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A review of unskilled and skill workforce on construction sector

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Abstract

The stability of the Indian economy depends on the construction sector, which is the country's second-largest employment after agriculture. With a 10.5 trillion INR sector, it contributes over 8% of the country's GDP it supports close to 57.5 thousand individuals. Additionally, being a fundamental industry, a large number of other sectors rely on the nation's building industry. Consider the about 500-company construction equipment manufacturing sector, which is expected to generate INR 375 billion in revenue by 2020. Despite being very fragmented, the construction sector in India received the second most foreign direct investment (FDI) in 2017. Between 2008 and 2017, India spent almost INR 82.5 billion on infrastructure. By 2030, extra infrastructure spending of INR 337.5 trillion would be needed to maintain current economic development. Due to the sector's strong employment multiplier coefficient, an extra 2.142 billion person years of work are anticipated to be created up to 2030.

Keywords: Indian economy, construction sector, skill workforce, GDP, FDI

Introduction

The average annual revenue for the construction industry is 3.85 lakh crore. But every year we see a significant loss in income as a result of a variety of issues listed by the industry, with losses brought on by low productivity ranking as one of the most significant issues (Rami Huges, 2014). In India, the productivity loss is really much more than 30%, which gives building professionals great cause for worry. Basically, the efficiency of the labor, equipment, and procedures used in every construction project determines its success and timeliness. To establish the productivity requirements for different construction-related tasks, many standards have been created by authorized agencies including CPWD, the Bureau of Indian requirements, etc. However, it is crucial that the productivity of all assets involved in any endeavor is closely monitored and appropriate actions are taken to feed their improvement (CIDC "Construction Industry Construction Council" (CIDC, cidcdatabase, 2015)). This is because optimizing cost and time while also minimizing the wastage of other resources is a key principle of lean construction.

One of the key factors influencing the Indian economy and the construction industry's long-term sustainable development is increasing productivity in the sector. The National Productivity Council (NPC), an agency of the Indian government, offers training, fosters competitiveness, encourages the development of skills, and supports research and development. The Indian Planning Commission oversees NPC. According to government studies, competence and skills are the keys to managing and enhancing production. For instance, the CIDC (Construction Industry Development Council), which chose boosting training participation levels as one of the government's shared competence indicators

With 7% of the global labor force and 28% of the industrial labor force, construction is the biggest industrial employer in the world. The construction industry has a global market value of over \$3 trillion and contributes around 10% of global GDP. In the developed world, where it accounts for 2-3% of GDP, it is the biggest industrial sector (11% GDP in Europe, 12% GDP in the US). Construction typically receives 50% of capital investments worldwide. According to the International Federation half Building & Wood Workers (2004), the construction sector is infamous for being filthy, challenging, and hazardous, and it accounts for 30 to 40% of all fatal injuries worldwide. However, it only employs around 7% of the global workforce.

According to the Economic Survey for 2007-08 (8.7% GDP growth in 2007-08, 2008 February 28), the Indian economy is expected to increase by 8.7% for 2007-08, propelled by an increase in Gross Domestic Product (GDP) at market prices above 8% every year since 2003-04.

With an average annual growth rate of 15.3% throughout the 10th Five Year Plan, transportation and communication saw the highest growth in this sector, followed by construction.

Literature review

Since the previous several decades, productivity in the Indian construction sector has been a hot area for study. The efficacy of all types of resources used to complete a process, including labor, money, facilities, space, machinery, plants, offices, and other resources, is compromised by the construction industry. Only a few research were conducted to determine the elements impacting construction productivity, and the most of them were conducted in industrialized nations. Many studies were conducted to determine how to enhance and recommend methods for the construction productivity. Monselhi & Khan (2010) conducted a research on formwork processes and labor productivity.

In order to fulfill the vision of being a developed country by 2020, the construction industry is crucial to the economy. Construction Industry Development Board (CIDB) promised to keep funding the industry's human capital development as one of its initiatives under the Productivity Thrust in Construction Industry Transformation Programme (CITP) in an effort to boost the sector's efficiency. However, owing to a heavy dependence on low-skilled immigrant labor, Malaysia's construction sector is now suffering from the low-wage and poor productivity trap. Due to out-migration in search of better employment possibilities in other industries, the number of local employees is not only low but also rapidly declining. In order to establish a philosophical structure for India as a component of the labor force in the Indian construction industry, this research will examine the landscape of local labor participation, look into factors that limit local labor participation, and suggest initiatives to boost local labor participation. Businesses seem to respond to these difficulties in two distinct ways. The first centers on how businesses may remain competitive by adjusting their cost structures and output mix to reflect the wide fluctuations in global demand brought on by the economic cycle and trade liberalization.

The intense competition placed on businesses to survive and expand in the contemporary globalized world may be used to understand the significance of worker skills for company success. Faster increases in productivity and effective strategy adaption are needed for this. The research on the factors that influence business productivity growth is reviewed by Syverson (2011) ^[11], who emphasizes the persistent within-sector dispersion on productivity levels across enterprises. According to ILO (2010) ^[12] research, emerging nations have a wider distribution of income. The variation in productivity levels across enterprises within a sector also seems to be enduring over time. According to the data, organizations have a variety of internal capacities that endure over time and adapt to varying degrees of uncertain external demand (Pavcnik, 2002) ^[25] as technological development (Bloom *et al.*, 2015) ^[13] with varying degrees of efficiency. The second approach focuses on changing the internal structure and production strategy, among other things by implementing new management techniques (Bloom and Van Reenen, 2010) ^[14], during training courses

(Dearden *et al.*, 2005) ^[18], and spending money on fixed capital upgrades (Bartel *et al.*, 2007) ^[15].

The first answer claims that the availability and caliber of suitable labor skills have an impact on business performance via their influence on labor costs per unit (productivity effect), which is being supported by research. As a consequence of insufficient competencies and excessive pay rises, Haskel and Martin (1996) ^[19], Bennett and McGuinness (2009) ^[16], and Healy *et al.* (2015) ^[33] contend that worker skill shortages might result in a loss of competitiveness. According to Montt (2015) ^[20], poorer worker productivity is linked to increased and enduring skill mismatches in OECD nations. Rehman (2015) ^[21] provides evidence that a lack of skills is linked to slower productivity development within the Pakistani software sector. According to Mahy *et al.* (2015) ^[17], there is a substantial link between employee specialized training and increased business production. This relationship is more pronounced in businesses that operate in technologically complex sectors, carry out a sizable proportion of activities that need sophisticated knowledge, and flourish in generally unfavorable business environments, as is the situation in the majority of emerging nations.

The productivity of businesses is also impacted by worker skill distribution. According to Bombardini *et al.*, differences in labor skills may assist correct shortages of workers, although the adjusting impact varies depending on the industry. Businesses that operate in sectors with more complementarity are better able to adapt to the disparity in workforce skill levels. According to Iranzo *et al.* (2008) ^[22], the distribution of talent in Italian enterprises has a favorable impact on firm production whether it occurs within occupational groups, or between profitable and non-productive individuals, inside the same company. It has a detrimental effect when it manifests across enterprises, in contrast. According to Giesing and Laurentyeva (2014), in the EU, a one standard deviation rise in the labor skill shortfall causes a 6.1 percent decline in the firm's total factor productivity.

Additionally, the particular traits of organizations have an influence on how worker skills affect company production. According to Galindo-Rueda and Haskel (2005) ^[23], the proportion and gender breakdown of the business's full-time workforce influence the effect of labor skill dispersal on firm productivity. Poschke (2014) ^[24] demonstrates in a cross-country scenario how variations in company size impact entrepreneurial activity and, therefore, the distribution of the average requirement for labor skills. A favorable correlation between company age, staff age with new skills, and business growth in new endeavors is discovered by Ouimet and Zarutskie (2014) ^[26]. By placing political restrictions on the employee contracting process, the authors Shleifer and Vishny (1994) ^[27], Prasnika *et al.* (1994) ^[28] contend that the ownership structure of the enterprises, particularly state ownership, has a direct impact on worker incentives. The investment in human capital, and therefore the development of labor skills and work effort, may be impacted through modified labor contracts. According to Cai *et al.* (2008) ^[29], government involvement rather than efforts from the private sector has been the primary force behind the growth and dissemination of labor skills in China throughout the reform process, particularly at state-owned firms. According to Kaiser (2002, Ch. 5) ^[34], limited liability companies in Germany's services industry

convert to less desired financial assets frequently than unlimited liability companies, which has an impact on the structure of skills needed to handle these assets. According to Atkin *et al.*, exporting companies in Egypt experience learning-by-exporting economies that result in the acquisition of certain skills that boost their technical efficiency.

Effect of construction on overall economy

The economic growth of India as a whole is significantly impacted by the construction industry. The second biggest employer of workers in India is the construction sector. After agriculture, it is the second-largest economic activity. According to Business Maps of India (2012), the construction sector contributed approximately US\$ 67.4 billion (8%) to the country's GDP in 2010–11. Over the last 50 years, more than 40% of the country's development spending has gone into construction. Construction provides a living for over 16% of India's working population (The Indo Italian Chamber of Commerce and Industry, 2008). According to Iyer and Jha (2006) ^[30], it makes up around 78% of the gross capital creation. The influence of the Indian construction industry on employment, its connections to other industries, and its significant contributions to GDP underscore its significance and emphasize that any additional inefficiencies might hasten the ultimate demise of the country.

Demand for Construction

Due to its inadequate infrastructure and rising demand, India's recent fast economic expansion has put great strain on it. By 2012, India's infrastructure is expected to receive more than US\$ 500 billion in investment (Price water house Coopers, 2008). Construction investment is on the increase. A roughly \$1 trillion investment has been suggested by India's planning commission, which is a twofold increase over the previous plan. This demonstrates the demand, finances committed, and anticipated increase in building projects for India's infrastructure.

In addition to the construction sector, other fields also need expansion. 18.58 million homes are needed to meet the present demand (Working group of planning commission, 2012). The need for commercial property to support meeting the demands of company operations, such as sophisticated offices, warehouses, hotels, and retail shopping malls, has been cascading as a result of the Indian economy's fast rise. Professionals such as civil engineers, builders, planners, experts in environmental responsibility, managers of facilities, project managers, freelancers, and others will also be in high demand. These expectations are now unfulfilled overall under the existing structure of the construction category, according to a comparison of supply chain variables and demand (RICS, 2011).

Research problem

The construction industry in India has encountered problems regarding performance issues. The problems deal with inefficiency caused due to workforce, flaws in planning elements and the general mentality in construction.

Workforce

The massive, mostly unskilled labor population and significant number of unregistered contractors in the Indian construction sector underscore the country's difficulties with

performance assessment. A little over 31 million people labor in the construction business, with just 10% skilled workers and 90% unskilled or semi-skilled workers. According to RICS study (2011), there will be a net increase of 97 million workers between 2010 and 2020. Additionally, there are around 120,000 subcontractors in the disorganized/unregistered industry (medium to small work volumes) compared to 30,000 in the organized sector (big to medium work volumes) (Global insight, 2009; Planning commission, 2012). The performance issues India suffers might be attributed to a shortage of registered contractors and competent workforce.

Planning Elements

Indian projects often have inefficiencies as a result of bad planning, inaccurate estimates, and corruption. A road project where a temple close to the location of a planned overpass was left out of the Detailed Project Report (DPR) phase is one example of inadequate pre-planning. Due to local pressure, the overpass was completed, costing \$3.68 million (McKinsey interviews, 2009) ^[35]. Another instance of poor planning and estimating was a proposal to build a four-lane motorway even though only two lanes were authorized. The project was thus postponed by six to twelve months. Owners often underestimate the expenses of a project. According to some, the reason for the owner's estimate frequently being 10 to 30% lower than the bidder's estimate is the normally lengthy wait between the DPR stage and the auction process (McKinsey and company, Inc. 2009) ^[35].

Mentality

However, the cause identified and disclosed in this study is a framework of the building services sector, which is significantly impacted by the method that vendors are chosen. While the poor skills of vendors or their incorrect capacity to design projects might normally be considered as the major sources of inefficiency. In India, choosing contractors for building projects has traditionally been mostly determined by bid pricing. One of the main factors contributing to bad or failed building projects has been the choice of the lowest bidder. Contractors often provide a low bid price in an effort to win the project and then expect to be reimbursed via claims (Singh and Tiong, 2006) ^[21]. When suppliers are chosen based only on price, it becomes challenging for sellers to stand out from the competition. Owners may be using management and control strategies to combat this (Kashiwagi, 2012) ^[32]. As a growing nation like India is unable to afford this inefficiency, the use of the low bid approach and the attitude by owners attempting to control suppliers need to be investigated. In spite of its global expansion, formal project management is seldom seen in the Indian construction sector (Sreepuram and Rao 2006) ^[36]. According to KPMG International (2010), modern India has embraced partnership techniques like build-operate-transfer, build-own-operate-transfer, build-own, public private partnerships, etc.

The structure of the construction industry identifies the potential adjustments that could be made in order to address the issue with the supply chain structure, including: the need for the buyer to be chosen on the basis of performance rather than just price; the need for the expert vendor to assume control; the need for the buyer or client to practice quality assurance rather than quality control; increased

transparency, which will increase accountability; the use of vendor expertise; and the elimination of non-expert interference.

Problem statement

Most of the Indian construction projects face time and cost overrun in their execution. The main causes behind the time and cost overrun is inadequate number of skilled workforce that directly influences the construction productivity in negative manner. Therefore, the proposed study aims to analyse and reduce the gap between the construction productivity given by skill and unskilled workforce.

Conclusion

The second biggest employment in India is the construction industry, after unorganized agricultural labor. It is essential to a nation's infrastructure and industrial growth. It is notable how much the building sector contributes to the nation's economy and social structure. Additionally, the building industry creates a significant amount of jobs and stimulates the development of other industries via backward and forward connections. Therefore, it is crucial that this key activity be supported for the economy's healthy development. Up to 95% of construction workers are thought to be temporary employees, and the majority of them are seasonal.

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