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## Empirical Evidence on Concept of Knowledge Perspective in Construction Firms in Pakistan

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### ABSTRACT

*Development and growth demand proper infrastructure, roads and sustainability of management practices with the organization. In order to negate any errors that come our way, Knowledge-based perspective helps in the long run. It states that gathering information, its efficient distribution and ability to market that information in order to gain competitive advantage and gain customers as a monetary advantage is one of the main perks of being in the 21st century. Constantly removing mistakes/errors from construction practices by acquiring information through a lot of means, via internet in case of customers or feedback or most off all-knowing competitors, their advantages, discrepancies, managing your disadvantages and enabling your team to go above and beyond into negating it, so that firm could raise their competitive advantage. This visionary attitude is what keeps companies sustainable and being competitive in almost all aspects with competitors. Innovation grows; new and improved products are produced as a result. To establish the proof for the idea, in this research a total of 100 companies are taken as a sample from KPK region of Pakistan.*

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### 1. Introduction

In last decade or so, economics have changed massively, customers' requirements have altered in accordance to that as well, obviously and it has affected Pakistan as well. Manufacturing

was a big part of 19<sup>th</sup> century, most of the companies made billions out of it, but with time, emphasis has shifted towards computers, internet, in short knowledge and technology is an efficient commodity. Big firms have separate departments for acquiring research and knowing about efficient use and cheaper use of materials. SMEs are usually challenged by conglomerates in numerous fields, adding to that constantly changing market trends and attitude of customers is also altering in recent times depending upon their economic situation (Randal, 2013). One advantage SMEs get is that they are usually established in localities, so they know customers, their needs.

Outsourcing knowledge is being considered a norm and talent is being poached for development and growth of the company. The most common practice is hiring officials for big posts in firms (Walczak, 2005). The company's success is determined by their up top management practices. These activities build up trust in customers and hence, profits are reaped as a result. Loyalty is established by firms with their consumers. With rapidly changing times, economic situations have changed the mentality of customers. Most customers want products that are in their financial range, it greatly helps in innovation if firms are open to it and they should be as it helps them in growth. It gives rise to affordable materials also with reliability and durability.

Similarly, staff is also acquired to be professional, ethical and most of all cordial to the customers, rude behavior can cause customers to leave firms in hanging. To collect data for improving behavior, firms have feedback ideas like complaint cell, media departments, to cater to their need, construction firms have design department and finance department at their disposal. Tangible value is generated with utter professionalism of the staff. That is the reason why firms have training mandatory in first six months of new recruitment because firms want their employees to be cordial with customers (Carmeli & Tishler, 2004).

There is an advantage for local companies as they know their environment and customers up close and personal, so they don't have to spend much on quid pro quo but for companies coming from numerous countries, they additionally spent money on research about environment, culture and customers and their behavior. For this purpose, firms fund research, gather simulations, do surveys this takes a lot of time and money, usually firms have vision which is not in accordance with their culture or beliefs, so ultimately local companies can grab these opportunities (Zaheer, 1995).

To share information honestly within the company without any ulterior motive, that person is considered naive in nowadays world. Although leg pulling and office politics is a common practice in developed countries but the situation is dire in developing countries. Due to rapid population increase and low jobs, opinion is not shared among the superiors as it might damage the superior's ego and they might lose their job. Pakistan doesn't lag behind in this negative approach. These office politics are one of the reasons why there is no proper planning to manage resources in projects in both private and public sector projects, rather creating an easy environment, a hostile environment is created which impacts cost and also more time is spent on project completion. To counter these measures and to find ways that essentially create an innovative environment which may help firms and customers as well, this research was opted. All construction companies are from KPK province of Pakistan. The research has independent variables of knowledge acquiring, disseminating it and innovation in market place to help the customers and in turn reap profits.

Following are research questions of this study

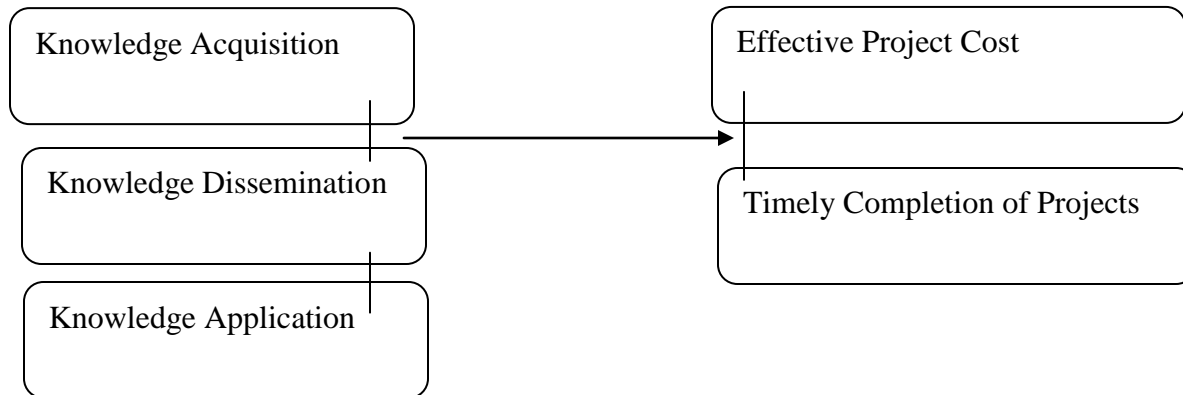
- Does acquiring knowledge fruitful for firm performance?
- Does knowledge dissemination vital for firm performance?

- Does applying knowledge benefit the firm performance?

Following are objectives of this research

1. To explore effects of acquiring knowledge on organizational performance.
2. To examine dissemination of knowledge impact on organizational performance.
3. To identify application of knowledge effects on organizational performance.

## 2. Conceptual Framework



## 3. Literature Review

Due to low economic conditions and low-income jobs or no jobs for that matter, there is ruthlessness in private firms especially. Rather than bridging the gap in workplace environment, there is unnecessary politics that usually comes in the way of offering good services to the client result is that company suffers (Faridi & El-Sayegh, 2006).

One of the first fruits of information was using fire by man for taking advantage for the purpose of chasing animals and most of all cooking. It was the time of prehistoric earth. Competitive advantage in the market; information is gathered and disseminated to people specifically involved in their relevant departments (Nonaka et al., 2000). In recent times people are accepting the idea that professionalism is norm of the day, due to proper management activities, customers are happy with the behavior of the employees and in turn they prefer them for services (Mertins et al., 2003). This frame of mind can prompt the relevant changes for future prospects, it was noted that knowledge is a valuable commodity, it is vital to take full advantage from it now as it can help in development.

In 19<sup>th</sup> and 20<sup>th</sup> century, industrial revolution paved the way for development in many countries in the West, but the inclusion of broadband internet, a lot of tech companies have taken over the world as multibillion-dollar corporations like Microsoft. Their main focus now is to attract certain demography to communicate with each other and to be clients and customer and to fulfill their needs and services (Sambasivan & Soon, 2007).

Global market where open to be liaison, and service sector boomed greatly, innovation and creativity came with it. Then came internet and with it world became a global village. Adding to that a perspective should be kept in mind that time has changed in case of development. Gone are the days when industries i.e., steel sector, cement and wood cutting industry was a premier for economies in the world. Now Face book, Google and Amazon have paved the way for economies and

they also have a substantial hold on how and when to react to customer's needs and how to challenge the demands to their behavioral changes and how to help in stabilizing markets for doing business. It was bound to happen, as evolution states that people change with time (Surroca et al., 2010).

### **3.1 Knowledge Acquisition**

To acquire information is an art and it gives benefits too. The success of many companies in recent times have dependent upon it. It is a good formula for growth. Getting good impact of information, it should not only be stored but transferred with relevant people as to involve all people with the bracket of information to ensure growth in all walks of life, both customers and firms (Al-Ghassani et al., 2002). So, information gathered should be disseminated to all people that have some connection with the customers. Extensive research is done in information gathering and its dissemination but it is still early days in Pakistan, more emphasis and funding should be given to research work to find out how customers and firms react to a certain market trend or financial aspect of a project.

It was observed that in order to get finance and investors, it is essential to have one extra talent within a person be that a language skill or some other vital information about a firm to which they are pitching an idea, the impression may be massive (Lytras & Pouloudi, 2003; O'Hara, 2004). Connectivity and globalization more or less have equivalent philosophy as to personal interactions are most important foundation of talent poaching in this day and age (Chandra, 2015; Gounaris et al., 2004; Zack, 1999).

Adding to that the constant need for firms to be diverse is need of an hour as to boost up their business to substantial level where peers may dream of reaching. There is only one catch i.e., aptitude to procure information at a specialized level with well-organized discipline. This concept aptly, they tell us that constant change in markets, financial instability, connectivity of frequent scenarios, simulations of growth, customer's mindset for product purchasing, all is dependent on information gathered and its sublime dissemination (Wang, Lin & Huang, 2010; Yang, Chen & Wang, 2012). Spending of money on expensive advertisements, branding unnecessary while not providing precise specification of products can easily ruin companies in long run that is the reason why pessimistic approach is scarce in western societies (Kim et al., 2014; Kruger & Johnson, 2013).

### **3.2 Knowledge Dissemination**

Empowerment of private sector is off importance now-a-days, result and profits are off epic proportion, plus with healthy competition, new products can benefit society as a whole. Now-a-days, there is a lot of focus on environmental aspects of construction projects that is the reason why Singapore and Japan are more focused on building environment friendly, green buildings. One reason to appreciate private companies is there, process of training at the start of jobs to fresh employees; this has helped companies a lot. It gave pathway to methodologies in which finances should be managed along with supply management and human resource management (Leiblein, 2011).

Relevancy is important in getting to know people and providing information to them, e.g., if management information is provided to a labor or supervisor in the field, there is nothing to be done with that information due to the fact that there is absolutely no relevance to it (O'Dell, & Grayson, 1998; Ooi et al., 2009). Management skills are significant to guarantee the free flow of information

deprived of any pointless stumbling blocks. Logistics and transferring mechanism should be defined to ensure a backstop and tackling challenges in order to be dealt with in a professional manner, this can identify problems and if optimistic approach is there, mechanism to have opportunities up for grabs (Carrillo, 2004; Anumba et al., 2005).

### **3.3 Knowledge Application**

Strategies and lobbyist make millions in western societies, it is their ability to predict market trend plausibly, their agents are present almost everywhere and trend is predicted. That is why the name their price to big corporations and hedge fund managers, their nomination is accepted as to their skill-set. Strategist does nothing but acquire information, accumulate it, distribute it to relevant people to gain advantage or upper hand over them, it happens in accordance with them.

Market is the main reason why a nominal product becomes superior in eyes of customers that are constantly connected to Television sets and social media outlets. The idea is that market research vigorously be ensured, trends should be established, customer's trend should be known and accountability of firms, competition and innovation should be put emphasis on as well as environmental-friendly products (Ambrosini & Bowman, 2009). Market trend should be known and risk factor should be kept in mind, one of the prime examples of not putting all eggs in one basket is the case 2008 market clatter, as people invested more than enough in real estate sector and result was market ability to cope with it didn't happen, market given up the ghost, people lost all their life savings, how market trend can influence big businesses and effect the livelihood of almost half of the world (Wiig, 1999; Yang et al., 2011).

Attention is given to market and it is truthful as it is the main reason between average product with good advertisements with superior product and no advertisements, significance is astoundingly ominous as formal is more product and latter is counterproductive in approach (Cegarra-Navarro & Martinez-Conessa, 2007). Coordination and corporation among clients and customers come with having information and sharing with customers and having aesthetics, this ensures customers to cope with new changes and try to adjust with them. This process eventually gets customers from those demographics from which company may never encompasses, not even dream of it (Fong, 2005; Galbreath, 2004; Gassmann, & Keupp, 2007).

### **3.4 Firm Performance**

Opportunities should be created in order to create jobs, growth and development should be a priority. This generates a competitive environment, profitability, plus a customer friendly atmosphere. Administration must have to create an era of decent performance (Davenport, & Prusak, 1998; Gassmann & Keupp, 2007). Loyalty matters the most in an organization, it tells us about their satisfaction and unity (Carrillo et al., 2003; Chisholm, & Nielsen, 2009).

The most important products to be used in constructions are materials, especially raw materials; it is easy to do a project where raw materials are present in abundance (Frimpong et al., 2003). All the management is also essential for success of projects. Moreover, their ability to cope with new challenges and managing information was also key to success was initiated that firms to work progressively, constructive criticism should be appreciated by top management officials, to boost up optimistic environment (Grant, 1996).

Khan et al., (2020) and Rehman et al., (2020) argued that top management of organizations

must focus on designing the performance indicators based on human capital so that to evaluate their employees effectively and get the maximum output of their respective employees. It would also help their employees to compete with each other on the basis of pre-identified performance indicators.

### **3.5 Effective Project Cost**

In recent years, clients have more emphasis of something substantial and affordable, i.e., in their financial range. It is due to uncertainty in market trends. This approach has boosted up nowadays. Cost should be managed in an efficient way and in smart way mostly to please clients, in this way goal is accomplished and that too with aesthetics. But bear in mind that completion should be in time. There is no need to rush a scheme just to show your efficiency which can easily be converted into a loss by not giving materials the ample amount of time that it deserves. In order to do that clients should be aware that if a project is having a cost more then what they planned, there is a valid reason behind it, it is maintenance cost reduction at a staggering amount (Hsu, 2007).

In reality, top management has a certain ego, they don't supervise their subordinates, guidance is not given, result is that it causes massive frustration and even no respect for their top management, they can't do anything about it, what they do is deliberately delay projects just to get back at their superiors, unfortunately it is a norm in public sector projects, sense should prevail and a big picture, visionary mindset should be handled. The solution to this problem, they stated that inter department meetings should be held, healthy activities should be taken upon, it helps in bridging the gap created among different departments and management peers (Kazi, 2005; Khalfan et al., 2002).

It required hard work, time and resources and most of all the vision to be great. If this vision is carried among the workers, they work for firms like it's their home, it helps the company in going on top among peers and it motivates them (Kingston, 2012; Kogut, 2000). It is a fact that contractors should manage the information that comes from any form of business relations; that they can get their hands upon from experience which they gain from their previous projects (Kruger, 2009; Landau & Everett, 2004).

### **3.6 Timely Completion of Projects**

Time is an essential tangible advantage now-a-days, it is necessary to have schedules and be punctual in every pace of life. Similarly, the case is vital for firms in construction industry, consultants involved with it and numerous other departments (Lin, 2007; Lin & Taylor, 2009). For coming up with new products, strategies should be considered to counter numerous challenges which may help in growth and development.

Heavy construction projects are establishing in Arab countries and a lot of investment is done in it. Time is of the essence to always learn for them that how well they manage their time, while this should be kept in mind that they don't lack in financial resources. An all-encompassing research on about 31 variables was done vigorously result was lack of funding and resources (Palacios et al., 2009).

In Pakistan, unfortunately planning is not done which leads to mismanagement, more costly projects and most off all safety is not considered tangible, which leads to accidents that causes major commotions in projects. Contractors should be informed that projects should be done in an

innovative and competitive way, it can open window of opportunity for new entrants of customers. To promote this attitude, contractors should be motivated by providing them funds on time, proper communication, availability of materials and safety gadgets, so that work can be done with ease. The achievement of companies in Arabic countries relies on the fact that they had pertinent statistics and applied them (Zander & Kogut, 1995; Pinto & Pinto, 1990; Sarhadi, 2013).

### **3.7 ROLE OF KNOWLEDGE ASSETS IN SUSTAINABILITY OF FIRMS**

Information as an asset should be used, commodity that should be in tangible terms, what this mindset does is negation of competitors, sustainability in growth and workability of employees. Moreover, compatibility, capacity is known to top management officials, which is translated into bonuses which in turn develops a healthy environment as result clients are treated as a family rather than advantage. This sustainability helps in firms to get bigger and better with time.

In Pakistan, finance problems should be solved, contractors must work as liaisons to university, so whenever research is done, implementation should be done as soon as possible, to ensure growth significantly early, it is possible, Turkey has done it, we can do it too. Surveys were held, data was collected and results were promising (Zhang et al., 2000). It revealed that information technology, distribution of information are value knowledge assets and have staggeringly massive impact of cost projection and in time completion of schemes.

Japanese model was followed vigorously by United States in 1950s. Subsequently in 60s era especially after Peter Drucker used the term “information” as a work and information worker, interest grew from hard labor to softer tangible resources like management, communication, and customer’s intensions towards products, moreover there has been a major shift in momentum among firms in management as a viable commodity (Tsai & Li, 2007; Fong et al., 2007).

Framework should be established to know the methods, impacts and strategies that lead to changes in behaviors of managers within firms without shattering their ego, as it was pleasantly summarized (Ling et al., 2009; Liu et al., 2009). They described two main steps that are impact of sustainability of information as valuable assess. Culture should be changed into organizational management practices like open ideas, group discussions and giving valuable feedback to customer’s complaints. Mapping stock of information is vital and usually it can be created from existing information (Schindler & Eppler, 2003).

## **4. Methodology**

To acquire relevant information, questionnaire was formulated and distributed among the construction firms via Likert Scale. Questionnaire gathered relevant data from different supervisor hailing in their expertise, means both from management and engineering side and management and technical abilities. Companies are taken in random order and focused on category C-2. This category of companies includes large firms having both engineers and management department, so data is all-inclusive. 100 companies are selected for this purpose from KPK, Pakistan which are registered with Pakistan Engineering Council.

#### 4.1 Analysis

**Table 1: Cronbach's Alpha**

Variables	$\alpha$	No of Items
Knowledge Dissemination	0.832	5
Knowledge Acquisition	0.789	6
Knowledge Application	0.822	6
Timely Completion of Projects	0.779	6
Effective Project Cost	0.882	6

Table 1 shows that values of Cronbach's alpha of all variables is above 0.700. It shows an internal consistency exists among all variables.

#### 4.2 Multicollinearity Summary

Below Tables shows Multicollinearity Summary of Variables

**Table 2**

	Collinearity Statistics	
	Tolerance	VIF
Knowledge Dissemination	.816	1.225
Knowledge Application	.800	2.222
Knowledge Acquisition		

Table 2 shows VIF value of Knowledge Dissemination and Knowledge Application to Knowledge Acquisition is 1.225 and 2.222 which lies between 1 to 10 and Tolerance value lies between 0 to 1 i.e., 0.816 and 0.800 respectively which shows no multicollinearity. Hence, there is no multicollinearity among the variables.

**Table 3**

	Collinearity Statistics	
	Tolerance	VIF
Knowledge Acquisition	.980	1.021
Knowledge Application	.920	1.332
Knowledge Dissemination		

Table 3 shows VIF value of Knowledge Acquisition and Knowledge Application to Knowledge Dissemination is 1.021 and 1.332 which lies between 1 to 10 and Tolerance value lies between 0 to 1 i.e., 0.980 and 0.920 respectively which shows no multicollinearity. Hence, there is no multicollinearity among the variables.



Table 4

	Collinearity Statistics	
	Tolerance	VIF
Knowledge Acquisition	.955	1.005
Knowledge Dissemination	.987	1.422
Knowledge Application		

Table 4 shows VIF value of Knowledge Acquisition and Knowledge Dissemination to Knowledge Application is 1.005 and 1.422 which lies between 1 to 10 and Tolerance value lies between 0 to 1 i.e., 0.955 & 0.987 respectively which shows no multicollinearity. Hence, no multicollinearity found.

Table 5: IV Effects on Effective Project Cost

Model Summary				
Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimates
1	.641	.411	.392	.63441

Table 5 shows that the R Square value of IV effects on effective project cost is 0.411 i.e., 41% which shows strong relationship of IV effects on effective project cost.

Table 6: ANOVA

Model	Sum of squares	Df	Mean Square	F	Sig.
1 Regression	26.923	3	8.974	22.298	0.000
Residual	38.637	96	.402		
Total	65.560	99			

Table 6 shows value of F is 22.298, which reaches significance with a *p*-value of .000 which is less than the 0.05. It shows that there is a statistically significant difference among the IV effects on effective project cost.

Table 7: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 Constant	1.044	.343		3.040	.003
Knowledge Acquisition	.208	.055	.309	3.740	.000
Knowledge Dissemination	.283	.092	.255	3.079	.003
Knowledge Application	.302	.070	.350	4.309	.000

Table 7 shows the beta values of knowledge acquisition, knowledge dissemination and knowledge application by 0.309, 0.255 and 0.350 respectively are significant.

**Table 8: IV effects on Timely Completion of Projects**

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R-Square</b>	<b>Adjusted R-Square</b>	<b>Std. Error of the Estimates</b>
1	.651	.423	.405	.62752

Table 8 shows that the R Square value of IV effects on effective project cost is 0.423 i.e., 42% which shows strong relationship of IV effects on timely completion of project.

**Table 9: ANOVA**

<b>Model</b>	<b>Sum of squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	27.757	3	9.252	23.496	0.000
Residual	37.814	96	.394		
Total	65.571	99			

Table 9 shows value of F is 23.496, which reaches significance with a *p*-value of .000 which is less than the 0.05. It shows that there is a statistically significant difference among IV effects on timely completion of project.

**Table 10: Coefficients**

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>T</b>	<b>Sig.</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1 Constant	1.413	.281		5.030	.000
Knowledge Acquisition	.156	.061	.202	2.576	.012
Knowledge Dissemination	.248	.068	.345	3.646	.000
Knowledge Application	.257	.075	.327	3.426	.001

Table 10 shows the beta values of knowledge acquisition, knowledge dissemination and knowledge application by 0.202, 0.345 and 0.327 respectively and are significant

## 5. Discussion

Our study revolves around that that the company's success is determined by their up top management practices which included knowledge. These activities build up trust in customers and hence, profits are reaped as a result. Loyalty is established by firms with their consumers. Outsourcing knowledge is being considered a norm and talent is being poached for development and growth of the company. The research has independent variables of knowledge acquiring, disseminating it and innovation in market place to help the customers and in turn reap profits. The success of many companies in recent times have dependent upon it. It is a good formula for growth.

Our research revolves around knowledge i.e., from acquisition to knowledge application and its impact on firm's performance in terms of effective project cost and timely completion of the project. The study results are very much evident that to complete a project or to enhance the firm's performance within a given period of time with effective usage of resources and completing the

project within the allocated cost always need the knowledge of the relevant field in order to adopt the updated knowledge according to the new dimensions and innovative ideas and transforming this knowledge to gross-root level where its application gives the firm the competitive advantage over market.

The results of the study show that there lies a significant impact of knowledge acquisition on both effective management of cost and timely completion of the project. Same as the results show that only acquiring knowledge is not enough until it is transferred or disseminated to the employees who require completing the project with goal of cost and time bound. The study also concludes that a company which acquires and disseminates the knowledge to their employees and in the same way is successful to apply it, is worth and has the competitive advantage which will result in to achieve the goals already set-in terms of effective management of cost and timely completion of the project.

## **6. Conclusions**

In the developing world, customers are used to products that are obsolete and expensive, adding to that when products are imported due to heavy taxation, they get more expensive. Innovation is vital in-service sector to counter challenges and create an environment for change. In this research some variables are deliberated meticulously but more and more can be discoursed in future prospects to further enhance innovative process. Universities have departments for research work but contractors can be made liaisons as to that research should be applied on demo basis as if it works in the field or not, as Pakistan has done a lot of research work but it may be productive if it is transferred in industry sector as well.

## **7. Recommendations**

No research is perfect, room for improvement is present. Every research work presents an opportunity to do something more productive then the last, taking notes or a direction from previous research works. This process enhances variables, result is growth in industry. To the best of my knowledge, some of recommendations are as under.

Regulation department named Pakistan Engineering Council (PEC) must introduce a system to ensure more and more companies have a system of research, every little count, this approach may lead to credibility of companies, trust of customers can be established. Creativity leads to effective cost that means cheaper products to customers.

Award system in the name of funding research should be developed to increase the awareness of creating new and improved products. Quality enhancement cells should be created to get high quality products. Ultimately, approach of companies should be to get more and more competitive.

## **8. Limitations**

Some of the limitations are that in Pakistan, more focus is on monetary solutions rather than good quality work. To some extent, approach is not bad but there is a certain lack of vision, as quality work can give benefits that are beyond our expectations. This mindset is lacking gravely in our society. Furthermore, creating new products and improving services can open the door for entrants of new customers which are sometimes not target audience, such is the power of creativity. Moreover, due to dire construction conditions, there is still a problem for safety of workers in workplace environment. To go with the flow via developed world, we have to counter

those challenges.

### **9. Future Direction**

Addition of more complex variables related to knowledge perspective can further help its effectiveness in construction industry. Inclusion of resources like human capital, marketing the right product to right people in precise time and professionalism etc. may also add new insights to literature in future studies.

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