

# A STUDY ON THE USAGE OF KNOWLEDGE MANAGEMENT PRACTICE IN AVASARALA TECHNOLOGIES LIMITED (ATL)

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**ABSTRACT:** This project deals with the "A Study on the Usage of Knowledge Management" in Avasarala Technologies Limited (ATL). The method adopted for collecting the data for this project is primary data. The data mainly deals with the Usage of Knowledge Management towards employees in the organization.

This explains two fundamental approaches to knowledge management. The tacit knowledge approach emphasizes understanding the kinds of knowledge that individuals in an organization have, moving people to transfer knowledge within an organization, and managing key individuals as knowledge creators and carriers. By contrast, the explicit knowledge approach emphasizes processes for articulating knowledge held by individuals, the design of organizational approaches for creating new knowledge, and the development of systems (including information systems) to disseminate articulated knowledge within an organization. The relative advantages and disadvantages of both approaches to knowledge management are summarized. A synthesis of tacit and knowledge management approaches is recommended to create a hybrid design for the knowledge management practices in a given organization.

We have represented the collected data in the form of tables and diagrammatic representation. The analysis part carried out in this project by using Chi-square test and Correlation through the statistical package SPSS.

Keywords: Knowledge Management, Tacit Knowledge, Chi-square test

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## 1. INTRODUCTION

Managers concerned with implementing knowledge management in their organizations today face a number of challenges in developing sound methods for this still emerging area of management practice. Both the growing literature on knowledge management and the advice offered by various knowledge management consultants, however, seem to advocate forms of knowledge management practice that often appear incomplete, inconsistent, and even contradictory. This paper suggests that the current lack of coherence in the diverse recommendations for knowledge management practice results from the fact that the development of both theory and practice in this emerging field is being driven by two fundamentally different approaches to identifying and managing knowledge in organizations.

## 2. COMPANY PROFILE

Avasarala was started as a project consultancy company in 1985 to lend technical expertise to the Indian machinery manufacturing industry. In a hope to capitalize the latent potential in this segment, the company forayed into manufacturing in 1986. It began indigenous design, development and fabrication of Special Purpose Process Machinery and Automation Systems for diverse client needs in the global arena.

An in-depth understanding of client needs and aligning processes to meet changing demands enabled Avasarala to emerge as a reliable technical partner to a variety of industries.

Leveraging its capabilities as a technically versatile company, it diversified its business interests to allied areas. Today, Avasarala has grown into a diverse corporate entity with an established lead position in niche categories including Engineering Design, Process Machinery, Conveyors & Automation Systems, Electron Guns for picture tubes and CDT, Tungsten Rod, Wire and Powder products, Health Care.

Alliances with world leaders in different fields enabled Avasarala to deliver high quality solutions and consistently update its processes to meet evolving demands. In Healthcare, the technical alliance with Ulco Medical helped it stay at the forefront of medical equipment manufacture.

Identifying new opportunities for growth has been one of the strong points of Avasarala. Backed by the strength of its in-house R & D capabilities, it set up a non-sag tungsten manufacturing facility in Mysore in 1993. Today, it is the undisputed leader in the category, and its products are exported to USA, Europe and other world markets.

Recognitions for the Avasarala's technical excellence have come from different quarters including The Govt. of India CSIR award in process industry category.

Avasarala's commitment to customer delight is endorsed by its highly energized and motivated employees

## 2.1. Vision & Values

### 2.1.1. Vision

To be a globally recognised organisation providing competitive solutions, quality products and services through innovative capabilities.

Core Values & Beliefs: Abide by fair business practices and customer-satisfaction, Empower employees by encouraging pro-active learning and care for their welfare, Foster continuous improvement, innovation and creativity in products and services through aligned thinking, team spirit and a partnering approach, Lead through inspiration and thereby deliver consistent quality, Fulfill commitments by always willing to walk the extra mile, Protect and conserve the company's resources with the same zeal, as one would do with personal resources, Attend to any matter pertaining to customers on an immediate basis, Recognise problems and respond in a positive manner

### 2.1.2. Quality

All the divisions are ISO 9001 - 2000 certified, Healthcare division has CE marking for few of its products, Good House Keeping, Records maintaining & Retrievability of records are supported by practicing 5S, Continuous improvement encouraged by KAIZEN, Machine capability enhanced through TPM, Product Quality ensured by FEM & FMEA, Resonance enhancement & Review methodology for upkeep of QMS, Each of the division is ISO certified and also abides by industry specific norms

### 2.1.3. Quality Policy of Avasarala

The Avasarala Group ensures building customer confidence by providing consistently good quality products and excellence in service through continual improvement of its practices and processes.

### 2.1.4. Quality Objective

Continued training of personnel to imbibe quality as a culture among its people, Strictly adhering to the quality manual in all its operations, To be abreast of the latest technology to become innovative, To be a bench mark in customer services and support, To create an excellent work environment and maintain good house keeping

## 3. REVIEW OF LITERATURE

### 3.1. Knowledge Management (KM)

Truthfully, KM doesn't have one meaning. Everyone defines it differently. But all the varied opinions seem to agree on

one thing-KM is capturing what everyone in your department knows. And capturing what everyone in a legal department knows can make the difference between winning and losing a case, or at the very least between spending thousands of dollars and spending millions.

What KM boils down to is finding ways to minimize redundancy, in turn saving time and cutting costs. How a legal department decides to follow through with this initiative depends on a number of factors. But there are some clear steps you must execute well to build a successful process.

### BY KEITH ECKER

Defining the concept of KM is difficult, since different perspectives of KM can yield different dimensions and meaning. A good KM definition is given by Swan, Scarborough & Preston (1999), who defined it as "any process or practices of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and Performance in organization".

There are two types of KM

1. Explicit
2. Implicit

Explicit: Also referred to as information, this is tangible knowledge.

Example: E-Mails, Status and case updates, Contract and policy templates, Audio content.

Implicit: Also referred to as tacit knowledge, this is information stored inside people's heads.

Example: Expertise in a certain practice area, knowledge about a specific law, knowledge about a specific case.

Knowledge management brings to mind many things to many people. But in a business setting, a practical definition prevails. The basic definition of knowledge management is discussed, as well as those concepts critical to its effective deployment.

This section examines: The effect of knowledge management, how knowledge management is different from information management, types of knowledge, the knowledge chain and its role in measuring the success of knowledge practice and the basic knowledge management applications.

### 3.2. The General Knowledge Model

Knowledge Creation. This comprises activities associated with the entry of new knowledge into the system, and includes knowledge development, discovery and capture.

**Knowledge Retention:** This includes all activities that preserve knowledge and allow it to remain in the system once introduced. It also includes those activities that maintain the viability of knowledge within the system.

**Knowledge Transfer:** This refers to activities associated with the flow of knowledge from one party to another. This includes communication, translation, conversion, filtering and rendering.

**Transfer of Knowledge** improves system quality by providing quick feedback, a variety of alternatives, predictable screen changes, and enhanced customer support.

**Knowledge Utilization:** This includes the activities and events connected with the application of knowledge to business processes.

**Knowledge and Learning within a Project:** Knowledge has a long established role in theories designed to explain organizations and their performance. In earlier theories it appeared under the guise of "technology". Lately, theorists have given knowledge a more explicit role of its own.

This focus on knowledge derives from several key insights:

- Environmental turbulence (e.g., regulatory and technology changes) has forced many organizations to innovate faster and to operate more efficiently. This pressure requires a focus on continual learning and renewal.
- Specialist or distinctive knowledge embodied in products or services can be a source of competitive advantage and therefore drive value creation.
- The means by which organization is effected (lines of authority, integrating committees, etc.) can be conceptualized in terms of knowledge and information processing.
- Knowledge and information have characteristics that distinguish them from other organizational resources, e.g., persistence, negligible cost of duplication, low visibility, and intangibility.

**Protection Processes Using Knowledge Management:** Security-oriented knowledge management processes are those designed to protect the knowledge within an organization from illegal or inappropriate use or theft. For a firm to generate and preserve a competitive advantage, it is vital that its knowledge be protected. Similar to application-oriented processes, this has also received little attention in the literature. Many may assume that a firm can protect its knowledge via patents, trademarks, copyrights, and so on. However, not all knowledge can be defined according to property laws and property rights. Because protecting knowledge is inherently difficult, it should not be abandoned or marginalized. Steps can be taken to protect

the asset, such as incentive alignment, employee conduct rules, or job designs. In addition, an organization can develop technology that restricts or tracks access to vital knowledge. Irrespective of the difficulty in protecting knowledge, it is a process that is important for an organization. For an asset to be the source of a competitive advantage, it needs to be rare and inimitable. Without security-oriented processes, knowledge loses these important qualities.

### 3.3. Knowledge Management Applications

The four key applications of knowledge management are based on a model that regards knowledge management's primary role as the sharing of knowledge throughout the organization in a way that each individual or group understands the knowledge with sufficient depth and in sufficient context as to apply it effectively in decision making and innovation.

#### Intermediation

Intermediation is the connection between knowledge and people. Intermediation refers to the brokerage function of bringing together those who seek a certain piece of knowledge with those who are able to provide that piece of knowledge. It is a fundamental step in internal and external responsiveness. Its role is to "match" a knowledge seeker with the optimal personal source(s) of knowledge for that seeker. Two types of intermediation are common, asynchronous and synchronous.

Asynchronous intermediation occurs when externalization and internalization do not occur simultaneously. In this case, an external knowledge repository stores the knowledge while it is in transit. Knowledge is captured in the knowledge base, often before a specific need for that knowledge elsewhere in the organization has arisen. When a knowledge seeker requires that knowledge, the knowledge base can be searched and the relevant knowledge extracted. This approach is typically best suited to explicit knowledge.

Synchronous intermediation occurs when externalization and internalization occur simultaneously. Knowledge is not stored while being transferred. Knowledge provider and knowledge seeker engage in direct communication. The challenge is to match knowledge providers with knowledge seekers intuitively and in a timely manner. This approach is far more common in tacit knowledge transfer.

#### Externalization

Externalization is the connection of knowledge to knowledge. It refers to the process of capturing knowledge in an external repository and organizing the knowledge according to some classification framework or ontology. A map or structure of the knowledge collection is provided as a facilitator to knowledge discovery. It is focused on bringing order to internal and external awareness.

### Internalization

Internalization is the connection of knowledge to query. It is the extraction of knowledge from an externalized repository, and filtering it to provide personal relevance to the knowledge seeker. Closely tied to an externalized knowledge base, internalization reshapes the knowledge base specifically to address the focal point of the query issuer.

### Cognition

Cognition is the linking of knowledge to process. It is the process of making or mapping decisions based on available knowledge. Cognition is the application of knowledge that has been exchanged through the preceding three functions. It is a highly proactive form of internal and external responsiveness. In its simplest form, cognition is achieved by applying experience to determine the most suitable outcome to an unprecedented event, opportunity or challenge.

## 4. OBJECTIVES & LIMITATIONS

### 4.1. Objectives of the Project

1. To study the best HR practices of Knowledge Management in ATL.
2. Understand the present status of Knowledge Management in ATL.
3. Identify the strengths and weaknesses of Knowledge Management in ATL and also suggest for converting the weaknesses in to strength.
4. To study the employee satisfaction about the supervision in ATL.
5. To create awareness about Knowledge Management and its policies.

### 4.2. Limitations of the Project

Most of the respondents were uncomfortable in answering many questions in the questionnaire as they were not aware of Knowledge Management.

## 5. RESEARCH METHODOLOGY

### 5.1. Collection of Data

Collection means the assembling, for the purpose of particular investigation of entirely new data, presumably not already available in published sources. The task of data collection begins after a research problem has been defined and research design plan chalked out. While deciding about

the method of data collection to be used for the study, the researcher should keep in mind two types of data viz., Primary data and Secondary data.

The primary data are those, which are collected afresh, and the first time. And thus happen to be original in character.

The secondary data, on the other hand, are those which have already been collected by someone else and which have already been passed through the statistical process.

The method of collecting primary data and secondary data differs, since primary data are collected originally while in case of secondary data the nature of collection work is merely that of compilation.

According to Prof. J. Medhi, "Data is termed primary when the data collected for the first time by the investigation and is termed secondary when the data are taken from records or data already available".

### 5.1.1. Sources Of Primary Data

There are several methods of collecting primary data particularly in surveys and descriptive researches. Important ones are:

1. Observation method
2. Interview method
3. Through questionnaires
4. Through schedules

In the words of Prof.C.B.Gupta the term primary data refers to the statistical material which the investigator originates for the purpose of the inquiry in hand and the term secondary data on the other hand refers to that statistical material this is not originated by the investigator himself, but which he obtain from someone else's records".

### 5.1.2. Advantages of Primary Data

1. It addresses the research question.
2. The collection method is known.
3. The exact data needed are collected.

### 5.1.3. Disadvantages of Primary Data

1. Collecting and analysing data can be expensive.
2. Researcher must have the necessary skills to conduct primary research.

### 5.1.4. Sampling Method

There are many methods sampling, In that the most widely used method is Convenient Sampling Method.

Convenient Sampling Method: Convenience or opportunistic sampling is the crudest type of non-random sampling. This involves selecting the most convenient group available.

Example: Using the first 20 colleagues you see at work.

## 5.2. Tabulation

Tabulation is the process of representing the data collected through survey, experiments, etc in rows and columns so that it can be more easily understood and can be used for further analysis.

A table is a systematic arrangement of statistical data in rows and columns. Rows are horizontal arrangement, whereas columns are vertical ones.

The purpose of a table is to simplify the presentation and to facilitate comparisons. The simplification results from the clear cut and systematic arrangements, which enables the reader to quickly locate desired information. Comparison is facilitated by bringing related items of information close together.

There are number of parts of a table may vary from case to case depending upon the given data. They are number table, title of the table, caption, and body of the table, head note, and footnote. There are two types of table. They are simple, complex tables and general, special purpose tables.

## 5.3. Bar Diagrams

Bar diagram is a popular form of diagrammatic representation. This diagram consists of a series of rectangular bars standing on a common base. The bars are all of equal width and equi spaced. The lengths of the bars are proportional to their magnitude. The comparison among the bars is based only on lengths. This type of diagrams is called one-dimensional diagram. Bar diagrams are of two types:

1. Vertical bar diagrams
2. Horizontal bar diagrams.

The bar diagrams can be classified as:

1. Simple bar diagram
2. Multiple bar diagram
3. Component or sub-divided bar diagram
4. Percentage bar diagram

## 5.4. Pie Diagram

A pie diagram is pictorial representation of a statistical data with several sub-divisions in a circular form. Component bar diagrams can also be drawn for such a data. But pie diagram is more appealing to eyes for comparison.

For Example: The distribution of the revenue (cost, sales, profit, reserve, etc.) of a company can be represented in a pie diagram.

A pie diagram consists of a circle sub-divided into several sectors by radius. The area of the sectors is proportional to the values of the components. In order to draw a pie diagram the different values of the components are expressed in degrees taking the whole value as 3600. A circle is drawn with convenient radius and different sectors are drawn with these angles at the centre. A look at the diagram will be more appealing if different colours are given to different sectors.

## 5.5. Testing of Hypothesis

A hypothesis, or more specifically a statistical hypothesis, is some statement about Population parameter or about a population parameter or about a population distribution. If the population is large, there is no way of analyzing the population or of testing the Hypothesis directly. Instead, the hypothesis is tested on the basis of the outcome of a Random sample.

Hypothesis is usually considered as the principal instrument in research its main function is to suggest new experiments and observation. In fact many experiments are carried out with the deliberate object of testing hypothesis. Decision - makers often face situations where in they are interested in testing hypotheses on the basis of available information and then take decisions on the basis of such testing.

The basic concepts in the context of testing of hypothesis need to be explained.

- Null hypothesis &
- Alternative hypothesis

The null hypothesis is generally symbolized as  $H_0$  and alternative hypothesis as  $H_a$ . The alternative and null hypothesis is chosen before the sample is drawn. Alternative hypothesis is usually the one which one wishes to prove and the null hypothesis is the one which one wishes to disprove. Thus a null hypothesis represents the hypothesis we are trying to reject, and Alternative hypothesis represents all other possibilities. Null hypothesis should always be specific hypothesis. That is, it should not state about or approximately a certain value.

To test a hypothesis means to tell whether or not the hypothesis seems to be valid. In Hypothesis testing the main question is: Whether to accept the null hypothesis or not to Accept the null hypothesis. Procedure for hypothesis testing refers to all those steps that We undertake for making a choice between the two action. That is, rejection and Acceptance of a null hypothesis. The various steps involved In hypothesis testing can be depicted in the form of a flow chart.

A statistical hypothesis is some statement or assertion about a population or equivalently about the probability distribution characterizing a population, which we want to verify on the basis of information available from a sample. If the statistical hypothesis specifies the population completely then it is termed as a simple statistical hypothesis otherwise it is called a composite statistical hypothesis.

### 5.6.1 Chi-square Distribution

The chi-square test is an important test amongst the several tests of significance developed by Prof. Pearson. Chi-square symbolically written as  $\chi^2$  is a statistical measure used in the context of sampling analysis for comparing a variance to a theoretical variance. As a non-parametric test, it can be used to determine if categorical data shows dependency or the two classifications are independent. It can also be used to make comparisons between theoretical populations and actual data when categories are used. Thus, the chi-square test is applicable in large number of problems. The square of standard normal variates is known as chi-square variates with 1 degree of freedom

Thus if  $X \sim N(\mu, \sigma^2)$  then  $Z = (X - \mu) / \sigma \sim N(0, 1)$  and  $Z^2 = (X - \mu / \sigma)^2$  is a chi-square variate with n degrees of freedom.

In general if  $X_i (i = 1, 2, \dots, n)$  are n independent normal variates with mean  $\mu$  and variance  $\sigma_i^2 (i = 1, 2, \dots, n)$  then

$\chi^2 = \sum (X_i - \mu_i / \sigma_i)^2$  is a chi-square variates with n degrees of freedom.

$\chi^2$  tests are also used to test of goodness of fit and also as a test of independence in which case it is a non-parametric test.

### 5.6.2. Chi-square Test of Goodness of Fit

A very powerful test for testing the significance between theory and experiment was given by Prof. Karl Pearson in 1900 and is known as chi-square test of goodness of fit.

It enables us to find if the deviation if the experiment from theory is just by chance. If  $O_i (i = 1, 2, \dots, n)$  in set of observed frequencies and  $E_i$  is the corresponding set of expected frequencies, then Karl Pearson  $\chi^2$  is given by

$\chi^2 = \sum [(O_i - E_i)^2 / E_i]$  follows chi-square with (n - 1) degrees of freedom.

### 5.6.3 Chi-square Test of Independence

$\chi^2$  tests enable us to explain whether or not two attributes are associated. In order that we may apply the chi-square test either as a test of goodness of fit or as a test to judge the significance of association between attributes. It is necessary that the observed as well as theoretical or expected frequencies must be grouped in the same way and the

theoretical distribution must be adjusted to give the same total frequency as we find in case of observed distribution  $\chi^2$  is the calculated as follows:

$$\chi^2 = \sum (O_{ij} - E_{ij})^2 / E_{ij}$$

where,

$O_{ij}$  - observed frequency of the cell in the  $i^{\text{th}}$  row and  $j^{\text{th}}$  column.

$E_{ij}$  - expected frequency of the cell in the  $i^{\text{th}}$  row and  $j^{\text{th}}$  column.

If two distribution (Observed and theoretical) are exactly alike,  $\chi^2 = 0$ ; but generally due to sampling error,  $\chi^2$  is not to zero and as we must know the sampling.

Whether or not a calculated value of  $\chi^2$  is equal to or exceeds the table value, the different between the observed and expected frequencies is taken as significant, but if the table value is more than the calculated value of  $\chi^2$ . Then the difference is considered as not significant.

## 6. DATA ANALYSIS & INTERPRETATION

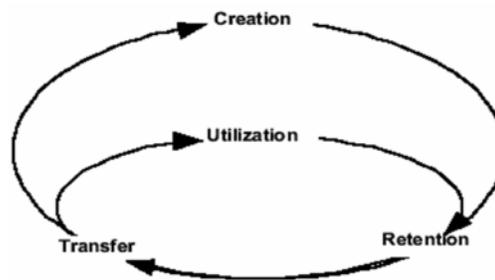


Chart 6.1: Current Status of Knowledge Management in ATL

### Inference

From the above bar diagram, we interpret that the current status of the knowledge management of ATL is in introduction stage.

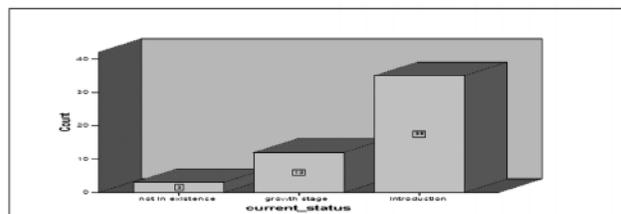


Chart 6.2: Role of Knowledge Management in ATL

### Inference

From the above pie chart, we infer that 34 out of 50 employees are feeling that knowledge management is a strategy part of their business.

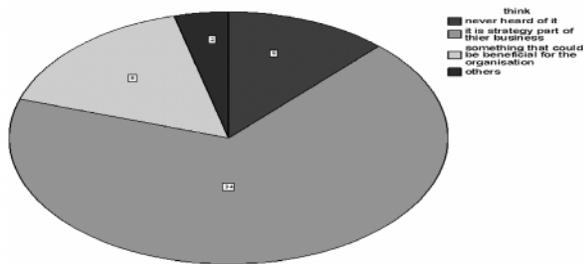


Chart 6.3: Age vs. Time Take for an Employee to Get the Relevant Knowledge in ATL

**Inference**

From the above bar diagram, we infer that the employee gets the relevant knowledge in a week or more in the age group 20-25

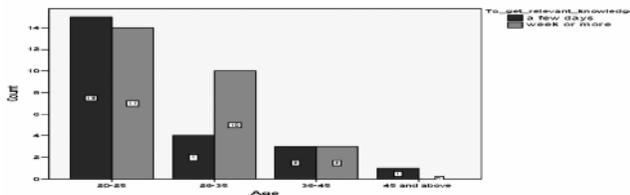


Chart 6.4 : ATL with Respect to New Knowledge Creation

**Inference**

From the above bar diagram, we infer that 44% of the employee thinks that the new knowledge creation is a part of the organizational philosophy and culture.

Table 6.5  
Frequency Table of how Employees can be Motivated Using Knowledge Management

		Count
Provided Feedback	good	36
	fair	14
	poor	0
Led by example	good	42
	fair	8
	poor	0
Followed policies	good	40
	fair	10
	poor	0
Resolved complaints	good	38
	fair	8
	poor	4

**Inference**

From the above frequency table, we infer that the employees are motivated good using knowledge management

**7. FINDINGS OF THE STUDY**

**7.1. Findings**

There are more male (82%) workers when compared to female (18%), Most of the workers belong to the age group 20-25(58%), The current status of the knowledge management of ATL is in introduction stage, 68% of the employees are feeling that knowledge management is a strategy part of their business, Employees getting relevant knowledge in a week or more in the age group 20-25, Most of the employees are don't want to leave organization, 44% of the employee thinks that the new knowledge creation is a part of the organizational philosophy and culture, In ATL, Gender is independent of facing difficulties in the company, In ATL, Employees are motivated good using knowledge management

**8. CONCLUSION & SUGGESTION**

**8.1. Conclusion**

Current status of the knowledge management of ATL is in introduction stage, In ATL they think knowledge management as a strategic part of their business, In ATL using knowledge management they satisfy their employees by Providing all necessary facilities, In ATL, employees are motivated good using knowledge management, In ATL, the new knowledge creation is a part of the organizational philosophy and culture.

**8.2. Suggestion**

The management can appoint trainer who know the language of low level and higher level employees.

**9. SCOPE FOR THE STUDY**

Since the study is general one, it can be adopted by many organizations, The Suggestion of the study can also be applied to similar project or situation, The study paves a way as a reference for the further study.

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