the rapid growth paradox, thoughtful enquiries pertain to where plausible energy resources for the increasing population can come from and how to deal with all the greenhouse gases released consequently. Additionally, many sustainability scholars currently believe that there is no active plan that deals with the impact of rapid growth on the economic status of and expansion by governments, where most of their plans are mitigation plans only (Caldwell,

2006). Knowing these challenges, should organizations focus on them among their construction business plans at all? Some may claim that population growth is hurting the environment, and governments need to reduce such growth significantly. According to Hoyle (2017), in the construction business world, sustainability is the new dominating idea for organizations, meaning that growth poses an obstacle for sustainable strategies and innovations. For instance, if there is no joint collaboration between government and construction business sectors to solve the rapid growth challenge, it could lead to severe regulatory measures, incurring costs for all stakeholders and thereby affecting the sustainability of the construction business sectors.

One such plan relates to using a tax concept to reduce greenhouse gas emissions and rising sea levels. This taxing concept would mean stakeholders would lose their capital investments today and, based on most economic studies, probably every year for at least the next fifty years (Drucker, 2012). Many will argue about how population growth cannot be the key schema of a construction business organization if it is seen as being unsustainable by other parties among the stakeholders. This could be a very challenging and multifaceted issue for which there is no meaningful resolution yet (Domingues et al., 2016). However, considering this challenge in the context of construction business growth and development, it is worthwhile to understand the costs of aggressive and reactive procedures in response to global sustainability challenges as compared to the costs of mitigation approaches. According to Cheng (2013), one chief research study from the United Nations Intergovernmental Panel on Climate Change (IPCC) states that it anticipates about 2–3 degrees Celsius increase in

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global temperatures over the next 50 years, with even harsher environment problems following in the years after that. Tackling that rise through taxation and mitigation procedures will likely decrease the overall economic growth by almost 1 percentage point on an annual basis over those 50 years. As such, it can be said that, using the “collaborative” strategy via governmental engagement with construction business sectors, the earth may end up much wealthier with natural materials in 50 years’ time compared with the results of reactive procedures such as taxing strategies. Additionally, the engagement and integration between public government, corporate construction businesses and development sectors will create economic growth and bring important new products and their solutions, which in turn could address a wide range of the world’s sustainability challenges.

## 2. Second Strategy

Moving to the importance of risk taking as a second strategy to create new ways of management thinking, several management scholars (Kaplan, 1998) believe that risk-taking is the initial sign of entrepreneurial distinction. For example, it can be said that an entrepreneur is an individual who assumes the risk of the construction business organization. As such, there is a lack of risk takers when it comes to implementing green construction businesses in the industrial sector. With respect to the oil and gas industry, I can agree with this statement in which many of the decision makers in the senior management do not have the entrepreneurial spirit when it comes to taking risks and implementing new initiatives, e.g. green earth technologies. According to Rebelo et al., (2016) the main reason behind this lack of risk-taking is failure, which is why most managers prefer to stay in their comfort zone and keep the construction business as it is, provided the organization keeps making profits. The authors suggest that managers who are not willing to take risks in their construction business usually prefer immediate, direct and individual rewards in the form of senior roles in the organization than strategic rewards for the organization in the long run. This skewed preference could be due to many external or cultural attributes that affect risk-taking mentality, keeping most senior managers today from facing global threats such as unsustainable consumption. Additionally, Rebelo et al. (2016) believe that risk taking is the first step for most managers to have new sustainable construction business ideas in the industrial sectors.

Gmelin and Seuring (2014) support this idea by highlighting the importance of entrepreneurial/risk-taking behaviour in the area of management. For example, they recommend that there might be variance in risk-taking tendency between managers in construction business organizations. For instance, managers who have held the same role for a long period, e.g. 20 years or more, usually do not gamble with implementing new strategies and overlook the current situational factors such as developing sustainable service economy. This managerial attitude could be

associated with overconfident behaviour, which may cost the organization massive financial losses. According to Stacey (2012), this kind of non-risk taking behaviour usually results in non-realistic assumptions that the organization can take its customers for granted. A very bold example could be what happened in the case of the Nokia Corporation. The author suggests that, unlike their peers, e.g. Apple, Nokia simply did not invest enough in risk taking via investing more in research and development to know and predict what their customers want. According to Stacey (2012), this can happen to any organization in the industrial sector if they do not consider the sustainable needs and requirements of all stakeholders. The author concluded that construction business organizations with non-risk taking mentality will be in a very difficult position due to its failure to deploy a timely transformational response that is needed in the sustainable market.

## 3. Third Strategy

For the third strategy, Stacey (2009) believes that the situations faced by civilization currently vary from the previous ones due to increase in the scale of people affected; our major issues have become worldwide in terms of the utilization of planetary resources, which could be tackled by devising new management options. This is known as the Adaptive Management mentality (Kashwani et al., 2019). According to many management scholars (Allen et al., 2017), adaptive management is a method of natural resources management that stresses acquisition of knowledge via administration based on the viewpoint that information is inadequate enough and much of what we reason is incorrect. Encouragingly enough, adaptive management has a clear scheme, counting the clarity of construction business goals, objectives, and processes for the accumulation of statistics for evaluative purposes. As Allen et al., highlight, many management professionals believe that adaptive management has matured as a concept and still faces several challenges towards its application in the context of sustainability and leadership in management. This is due to the lack of experimental practices that are highly associated with learning by doing. For example, to link the adaptive management concept with the risk-taking strategy, one can observe how many managers refuse to invest in or make unusual or risky decisions due to social and ecological norms, resulting in a static mind-set. This kind of mentality results from a misunderstanding of the adaptive management concept. For instance, scholars such as Hitt et al. (2016) emphasize that managers in construction business organizations should understand that adaptive management is not the silver bullet for construction business functionality and operational challenges, in which there will be always some uncertainty. However, the essence of adaptive management is to have better solutions for natural resource management difficulties, which represent the major core of the world’s sustainability challenges. The authors suggest

that while applying adaptive management, there will be some uncertainties, but still, as managers, we need to take decisions via new thinking patterns; these decisions should integrate learning and knowledge into the management process. Even if the importance of adaptive management is quite apparent, many managers may ask how adaptive management could solve sustainability challenges or support the Sustainable Development Goals (SDGs).

The planet presently faces very serious issues, which could potentially pose an existential risk for some species (including humans!). For instance, our chief ecological issues are highly associated with global resources management, which is also the root cause of several sustainability challenges. For example, these challenges involve water reduction, sea level rise, and rise in temperature levels. According to Stacey (2012), adaptive management can aid in easing the negative impact of key man-made issues resulting from worldwide fluctuations. The following solution that adaptive management can offer should include the relevant aspects: To combat habitat loss and degradation, the industrial organizations' role in utilizing natural resources can be enhanced via transparent regulations. The author believes in general that managers in industrial organizations are obliged to change in pace with sustainability requirements in green markets. Management adjustment towards sustainability may be unavoidable, and it can also be annoying. According to McManus et al. (2007), the aim of reinforcing learning approaches in adaptive management is to reduce the costs of adaptation and to allow modification procedures to be more effective, practically, in the market. However, the authors say that it is important to highlight that learning is not the only requirement for active adaptive management. Managers in industrial organizations must be competent to base their managerial decisions on the information obtained. Additionally, they need to consider the following actions besides learning to implement effective adaptive management: drawing strategic road maps to solve the sustainability challenges in their construction business functions, encouraging the employees to be more innovative and think outside the box and engaging more with the government to formulate greener enabler policies (Mol and Birkinshaw, 2009).

#### 4. Fourth Strategy

The fourth strategy in this paper is continuous evaluation of the stakeholders' feedback about the organization's construction business functionality. In general, according to Bush (2008), utilizing feedback aims to aid the progress of operational applications of the construction business organizations. In other words, the stakeholders' feedback could represent a self- and auto-correction system that provides adaptive mechanisms inside the construction business organization. Bush highlighted that such feedback has more than just a management aspect in that it contains psycho-behavioural patterns required for new management thinking techniques to face sustainability challenges.

Feedback can play a key role as a learning tool where the stakeholders provide data about construction business functionalities that need direct corrective actions. Additionally, feedback can be used as a motivation drive for the organization to address wider global challenges. For instance, feedback can help the organization gather data to shape better goal-setting for the company with respect to sustainability requirements. That is, feedback helps managers adopt new thinking behaviours that can balance the construction business performance with the stakeholders' needs in the context of our ecosystem. In support of this proposition, Maguire and McKelvey (1999) similarly deliberate on these positive management aspects of feedback. According to them the core benefit of feedback lies in the understanding of how companies can address problems associated with human behaviour; via feedback, they can devise innovative approaches to handle those challenges. Thus, feedback can be used as a driver of future operational enhancement.

Moreover, Chiapello and Fairclough (2002) believe that feedback can play a pivotal role in shaping a healthy work culture within the organization, which in turn will help the managers and leaders to make better decisions. Feedback delivers senior management with research-oriented evidence and data on what is going within the construction business functionality with respect to other attributes. This information may include, for example, the prevalent social and cultural norms and their impact on the construction business delivery system inside the organization and on employee performance and management decisions (Kashwani, 2019). In addition, in the context of foresight, supportive feedback not only determines the existing situation, but also classifies what requirements need to be highlighted to progress efficiently with regard to having strong assets and resources to overcome future challenges such as sustainability. According to the authors, feedback informs the organization about employee needs. I can confirm this statement in light of my experience as a civil engineer in the oil and gas industry. For instance, when the safety accidents rate increased dramatically at a construction site, all managers were actively trying to update the procedures and acquire new safety equipment. However, after studying the end-users feedback about the reasons behind these accidents, it was observed that the absence of proper welfare such as adequate housing and lay payment were the control factors behind the poor safety performance. It can thus be inferred that feedback helps managers gain explicit perspective on diagnosing the issues faced by the organization, thereby enhancing the organizational performance. However, according to Beare et al. (2018) new thinking among managers in the industrial sectors needs the recognition of how feedback can be involved, integrated and associated with other organizational management elements. The author believes that this understanding mechanism can provide the management with more clarity to face the market and global challenges such as sustainable consumption and circular economy. In conclusion to their study, the authors

suggest that scholars in the management field should conduct more research on how feedback could shape a new phase of management practice with respect to the present challenges.

## 5. Fifth Strategy

The fifth strategy deals with implementing optimization in construction business management models. According to Bartlett and Ghoshal (1997), optimization can be redefined in management only through optimization. The authors believe that dynamic management demands greater optimization of resources. In general, optimization has the ability to create a construction business model that can address major global challenges and conceptualize successful development between the employees. Yet, many senior managements in different industrial organizations have failed to effectively implement resources optimization. According to many sustainability scholars (Mitchelmore and Rowley, 2010), most of these industrial construction businesses do not display adequate skill in the selection of resources as the first step of optimization. For instance, many organizations use operational functioning and delivery as the main variable in the selection process. Yet, this mechanism is no more efficient with respect to global sustainability challenges. Management scholars such as Paraskevas (2006) believe that creating a common value and impact towards stakeholders should be the key criteria for resource selection. The author says that to have continued growth within your organization, it is vital to consider all the external and internal factors associated with resource selection and optimization to bolster new thinking mechanisms and, consequently, new outcomes. Hoyle (2017) thinks that one of the old modes of thinking that most managers use in their organization is anticipating immediate awards. For instance, optimization is a strategy that simply needs time to harness its own benefits. When the management does not have enough patience to integrate long-term goals in their optimization plan, it will surely fail. Singh (2008) highlights this challenge by citing the lack of training for the managers. In support of this, Hitt et al. (2016) explain that most managers are not fully aware or prepared to use the optimization that should start with analysing the weaknesses and strengths of the core construction business functionality. It is quite critical to train managers to conduct SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses before applying the optimization in resource management. This will help the managers widen their vision and have a more holistic view with respect to their management techniques. In addition, Hitt et al. (2016) believe that managers should apply SWOT analysis to evaluate employee performance because of its impact on the optimization process. The authors believe that there is a strong relationship between employee performance and implementing a robust optimization plan. It can be supposed that one of the reasons of poor optimization is that many managers do not like to conduct SWOT analysis to evaluate

their own performance and thus expose their weaknesses, e.g. poor communication skills. I can agree with this statement based on my own work experience wherein I observed that most managers in the industrial sector like to project a perfect image of themselves. For example, when my pervious organization in the oil and gas industry decided to optimize their resources in the drilling process, many managers did not know how to order or manage the new advanced high-tech machines due to their own poor and outdated background within technology in general. In effect, I witnessed different managers ordering extra and non-necessary machines that cost the organization a lot and did not add any value to the optimization process.

## 6. Conclusions

In conclusion, I completely agree with the statement that we cannot solve the same problems with the same way of thinking that created them in the first place. When it comes to management challenges, we need to associate them with the global challenges since there is a very tangible connection between the two, as has been shown in this paper. Bernardo et al. (2015) suggest that it is hard to find any construction business organization that does not have sustainability or environmental policies in place, yet such measures are not enough. The main change should come from the management mentality and should be updated all the time in confluence with the requirements and needs of the stakeholders. McCauley et al. (2004) emphasize the key role of leadership in devising and sustaining innovative management practice that can accommodate new management tools and methodologies. The authors suggest that persisting with the same thinking patterns means that the organization is likely to stay in their comfort zone; without a brave and visible leadership, it would be hard for senior employees to adopt new values that can help combat global challenges.

In my view, to enable the implementation of a new scheme of management, we should have better awareness; then, we will have better options and, eventually, better results. For example, when the awareness about the SDGs increased, many senior managements in different construction business organization started aligning their goals with the SDGs (Ketokivi and McIntosh, 2017). This is what we need in our management system, in which the five strategies presented in this paper could potentially raise awareness about the need for new management thinking, along with providing some ideas about new techniques and approaches. Although strategies cannot be the ultimate solution to all attributes related with old management thinking, they can still provide a pivotal and basic road map to nurture new and innovative thinking within our organizations to solve our global challenges.

## REFERENCES

- [1] Bartlett, C.A. and Ghoshal, S., (1997). The myth of the generic manager: New personal competencies for new management roles. *California Management Review*, 40(1), pp. 92–116.
- [2] Beare, H., Caldwell, B.J. and Millikan, R.H., (2018). *Creating an excellent school: Some new management techniques*. Routledge.
- [3] Bernardo, M., Simon, A., Tarí, J.J. and Molina-Azorín, J.F., (2015). Benefits of management systems integration: A literature review. *Journal of Cleaner Production*, 94, pp. 260–267.
- [4] Bush, T., (2003). *Theories of educational leadership and management*. Sage.
- [5] Bush, T., (2008). From management to leadership: Semantic or meaningful change? *Educational Management Administration & Leadership*, 36(2), pp. 271–288.
- [6] Caldwell, R., (2006). *Agency and change: Rethinking change agency in organizations*. Routledge.
- [7] Cheng, Y.C., (2013). School effectiveness and school-based management: A mechanism for development. Routledge.
- [8] Chiapello, E. and Fairclough, N., (2002). Understanding the new management ideology: A transdisciplinary contribution from critical discourse analysis and new sociology of capitalism. *Discourse & Society*, 13(2), pp. 185–208.
- [9] Domingues, P., Sampaio, P. and Arezes, P.M., (2016). Integrated management systems assessment: A maturity model proposal. *Journal of Cleaner Production*, 124, pp. 164–174.
- [10] Drucker, P., (2012). *Management challenges for the 21st century*. Routledge.
- [11] Hitt, M.A., Carnes, C.M. and Xu, K., (2016). A current view of resource-based theory in operations management: A response to Bromiley and Rau. *Journal of Operations Management*, 41(10), pp. 107–109.
- [12] Hoyle, D., (2017). *ISO 9000 Quality Systems Handbook-updated for the ISO 9001: 2015 standard: Increasing the Quality of an Organization's Outputs*. Routledge.
- [13] Gmelin, H. and Seuring, S., (2014). Determinants of a sustainable new product development. *Journal of Cleaner Production*, 69, pp. 1–9.
- [14] Kaplan, R.S., (1998). Innovation action research: Creating new management theory and practice. *Journal of Management Accounting Research*, 10, p. 89.
- [15] Kapferer, J.N., (2012). *The new strategic brand management: Advanced insights and strategic thinking*. Kogan page publishers.
- [16] Kashwani, G., (2019). A Critical Review on the Sustainable Development Future. *Journal of Geoscience and Environment Protection*, 7(3), pp.1-11.
- [17] Kashwani, G., Liu, E. and Atif, A., (2019). Safety Review of the Quality Ready-Mix Concrete (RMC) and Workmanship in the Construction Industry. *Journal of Safety Engineering*, 8(1), pp.1-8.
- [18] Ketokivi, M. and McIntosh, C.N., (2017). Addressing the endogeneity dilemma in operations management research: Theoretical, empirical, and pragmatic considerations. *Journal of Operations Management*, 52, pp. 1–14.
- [19] Maguire, S. and McKelvey, B., (1999). Complexity and management: Moving from fad to firm foundations. *Emergence*, 1(2), pp. 19–61.
- [20] McCauley, C.D. and Van Velsor, E. eds., (2004). *The center for creative leadership handbook of leadership development (Vol. 29)*. John Wiley & Sons.
- [21] McManus, S., Seville, E., Brunsden, D. and Vargo, J., (2007). Resilience management: A framework for assessing and improving the resilience of organisations.
- [22] Mitchelmore, S. and Rowley, J., (2010). Entrepreneurial competencies: A literature review and development agenda. *International Journal of Entrepreneurial Behavior & Research*, 16(2), pp. 92–111.
- [23] Mol, M.J. and Birkinshaw, J., (2009). The sources of management innovation: When firms introduce new management practices. *Journal of Construction business Research*, 62(12), pp. 1269–1280.
- [24] Paraskevas, A., (2006). Crisis management or crisis response system? A complexity science approach to organizational crises. *Management Decision*, 44(7), pp.892–907.
- [25] Stacey, R., (2009). *Complexity and organizational reality: Uncertainty and the need to rethink management after the collapse of investment capitalism*. Routledge.
- [26] Rebelo, M.F., Santos, G. and Silva, R., (2016). Integration of management systems: Towards a sustained success and development of organizations. *Journal of Cleaner Production*, 127, pp. 96–111.
- [27] Stacey, R., 2012. *Tools and techniques of leadership and management: Meeting the challenge of complexity*. Routledge.
- [28] Singh, P.J., (2008). Empirical assessment of ISO 9000-related management practices and performance relationships. *International Journal of Production Economics*, 113(1), pp.40–59.