

A Conceptual Framework for Measuring Organizational Performance through Knowledge Management and Training

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Abstract

This paper proposes a comprehensive conceptual framework designed to evaluate organizational performance by integrating knowledge management (KM) strategies and training initiatives. In contemporary business environments, where knowledge serves as a primary asset, organizations increasingly recognize the critical role of effective knowledge management and training programs in enhancing performance. However, existing frameworks often lack holistic approaches that consider the interplay between these two vital components. Drawing upon theoretical insights from organizational theory, human resource management, and knowledge management literature, this framework synthesizes key dimensions and indicators essential for assessing organizational performance. The proposed framework incorporates elements such as knowledge creation, acquisition, dissemination, utilization, and retention, intertwined with tailored training interventions aimed at enhancing employee competencies and capabilities. By delineating these interconnected dimensions, the framework offers a systematic approach for organizations to evaluate the efficacy of their knowledge management and training initiatives in driving organizational performance. Furthermore, the framework provides a basis for future empirical research and practical applications in diverse organizational contexts, fostering a deeper understanding of the intricate dynamics between knowledge management, training, and organizational performance.

Keywords: organizational performance, knowledge, knowledge management, training

Introduction

True as much as Benjamin Franklin can be in his views, the pervasiveness of knowledge in all aspects of life cannot be refused. In *The Way to Wealth* written in 1758, this line was the most celebrated one in the field of entrepreneurship. However, this is not the first instance when knowledge is considered as an ethereal object. The ancient Hindu scriptures, a handful of them are indicative of the fact that knowledge is the radar of human life which helps to steer the way of life. The *Katha Upanishad* states that knowledge is the virtue by which human beings are able to get a taste of heaven even while living in the Earth. It further states that knowledge not only helps the human beings during the course of their life, but also in after life. The ethereal route that the departed souls take are defined by the knowledge that has been accumulated in the course of life. In a nutshell, knowledge is the medium of acquiring karma.

Motivations

With such broad motivation, the researcher wanted to investigate how knowledge as a tool can be used to make changes to life (Hyman, 1999). With such broad motivations the researcher wanted to explore how knowledge can be applied to augment organizational performance. The researcher after scouring the databases found that there have been no studies that measure the impact of knowledge on organizational growth. All the studies that measured organizational performance in terms of knowledge and training were dependent on ICT techniques and none of them sought to create an independent model for measuring the impact. On a global basis, it has been found that there are no studies for measuring the impact of knowledge. The researcher seeks to create a model that would be applicable for all the geo- demographic location and economic conditions. Since, knowledge has innumerable offspring, most of the researchers have omitted the area because of the complexity associated with the process. However, the returns are high and the concerned researcher did not want to miss the chance to fill this gap which might be used by generations to come.

Limitations

- Knowledge is an abstract construct. Hence gauging the dimensions, it can acquire is a difficult task.
- Organizational performance is a multifaceted construct and setting the parameters for measuring organizational parameters is a difficult task.
- Different organizations have different systems for knowledge management. Hence, conducting a study from a common platform is difficult.

Literature Review

In the current section, the researcher will discuss the basics of knowledge and the importance of knowledge in the augmenting organizational performance (OP). Knowledge is one of the most critical assets that an organization possess. Knowledge in this context can be defined as the sum total of judgement, value, competencies, perception, know-how and techniques (Kordab et al., 2020). An effective process of knowledge management (KM) refers to the process of capturing the process of the experience of the individuals which has been recorded in the database, in papers or even in the intellect of the individuals (Abuaddous et al., 2018). At the same time, KM may include the process of strategy formulation and attaining the financial goals of the organization. Thus, it can be said that KM forms the cornerstone of the organizational performance.

With thus definition in view, the elements of KM are people, process, technology, culture and structure (Abualoush et al., 2018; Rahimi, 2017; Vasso & Savva, 2017) and the relationship among these elements can be viewed as below.

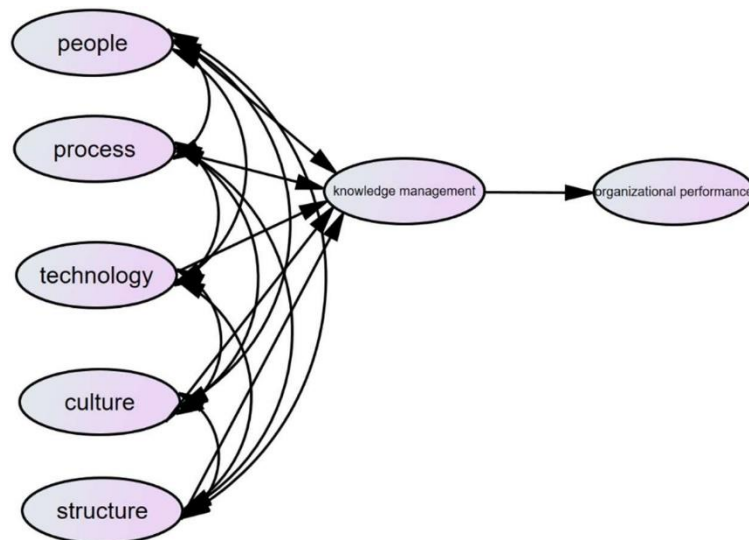


Fig 1: relationship between the elements of knowledge management

According to Chawla & Joshi (2010), this process occurs in a four step process. These are – creation, retention, transfer and utilization. However, one of the reasons why research has been deemed important is because of the fact the demographic factors play a role in knowledge management (Aktharsha & Anisa, 2011). This compels the researcher to create a conceptual framework that can have a global application in measuring the organizational performance in terms of knowledge and training. A successful implementation of this process will transform the work culture from a mechanical one to a knowledge intensive one (Hanif et al., 2018). This will help the organizations in combating the competition.

Another important dimension of the studies in KM and OP is the application of Information and Communication Technology (ICT). Akram et al., (2018) opines that most of the companies define their OP in terms of ICT because it gives sustainability to the businesses. This in the opinion of the concerned study is a major drawback. Sustainability can only be achieved when the human beings who are the blood and soul of all businesses are sustainable in terms of intellectual capacities. Secondly, the ICT-based measurement techniques are largely dependent on the algorithms and a conceptual model based on ICT cannot bring complete sustainability to the business ecosystem. Corporations today sleep with one technology and wake up with improved one and hence finding a stable technology for performance analysis of the organizations is a difficult issue. Hence, a robust theoretical model is proposed here.

Contrary to the findings of Fig. 1, Mansoori et al., and (2018) reports that knowledge management has no relation to organizational performance for the government organizations in Abu Dhabi. This is one of the areas that the current study seeks to venture into. This pertains to the difference in functioning of the governmental and non-governmental organizations. The researcher will try to understand whether there exists a difference between the function of knowledge in governmental and non- governmental functions. In light of this, the researcher will also try to understand whether knowledge management of governmental organizations are performing better or whether the private organizations are better at it.

Another important dimension of the study that impacts organizational performance is culture (Graha et al., 2019). Culture provides identity and uniqueness to an organization while also defining the organization in terms of truth, objectives and transparency (Tseng, 2010). Thus, one of the indicators of the organizational performance is culture and is definitely one of the most subjective variables that can be measured.

To study the impact of KM on OP, Abuaddous et al., (2018) conducted a study on the students of Isfahan universities and reported that KM is positively impacting OP, while technology and knowledge conversion are not capable of having a positive impact on OP. It was also found that among all the factors that lead to a positive impact on OP, organizational strategy and leadership are the most prominent ones. Hence, the current study proposes to include them as variables in the study. The selection of variables in the study is important because not all the factors are having an impact on OP, rather a selected few. With negative factors being selected as variables of the study, it is likely to end up with a spurious result. Shannak (2010) found out that in many cases the employees are not ready to learn or even share their knowledge.

This brings us to another important dimension of the study – organizational learning. Organizational learning can be regarded as the end product of the knowledge management cycle (Kordab et al., 2020). On basis of the Systematic Literature Review, Kordab et al., (2020) reported that organizational learning has a positive relation to the OP through a proper maintenance of the knowledge management cycle. It is because of such reason that organizational learning has been proposed to be one of the variables of the study. However, it was found that such KM and OP has a little relationship to the auditing firms in the Middle East.

KM itself can be divided into three stages – KM strategy, KM enabler and KM process (Payal et al., 2019). It was found a proper alignment of these three factors would lead to creation of new knowledge and augment organizational performance which is proposed to be another variable of the study. It has been reported by the researchers that KM process partially mediates with the relationship between KM strategy and OP. Similarly, KM process has also been found to have mediated the relation between KM enabler and OP. This is visualized as below

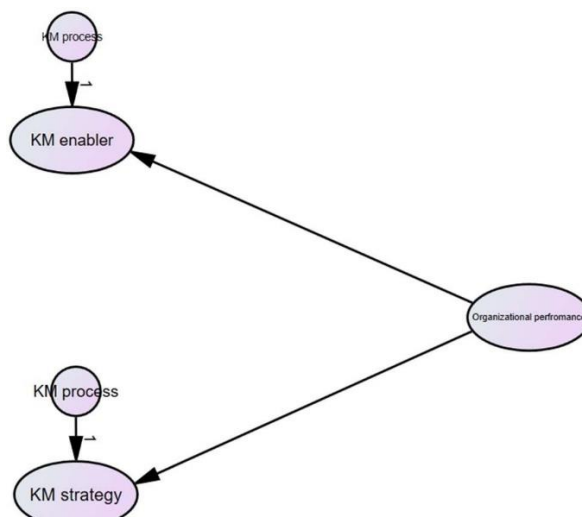


Fig 2: key dimensions of organizational performance

Research Gap

In the last two sections, we have made a theoretical discussion of the knowledge management and how organizational performance can be augmented by an effective implementation of the training assisted by knowledge management. In the current section, we will qualitatively and quantitatively analyze the research area. A qualitative analysis of some of the research papers will also be done in this section, to understand how the research area has progressed in terms of publications and what has been the rate of development of knowledge.

To start the analysis, the researcher prepared a set of keywords and used them to create Boolean search strings which would now be used for searching the academic databases. The table below gives the summary of the findings.

Sr.no	Boolean search string	Window	Fields	Records returned
1	"organizational performance" AND "knowledge management"	2018-2022	TITLE-ABS	353
2	"organizational performance" AND "knowledge management" AND "training"	2018-2022	TITLE-ABS	18
TOTAL				371

Table 1: Database results of relevant keywords

It can be seen from the table above, that there are a good number of research papers that deal with organizational performance, knowledge management (KM) and training. From this step it is imperative that the focus of the studies be analyzed critically and it is important to investigate how these large number of studies are congruently indicating to the fact that organizational performance can be measured by a knowledge management and training. Alongside, the study would also like to find out feasible ways by which this conceptual framework can be used to augment organizational performance. Hence, the current section will continue an analytical investigation into the two brief objectives stated above.

The proposed analysis will consist of two parts:

1. **Qualitative analysis** of selected research papers. For a detailed analysis, the researcher created a corpus of 25 research papers and analyzed them for extracting specific inputs.
2. **Text mining** of total researches. This will be conducted on 371 records returned and will also show the relationship between the emerging constructs.

Text mining

In the next step, the researcher analyzed all the documents that were returned by the Boolean strings and tried to compute the constructs that emerged. Based on the analysis of the records that were returned by the text mining process looked like this.

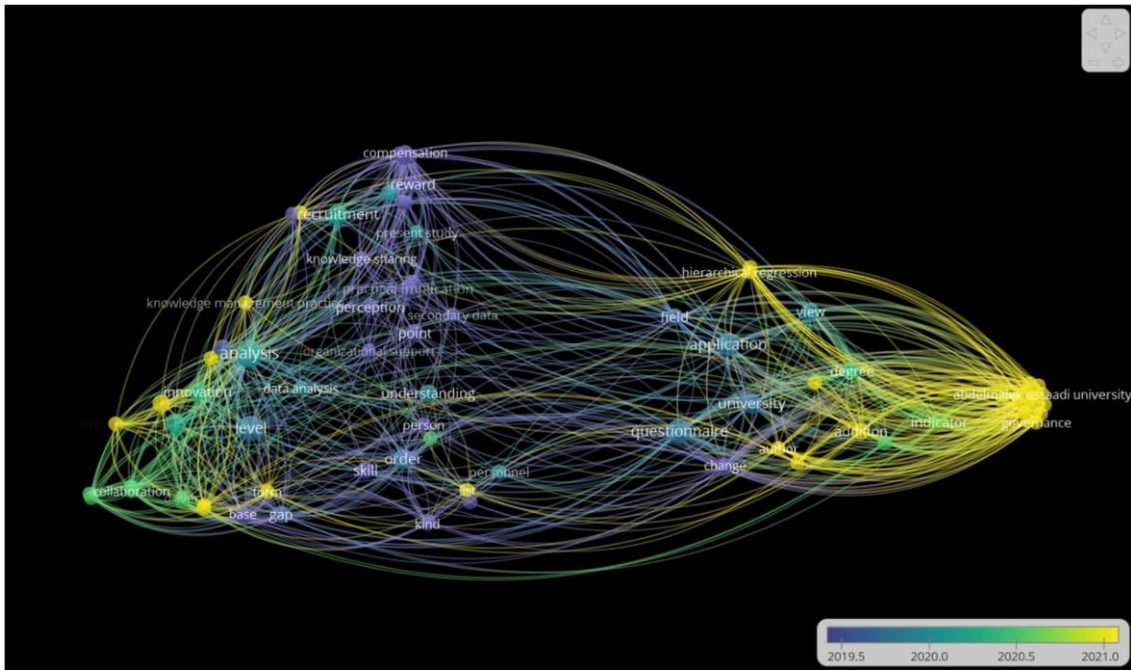


Fig 3: Textual mapping of the constructsMap metrics:

Items: 81

Clusters: 4

Links: 1114

Aggregate link strength: 1391

It can be seen that that ‘organizational performance’ is one of the items in the map which is very loosely connected to the constructs of knowledge management and training. This is reported by the following map.

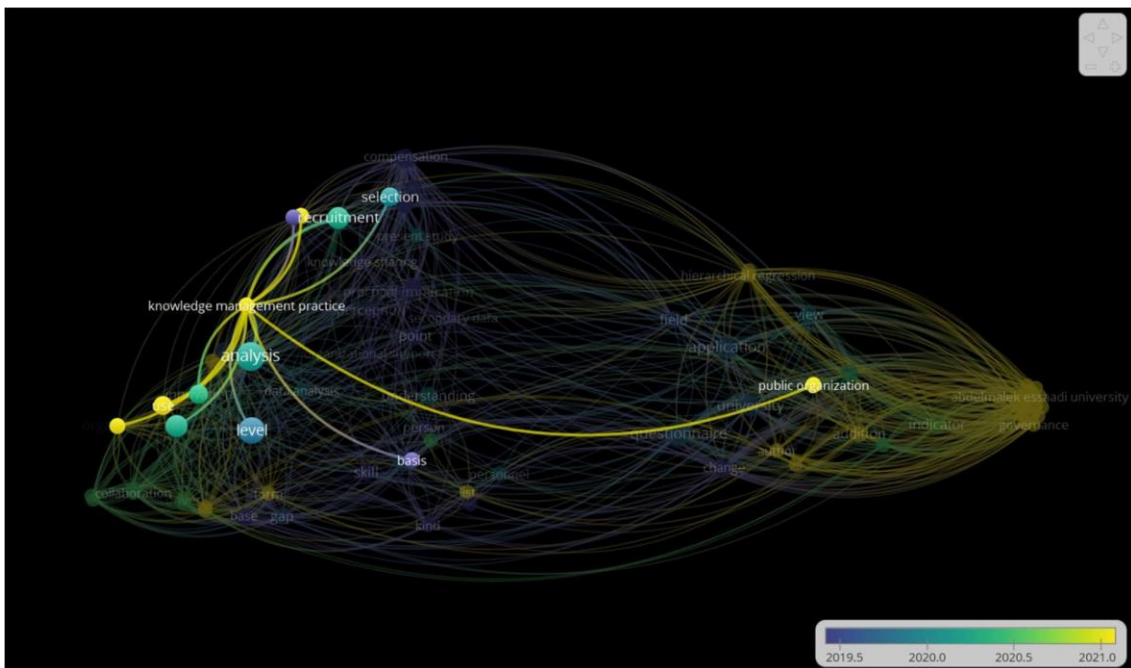


Fig 4: Link analysis of *knowledge management practice*

Based on the map legend (at the bottom right-hand side), it can be seen that there is a feeble link

between knowledge management. Further, the researcher created a density map of the research concept. This will reflect the depth of the concept as it has been discussed in the records. The denser the color of a node, the more elaborate is the discussion. This is expressed as:

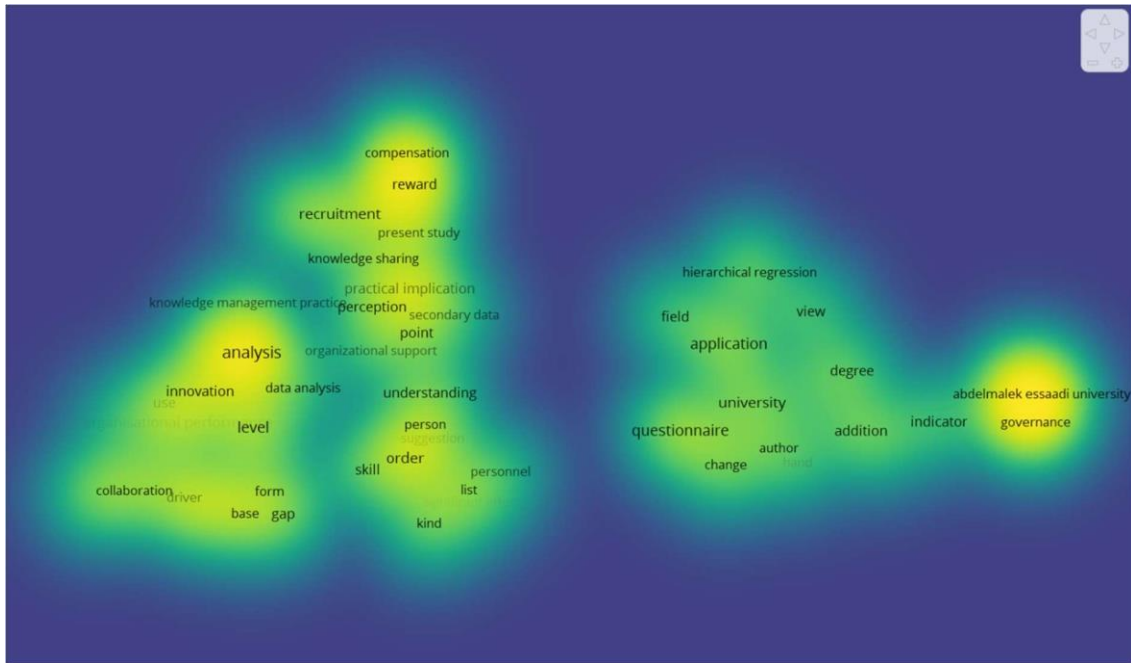


Fig 5: heat map of the essential concepts

It can be seen that *governance*, *innovation*, *compensation*, *reward* are the most prominent concepts that are being discussed, while *knowledge management* has received less research attention. To study the relationship between *knowledge management* and *organizational performance*, the researcher extracted the relation between these two constructs. The following diagram reports the findings.

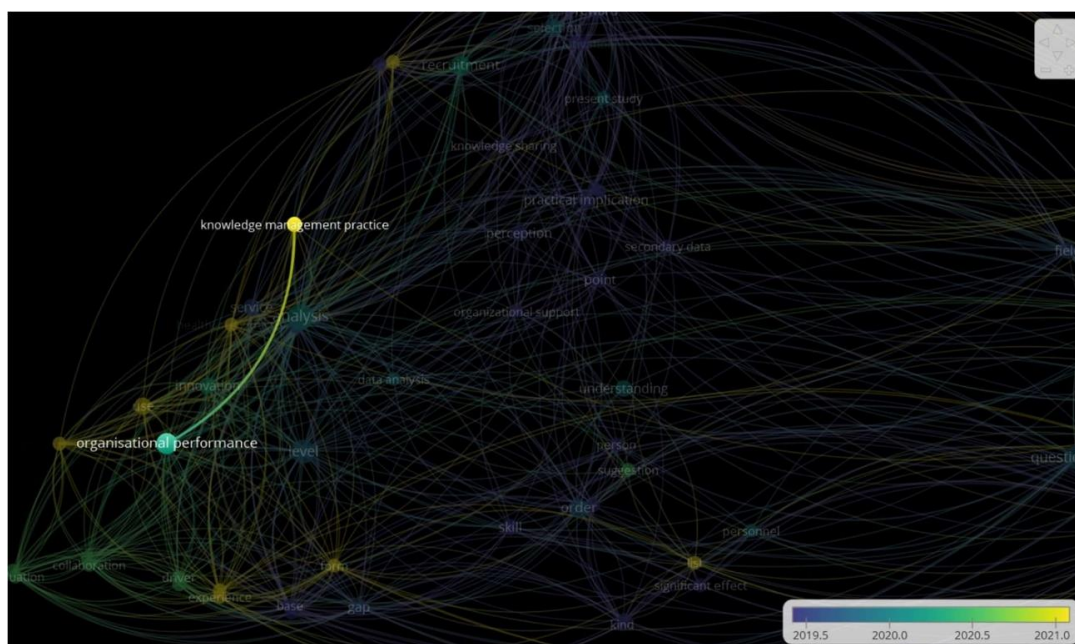


Fig 6: link analysis of knowledge management and organizational performance

It can be seen from the map above that organizational performance and knowledge management has a link strength of only 1, which is 0.07189% of the aggregate link strength. This is almost negligible and hence there is a gap that is spotted. The researcher considers that the proposed research will fill up this gap and will bridge the gap between the two concepts which are crucial for augmenting corporate performance.

Qualitative Analysis

For qualitative analysis, the researcher created a corpus of 25 research papers and tried to form an idea of the major focus of these researches. To do this, the researcher formed a word cloud which reflects the emerging constructs of the study.



Fig 7: word cloud of the relevant concepts

It can be seen that ‘knowledge’ is the most frequently occurring word, followed by ‘management’, ‘organizational’ and ‘performance’, but training in connection to these concepts has not been discussed. The top five frequency distribution of the word cloud is described by the table below.

Word	Word length	Frequency	%	Rank	Documents	Documents %
knowledge	9	3787	3.20	1	25	100.00
management	10	2865	2.42	2	25	100.00
performance	11	2591	2.19	3	25	100.00
organizational	14	2380	2.01	4	25	100.00
organization	12	781	0.66	5	25	100.00

Fig 2: frequency chart of the concepts

However, the number of researches that have been conducted and the type of output that we analyzed from these papers are disproportionate to each other. The focus of the concerned study is the collective impact of knowledge management and training on creating a conceptual model for measuring organizational performance.

To establish the research gap, the researcher created an interactive word tree which shows the relation between the important concepts. In this case, the word or construct of interest is treated as a root word and the emerging concepts are judged on basis of that.

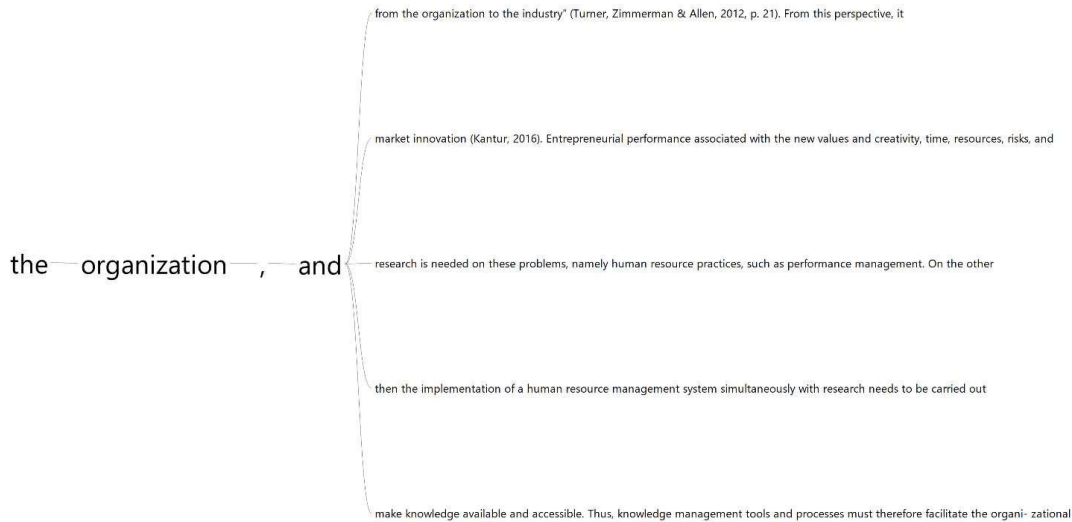


Fig 8: interactive word tree of the concepts

It can be seen that contrary to the researches being done, the researchers in the field are calling for more researches concerning KM and measuring organizational performance. The researcher found that there have been a very few researches that have been done in connection to ‘training’, KM and measuring organizational performance. Hence, more researches are required.

Another important factor which the researcher found from the research papers is the fact that organizational performance through knowledge management has been studied only through innovation, organizational culture, competence and training has not been researched in the same context.

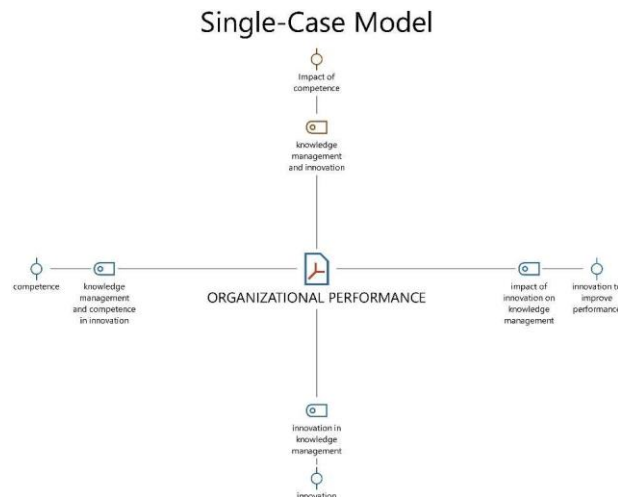


Fig 9: single case map of the concepts

The research hence spots a gap in this area and considers that a proper completion of the research will lead to the augmentation of knowledge in the area.

Problem Statement

Ways of measuring organizational performance though effective management of knowledge and training has not been elaborated.

Knowledge management and organizational performance is not a new topic. Businesses globally are running at a pace never seen before and the competition that each organization faces is stiff. The only way that helps an organization steer its way in the ecosystem is knowledge. However, research suggests that there has been a lack of studies that have been done concerning knowledge and organizational performance in a quantitative way and how knowledge and training are translated into corporate objectives (Ullah et al., 2019). The concerned study also shows that knowledge management is not only necessary for elevating the performance, but customer satisfaction can be strongly achieved by them. However, most of the studies as indicated in the last section reflect that corporate studies have focused on innovation and competence (Setyowati et al., 2020), performance management (Nasution &. 2021), training (Aviv et al., 2019; Crocetti, 2001; Scarso, 2017; Singh, 2016).

The researcher finds that employee skill and employee performance are the areas of interest whereas knowledge has been treated in a skewed manner. Dananingrum et al., (2020) reports that the relationship between skill and performance is quite pronounced. In a path analysis, it was found that this relationship has a value of 0.522 which is quite good. Flipside, organizational commitment has also been found to have a significant effect. All these studies taken together point to the fact that the focus of all these studies have been knowledge management and how this knowledge impacts organizational performance. But the role of training as

The concerned researcher did not find any suitable study that tries to measure the organizational performance that has been achieved by the use of knowledge and training. This is the problem that the researcher tries to solve. Hussen & Belete (2020) has given a model for measuring organizational performance. They propose their model in the following way



Fig 10: Factors of Knowledge Management

But as indicated above, the role of training as a mediating variable has not been studied, which will be targeted by the current study.

Research questions

What levels of professional knowledge do exist in private organizations? How academic knowledge is utilized in private organizations?

What level of perfection has been achieved by employees by utilizing academic knowledge?

What is the impact of knowledge on organizational performance?

What efforts are made by organizations to improve knowledge of the employees?

What kind of efforts are made by organizations to retain and store the knowledge for future use? Is the existing knowledge static or being shared with the other employees? What is the impact of training on augmenting the knowledge of the employees?

Research objectives

Based on the discussions made earlier, the research objectives can be divided into two sections – primary research objectives and secondary objectives.

Primary research objective

To establish a framework for measuring organizational performance by knowledge management and effective models for training.

Secondary objective

- To assess the levels of professional knowledge in private organizations.
- To study how academic knowledge has been utilized in private organizations.
- To understand what level of perfection has been achieved by employees by utilizing academic knowledge.
- To assess whether organizational performance has been improved after implementing knowledge.
- To understand what efforts are made by organizations to improve knowledge of the employees.
- To unfurl whether necessary efforts are made by organizations to retain and store the knowledge for future use.
- To understand whether existing knowledge is static or is shared by employees with their colleagues.
- To explore the level of training and the impact it has on augmenting the working knowledge of the employees.
- To explore the current states of KM enablers.
- To study the current KM strategies that are best for augmenting the organizational performance.

Research Design

Introduction

In the current section, the researcher will specify what research methods will be followed for the process. This will not only include the method that will be followed for data collection and analysis, but since the researcher proposes to include a meta-analysis for literature review, the methodologies for literature review will also be discussed. The researcher has also proposed a scientometric and bibliometric analysis and hence a brief methodology for these will also be discussed briefly.

Type of research

In this regard, it may be noted that the proposed research process will be descriptive in nature. Descriptive research is a research process that collects data by employing a sample survey with an intention of investigating the problem in hand. Since, the proposed research intends to study a particular set of constructs, the proposed study will also collect data from these constructs. Collecting quantitative data on the constructs of knowledge, knowledge management and training

makes the concerned research, fundamental research. However, this does not distance the research from knowledge creation. The proposed research is keen to establish a framework which will help in measuring the performance of the organizations. This seems to be a difficult job because ‘measuring organizational performance’ sounds vague and the parameters selected for this measurement is subjective research where the parameters may be selected by observation. This helps in the creation of knowledge in management of private organizations. Hence, the proposed research is pure research from that perspective. However, researches that are performed to unfurl the nature of human behavior in a bid to make generalizations about the impact of knowledge on organization’s performance can be regarded as fundamental research.

Methodology for Literature Review

The methodology that will be used for methodology will be based on meta-analyses. The researcher proposes to use Preferred Reporting Items for Systematic and Meta-Analysis (PRISMA) as a part of literature review, research protocols for PRISMA be established. It is proposed that only those research papers be included that will measure and augment organizational performance through effective use of knowledge and training will be used. For the said purpose, the researcher will follow a 20-year window and collect documents from four different databases. These research papers will then be screened on six different parameters. Based on the finding from these papers a synthesis of knowledge be made that will give theoretical inputs for creation of a measurement frame and to collect data for quantitative analysis.

For the bibliometric analysis, the researcher will collect data from the same databases mentioned earlier and use text mining for extracting theoretical constructs from the network maps. Depending upon the links and link strength that exists between different constructs, the necessity for conducting further research will be established. This will determine whether the proposed research is unique or repetitive.

In the next step the researcher has proposed a scientometric analysis. This will make use of a directed graph and will analyze the author network in terms of the following.

- a. Network overview
- b. Community detection
- c. Node overview
- d. Edge overview

Network overview will calculate the Harmonic Closeness Centrality and Eccentricity of the author networks. Depending upon the network modularity, the researcher will determine whether concerned research community is strong enough or not. This will establish the research in a quantitative way.

Methodology for Data collection and analysis

sampling plan

The sampling plan of the proposed research will collect data from the private Organizations from 7 metro cities of India as mentioned in The Constitution (seventy- fourth Amendment) Act, 1992. These are Kolkata, Bangalore, Chennai, Mumbai, Delhi, Hyderabad, and Pune. The researcher proposes to collect the data from the manufacturing sector. The reason why the manufacturing sector has been selected is because of the fact that Indian manufacturing has been lagging far behind its promise (*A New Growth Formula for Manufacturing in India / McKinsey*,

2020) and is currently on a negative trend (*India: Manufacturing Industry Production Growth Rate / Statista, 2020*). Thus, bolstering the sector is the call of the hour and finding out the potential pitfalls is imperative. On basis of mere 27 million workers in the manufacturing sector (*Manufacturing Employment Nearly Half of What It Was Five Years Ago / Business Standard News, 2021*), the number of respondents can be determined as

$$z^2 \times p(1-p)$$

$$n = \frac{e^2}{1 + \frac{z^2 \times p(1-p)}{e N}}$$

$$= 385$$

Inclusion criteria	<p>Hold a bachelor’s degree at least.</p> <p>Has been a working professional for least 5 years.</p> <p>Has been leading a team 2 years.</p> <p>Has an experience of recruiting for at least 1 year.</p>
Exclusion criteria	<p>Less than 2 years of professional experience.</p> <p>For users, any person outside the India will be excluded.</p>

Data collection

The data will be collected mainly through a questionnaire. The proposed questionnaire will ask questions to the employees on how confident they are about their levels of professions knowledge. The researcher proposes to ask a few questions related to professional responsibilities that they handle and will try to understand whether knowledge is applied properly. It will also ask the respondents about the level of support that they get from the management for augmenting their knowledge.

The researcher will try to form an idea about the role played by the organization to store and retain the knowledge. It will also ask the respondents whether they are interested in sharing their knowledge and what type of support is provided by the organization for propagation of knowledge.

Another important area of study is training. The study will ask questions whether proper training is provided by the organization and whether the respondents think that such training will help them in augmenting the performance of the company.

As a concluding part of the study, the researcher will ask questions to the senior management about how a framework for measuring organizational performance can be created. This part of the data collection will consist of unstructured questions and the data will be used for qualitative analysis. The researcher will ask questions pertaining to defining organizational performance and what are loopholes of the current techniques for measuring organizational performance.

Data analysis

The tests that will be used for analyzing the data will now be briefly discussed in this section.

Quantitative Analysis Correlation:

The researcher proposes to use the correlation to understand the relation between knowledge creation and organizational performance. This will elaborate how much knowledge impacts the performance of the organization. Further the relation between training and organizational performance will be tested.

Structural Equation Modelling (SEM):

SEM will be used to elaborate the relationship between the latent variable and the observed variables. Since, the researcher anticipates that the number of variables will be quite high, it is proposed that Factor Analysis be used for the same purpose and will be used as a data reduction technique. The researcher also proposes to use EFA as a method for this and further use an EFA to CFA method interchange for creating a model of the proposed study. Conceptually, the study will look like this.

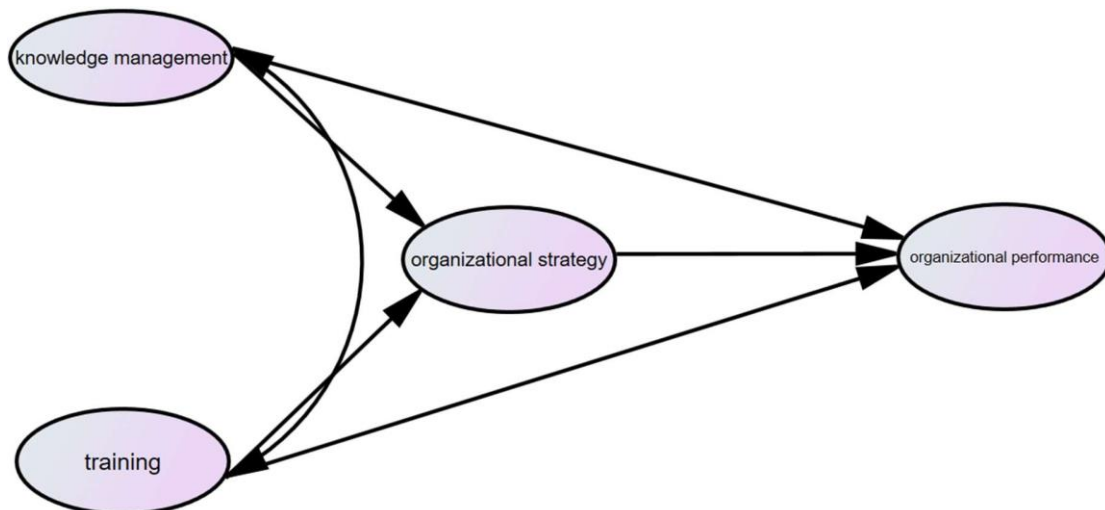


Fig 11: relationship map of organizational strategy and performance

Qualitative Analysis

For qualitative analysis, the researcher proposes to use the following tests for the qualitative analysis. The data for qualitative analysis will come from the HR and the senior management. The researcher proposes to send them a few questions in an open-ended format and request them to share their views on such matter.

Sentiment Analysis:

The researcher proposes to use sentiment analysis on the text that will be returned the higher order officials. The researcher proposes to use R Programming language for the said purpose and display the emerging sentiments in a visual way.

Topic Modelling:

By using Latent Dirichlet Allocation (LDA), the researcher proposes to create a list of topics that will be emerging from the open-ended interviews. This will show what concerns the HR officials and the senior management in as far as knowledge and training is concerned.

Correlation:

The researcher proposes to extract tokens from the corpus of the interview and will test correlation

between the tokens of interest. For example, based on the interview data the researcher will test the correlation between knowledge and organizational performance. In the last section, correlation has been done on quantitative data, whereas in this section, correlation will be done on qualitative data.

ANOVA:

The researcher anticipates that there will be more than three independent groups and hence understanding the difference between the means of the group is deemed necessary. It should be noted here that ANOVA in this case will be performed not on quantitative numbers, but on words.

Case Models:

Case models will show how the different constructs of the study are related to the constructs that have emerged from the interviews.

Gantt chart

Tasks	2022-2024											
	June'22			July'22-Sep'22				Oct'22-Dec'22				
Preparing Proposal												
Submission of Proposal Defense												
Proposal Defense												
Data Collection												
Data screening												
Data Entry												
Introduction and LR												
Review and Correction of Introduction and LR												
Research Methodology												
Review and Correction of Research Methodology												
Statistical testing												
Review and Correction of Statistical												

testing												
Discussion & Findings												
Overall Review of the Dissertation												
Submission to supervisor and doing the final corrections												

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