

The types of knowledge management



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The backgrounds of the knowledge management are not new. Anyway the idea which is collected here gives the better knowledge about the tacit and explicit. This paper prescribes the ideas of about knowledge, knowledge management, in knowledge management a practise of explicit and tacit knowledge, basic information about the conversation of tacit to explicit knowledge, and the comparison of both. Before seen this we have to get complete knowledge about the things which mention before. Here filled the very basic information about the knowledge, knowledge management, tacit and explicit knowledge. Knowledge is an capability or a ability acquire the man through the understanding. To manage this knowledge human implements the process called Knowledge management. In this management they need lots principles, tools, rules to manage the knowledge in a effective manner. For that they found the explicit knowledge and the tacit knowledge. The paper is primarily discussed about this two thing and filled by some ideas to make more effective in future. Knowledge management is playing a vital role in all industries likes software, hardware, education, and soon. Schools and Colleges help the students to collect the knowledge from various subjects. The working places help them to know how to implement that knowledge in a effective manner. So each every part of the human life knowledge management plays a major role. The following investigation explains briefly about the knowledge, how to manage the knowledge by using the knowledge management, and participation of explicit and tacit knowledge in knowledge management, comparison of both tacit and explicit.

LITERATURE REVIEW:

KNOWLEDGE:

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WHAT IS KNOWLEDGE?

From the long ago this question is discussed by philosophers but still they cannot give exact meaning for ' Knowledge'. Most of the philosophers consider the knowledge is a mystery, which means something that baffles understanding and cannot be explained. For example, a story about a crime (usually a murder) presented as a novel or play or movie. In this case we can understand what's happening there but we cannot explain that well. So we make an attempt to explain about knowledge in the rough sense, it is useful to look how we try to describe it.

On the other hand ' knowledge' is considered as intelligence, experience or skills. One sensational in appearance of intelligent behavior is clearly considered as knowledge. In the words Hessen's, ' the knowledge is a relation between the content of thinking and its object' which means it's a form of thinking, and thinking is a form of doing. (Ronald J. Brachman, Hector J. Levesque 2004).

Here try to explain the knowledge with two types of conversation, ' Knowing that (facts and information) and Knowing how (ability to do something)'.

Mostly we use the word ' knowledge' to know information or to gather the information. In the philosophy of knowing how, if we know to ride a cycle we cannot seek at the movement, bravely we took the cycle and start to ride, but we don't know to ride the cycle, we ask someone to teach. Here we trying to know and do something. On the other hand, In the philosophy of know that, some we cannot identify the thing that we doing is true or false.

But we do in these it may be true. But most of the times we used to do only the thing after we know about that, it is absolutely true.

(http://www.trans4mind.com/personal_development/Philos/WhatIsKnowledge.htm)

DEFINITION OF KNOWLEDGE:

Dictionary definition of knowledge is:

‘ Acquaintance with the Facts, truth, or principle, as from study or investigation’. The Term knowledge is also mean that ‘ confident understanding of subjects’. Another definition ‘ The sum of what is known: the body of truth, information, and principles acquired by mankind’ (Ron Young, CEO/CKO Knowledge Associates International)

Webster defines knowledge as ‘ the fact of knowing something with familiarity gained through experience or association’. And the another definition of Webster is ‘ the sum of what is know: the body of truth, information, and principles acquired by mankind’. (Webster, <http://www.gao.gov/cghome/2005/ke01112005/img1.html>)

THE GENERAL MODELS OF KNOWLEDGE:

- ‘ Knowledge Creation
- ‘ Knowledge Retention
- ‘ Knowledge Transfer
- ‘ Knowledge Utilization

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Figure 1: General models of knowledge

KNOWLEDGE CREATION:

This is the first model in Knowledge, it is an activity that affiliates among immersions of latest knowledge systems and contains improvement in knowledge , discovery and capture.

KNOWLEDGE RETENTION:

The retention model is all about behaviours that conserve knowledge and allow stay in the system formerly introduce. It is also include performance of persons that maintain capabilities of understanding inside the structure.

KNOWLEDGE TRANSFER:

This model is associated with course of information from one individual to one more, and also contains filtering, rendering, conversation and translation.

KNOWLEDGE UTILIZATION:

The utilization model is used to utilize the proceedings and performance connected with the function of industrial processes. (Ron Young, CEO/CKO Knowledge Associates International)

TYPES OF KNOWLEDGE:

Philosopher's categories the knowledge into three different types:

1. Personal knowledge

2. Procedural Knowledge

3. Propositional Knowledge

PERSONAL KNOWLEDGE:

Personal Knowledge is the first kind of knowledge or knowledge by acquaintance means information about something. If we know something confidently we can say 'I know to play cricket', this kind of knowledge is known as personal knowledge.

PROCEDURAL KNOWLEDGE:

Procedural knowledge, is the second kind of knowledge or knowledge is about 'how to do something'. The human beings who knows how to drive, how to juggle or who can understand the situation and learn how to do the work consider as procedural language. According to their basic skills only they can do well what they learn exactly, this kind of things we can say as Procedural Knowledge.

PROPOSITIONAL KNOWLEDGE:

Propositional Knowledge is the third kind of knowledge. It is also known as 'Knowledge of facts'. We can judge some facts after it happens, like we used say sometimes 'I know that it was you that you take my biscuits'. Philosophers used to say this kind of reaction is known as propositional knowledge.

(<http://www.theoryofknowledge.info/typesofknowledge.html>)

KNOWLEDGE MANAGEMENT:

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Knowledge management is the targeted skilful and effective interaction movements in knowledge. In other words, the knowledge management is not only the managing of knowledge, but its an process of managing the organisation with a detail focus on knowledge. It is central resources that accept us to function intelligently. Knowledge management is also the transformation to other clear appearances such as traditions, technologies, books and practices within organisation of all kinds and in society in general. There is two related aspects in knowledge

1. Knowledge Asset ‘ to be applied or developed must be preserved, nurtured and used ti large extent possible by both organisations and individual.
2. Knowledge-Related process ‘ to organize, apply, compile, transform, build, create, transfer and safe guard knowledge must be explicated managed in all affected areas.(http://www.km-forum.org/what_is.htm)

DEFINITION OF KNOWLEDGE MANAGEMENT:

There are several definitions are there to explain the Knowledge Management. One of the valid and understandable definitions for an knowledge Management is given Below:

1. ‘ Knowledge Management is the discipline of enabling individuals, teams and entire organisations to collectively and systematically create, share and apply knowledge, to better achieve their objectives’ (<http://www.treasury.govt.nz/publications/research-policy/ppp/2005/05-05/03.html>)

2. ‘ Knowledge management will deliver outstanding collaboration and partnership working. It will ensure the region maximizes the value of its information and Knowledge assets and it will help its citizens to use their creativity and skills better, leading to improved effective and greater innovations’. [Ron Young, CEO/CKO Knowledge Associates International]

BASIC OF KNOWLEDGE MANAGEMENT:

Basic of Knowledge Management by Neil Fleming as a basis for thought related to the following diagrams:

Fig 2 Categories of knowledge management

‘ Collection of information is not knowledge.

‘ Collection of knowledge is not wisdom.

‘ Collection of wisdom is not a truth.

‘ Collection of data is not information.

DATA: It comes about through research, creation, gathering, and discovery.

INFORMATION: It has perspective. Data is twisted into information by organizing it, so that we can easily draw conclusion. Data is also turned into information by presenting, such as making is visual or auditory.

KNOWLEDGE: It has difficulty of experience which come about by seeing it from different perspectives. One cannot count the person’s knowledge transferring to another. It is built from observing from the learner from

beginning to end experience. Knowledge is dynamic, but the information is static.

WISDOM: It is extreme level of understanding. Knowledge and wisdom operates with us, so we can share our experience that creates the building blocks for wisdom. It needs to be communicating with even more understanding of the personal contexts of our viewers than with knowledge sharing.

The difference between the data, information, knowledge and wisdom are not very distinct. Data and information deals with the past, deals on the gathering of facts and adding contexts. Knowledge deals with present. When we got the wisdom start dealing with the future.

BASIC CONCEPTS:

Human beings use their brain to carry out physical and mental activities. They use that action to their surrounding according the experiences in a particular field. Every individual having a separate way of conceiving something, conceive something is a process of brain. The communication between conceiving and action is called as Individual learning, with memory acting as cognitive subsystems. (See figure. 3)

Fig. 3 Individual Knowledge Management

Based on the above concept, an individual human knowledge can be classified as the set of all possible actions, an individual can act in all actions at a given time. Knowledge management represents individual possible memory states that used to link the people for develop the organisation. In

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the organisation individual cannot perform their action, so have to spread the knowledge to other individuals, without the help of other individuals, each and every individual have different skill and information for a particular actions. But all individual can act only with knowledge base, the collection of each and every individuals action and performance is known as organisational knowledge. The group Individual are divide in two, they are divided as Knowledge domain A and Knowledge Domain B, the peoples used to gather the information from the knowledge base, the information will transfer to the domains A and B. From that Domain the group of Individuals convert the information and skills as action. (Fig 4)

Fig 4 Organisational Knowledge

In this organisational knowledge, organisational learning is the process to change the knowledge base and usually refers to illustrate by individual people and groups. This includes continuous process of perceiving in the environment like market changes; technology trends and approximate reaction to changes like improve business process and new strategies. There are two important divisions of collective knowledge base. They are:

1. Individual knowledge of the members of the organisation.
2. Framework that connects them.

All people and groups in an organisation provide a particular quality or characteristics to the collective knowledge base. In this process all information and collective data come from the wide range of different tasks,

business process and projects. All this process should be planned in individual knowledge domains, each carrying with a specific area or subject.

TYPES OF KNOWLEDGE MANAGEMENT:

The knowledge management is categorized into six different types of knowledge.

They are listed below:

1. Knowledge psychology
2. Declarative knowledge
3. Explicit knowledge
4. Tacit knowledge
5. Individual knowledge
6. Collective knowledge

KNOWLEDGE PSYCHOLOGY:

Knowledge psychology is nothing but differentiates between declarative and procedural knowledge.

PROCEDURAL KNOWLEDGE:

Procedural knowledge is the way of related process and action performed. Declarative knowledge is also prescribed as knowledge of knowing (something) or 'know what'. Procedural knowledge is also prescribed as process knowledge or 'know-how' (Fig. 5). The procedural and declarative knowledge is used to build the structure on knowledge base. And it may

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create the aware of the knowledge and can express it. This results in difference between tacit an explicit knowledge.

TACIT KNOWLEDGE:

Tacit knowledge is knowledge ' knower' is not aware of. It can be response and thus express, with great cause and the use of special observation and interview techniques (Fig. 5).

EXPLICIT KNOWLEDGE:

Explicit knowledge, is knowledge that what we understood and can be express that in certain way. In other words, knowledge the ' knower' is aware of ant talk about that what we understood (Fig. 5).

INDIVIDUAL KNOWLEDGE:

Individual knowledge is knowledge applied by one human. It is not depend on the specific unique circumstance, and is controlled by one person (Fig. 5).

COLLECTIVE KNOWLEDGE:

Collective knowledge is knowledge that applicable in a certain environment like companies, clubs, etc. It is not an individual thing, group individuals have to apply their collective knowledge to develop the organization in an effective manner. For example, a single man cannot able to perform the effective music album; group talented persons in specific musician have to combine to create an effective music album. It can also contain the knowledge shared by everyone in a group (Fig. 5).

(Manfred Boremann, Graz and Austria,(2003)An Illustrate guide to Knowledge management)

Fig 5 Types of Knowledge Management

ADVANTAGES OF KNOWLEDGE MANAGEMENT:

‘ Knowledge leads people in their use of information so that they make better decisions, judgements and more effective.

‘ Most of the organisations learned the worth of knowledge the hard way they lost access to it through worst organisation or ‘ downsizing’.

‘ Some organisations have turn out to be more advance and adjustable through knowledge and innovation.

‘ Learning of knowledge management may increase the organisation growth, effective decision making and developing and implement new business models.

‘ Sharing of learned knowledge may improve the team collaboration and coordination.

‘ Collection of information by an individual or group of individuals may used to make creative ideas and creativity.

‘ Knowledge Management improve the discipline of sharing, evaluating, identifying, capturing and retrieving an information asset.

(Davenport T. H. and Prusak L. (1998)working Knowledge: How Organisations Manage What They know, Harvard Business School Press, Boston)

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TACIT KNOWLEDGE:**DEFINITION:**

‘ Tacit refers to something done or made in silence. A tacit understanding is manifested by the fact that no contradiction or objection is made and is thus inferred from the situation and the circumstances’.

(West Midlands Regional Observatory, UK)

MEANING OF TACIT KNOWLEDGE:

Tacit Knowledge means integral to the entirety of a person’s consciousness. It is acquired largely through association with other people, and it requires joint or shared activities to be imparted from one to another. Concept of Tacit knowledge is introduced by the Hungarian philosopher-chemist (Michael Polanyi (189-1976)) in his book Tacit Dimensions also called the informal knowledge. TACIT, that which, although not articulated, is understood from the nature, or from the provision of law.

The Tacit knowledge collection of all those things that we know well how to do but do not know how to explain that. The term Tacit knowledge is an biographical detail is not incidental, the account of how science proceeds was massively weighted towards the propositional, encoded, formulaic knowledge that is exchanged between laboratories, and totally unaware of the set of skills that are required to actually work in one of those laboratories. Tacit knowledge means there is a type of knowledge that is not captured by language or mathematics.

Tacit knowledge is also hard to articulate with formal languages. Before the tacit knowledge can be communicated, must be converted in to words, models, or numbers that can be understood. But the personal knowledge entrenched in individual experience and involves factors such as personal principle, and value systems.

The tacit knowledge are categorised into two Dimensions:

‘ Technical Dimension (procedural).

‘ Cognitive Dimension.

TECHNICAL DIMENSION:

Technical dimensions encompasses the kind of informal and skill often in term know-how. For example, the craftsperson develops a wealth of expertise after years of experience. But he often has difficulty articulating the technical or scientific principles of his craft. Personal insight and highly subjective, institution, inspirations and hunches derived from bodily experience fall into this dimension.

COGNITIVE DIMENSION:

It consists of ideas, values, perceptions, beliefs, emotions and mental models, ingrained in us that we take them for granted. They cannot be articulated very easily, this dimension of tacit knowledge shapes the way we perceive the world around us.

COMPETITIVE CAPABILITIES IS A SOURCE OF TACIT KNOWLEDGE:

It underlies many competitive capabilities. Experience, stored as tacit knowledge often reaches consciousness in the form of insight, flashes and intuitions of inspiration. Marvellous capacity of our mind to make sense of our previous experience of collection and to connect patterns from past to the present and future is essential in the innovation process. Tacit knowledge is far less tangible and is deeply embedded into an organisation's operating practices is called organisational culture. It includes relationship, values, norms, and standard operating procedures. Because Tacit is much harder to copy, detail and distribute. Tacit knowledge can be a sustainable source of competitive advantage, this increasingly differentiates success and a failure is how you will locate, blind and leverage available explicit knowledge with internally generated tacit knowledge.

(West's Encyclopedia of American Law, edition 2)

EXPLICIT KNOWLEDGE:

DEFINITION:

' The Explicit knowledge is articulated knowledge, expressed and recorded as number, codes, words, musical notations and scientific formula. It is easy to communicate, distribute and store and the knowledge found in on the book and web and oral means and other visuals. It is quite opposite to tacit knowledge'.

MEANING OF EXPLICIT KNOWLEDGE:

Explicit knowledge is a consciously understood and it can be articulated, other words , knowledge the ' knower' is aware of and can talk about that.

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On the other hand explicit knowledge is knowledge that can be quantified. It can be clearly communicated and written down to another human being and it's tangible and no need to gain experience, something converted to a rule. It is the type of knowledge conveyed through books, similar, articles and video presentation. For this no need to have direct experience with something to have explicit knowledge about that. For example, one of the criticisms of college students who are just graduating. They have lot of book knowledge (explicit knowledge).

Explicit knowledge is that the knower can explicit by means of a verbal statement: Someone as the explicit knowledge of something if a statement of it can be elicited from him by suitable knowledge promoting and enquiry. Explicit knowledge tests of recall or recognition whether the subject still knows in the every sense, which word are in the list.

(vadim Kotelnkov, founder of ten3 Business e-coach)

RELATIONSHIP BETWEEN TACIT AND EXPLICIT:

Even though useful in theory as a means or remind organisations to deal with the whole of their knowledge base, the tacit-explicit relationship does not effectively serve to guide organisations through the knowledge handle process. An sufficient knowledge view should, first and primary help in tuning planned goals to knowledge goals further should help in influential and realizing knowledge formalisation possibilities. The tacit-explicit come up to near misses on both accounts.

FORMALISATION ISSUES:

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The relationship between within the knowledge management narrates relation of tacit and explicit types mostly on the basis of ease of transfer or codification or formalisation. Spender's (1996) account deviate slightly in the recognition of tacit knowledge that is not yet explicated, thus signifying that it exists on a variety and can potentially be formalized. Attempt at operationalising the tacit and explicit approach are multifaceted and limited, as we see all the way through the examinations of, for instance, Schulz and Jobe (2001) and Davenport and prusak (2000), their somewhat indistinct of knowledge codification congregate more or less the idea of knowledge richness or abstractness of knowledge determines whether it should be managed all the way through people(tacit) or all the way through technology.

Fig 6 Tacit and explicit knowledge mapped to formalisation possibility

The figure displays three potential states:

1. Tacit knowledge cannot be formalised
2. Tacit knowledge can be formalised
3. Knowledge is explicit

These states in turn expose what we deem as the key deficiency in the tacit and explicit approach to knowledge management.

1. It does not consider the knowledge is formalization.
2. It does not relation for knowledge that falls in between the dichotomous range of formalization and non-formalization knowledge.

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3. While the knowledge is deemed not formalization, it does not explain what it is that people have when we say they have knowledge, nor does it explain how we exploit human capability for tacit knowledge management.

4. While knowledge is deemed formalization, it does not help to pick and estimate knowledge demonstration formalisms such as text, database records, formulas, flowcharts and rules.

5. While knowledge is already explicit, it does not support the improvement of the demonstration, nor does it help in decide to move a further to knowledge demonstration formalism.

6. While knowledge is explicit, it does not help determining the value of rendering explicit knowledge more efficient, maintainable and transparent. (Polanyi, M(1983), Ruler, G(1960), the concept of mind, Dummett 1991.)

CONVERTING THE TACIT KNOWLEDGE INTO EXPLICIT KNOWLEDGE:

Efficient Knowledge management requires a uninterrupted knowledge conversation process. According to the Nonaka and Takeuchi, the contextualization in medical field provided by Stefanelli, it represents a social procedure between individuals and not confined within an individual. The following four modes of knowledge conversation have been postulated below
Figure:

1. Externalization
2. Combination
3. Internalization

4. Socialisation

Fig 7 the knowledge conversation process

‘ EXTERNALIZATION: It is the procedure of conversation of tacit into explicit knowledge, for example, the translation of a scientific trial result into a suggestion for clinical practice.

‘ COMBINATION: It is the mode of inspiring the obtainable explicit knowledge to procedure new bodies of knowledge, for example combining medical and organisational knowledge into a resolution support system.

‘ INTERNALIZATION: It is the method of individual learning by frequently executing an movement applying some type of explicit knowledge. For example, a CPG, and engrossing the relationship between actions and results as new personal tacit Knowledge.

‘ SOCIALIZATION: It is the mode of knowledge by sharing experiences that creates tacit knowledge as shared mental model and professional skills, For example, apprentices learning process, or expert consensus achievement during medical meetings.

(Van Der Smagt, A. G. N (1985), Thesis PhD, University of Nijmegen; Zack, M. And Sernio, M(2000) ‘ Knowledge management and collaboration technologies’)

Polanyi’s dispute is that ‘ language’ is key aspect to identify tacit and explicit knowledge, We can see from below figure:

Fig 8 Polanyi’s argument on tacit and explicit knowledge

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Nokana and Takeuchi (1995), they followed Polanyi's dispute about differentiate of tacit and explicit knowledge. They both viewed tacit knowledge as together with cognitive and technical elements. The theory of knowledge is throughout a continuous and dynamic communication between the tacit and explicit knowledge. Specially, knowledge formation occurs through four models of conversation of tacit knowledge and explicit knowledge, they are socialisation, combination, externalisation and internalisation. They argued that the knowledge is shaped only by individuals and not restrained within the individuals.

Table 1 Explanation of process from tacit to explicit knowledge

The above table explain the process of tacit to explicit was externalisation. In the conversion process, the tacit knowledge forms the shapes of metaphors, concepts, analogies, models or hypotheses. They proposed the different concepts of knowledge conversation process and they viewed organisations as knowledge repositories. Knowledge of a structure resides necessary in a memory and is stored in organizational routines. The operational knowledge in organizations exists at a tacit level and routines are transporter of such knowledge agent. Information is essentially stored largely in memories of the members in organisation, which resides all the knowledge, articulates and tacit, that constitutes their individual skills. They consider organisations offer the context that underlies the act of understanding by its members and subsequently the background knowledge that the implementation of skill performance. The various forms of external memory are message board, manuals, computers, files, memories, these are maintained in a huge part as a regular organisation functions. And also it includes the physical state of

apparatus and work surroundings generally. By the side of the context of the information infatuated by an individual member is recognized by the information infatuated by all the members. Individual memories are linked by collective experiences of the earlier period.

RESEARCH APPROACH:

APPROACHES TO KNOWLEDGE MANAGEMENT PRACTICE:

‘ TACIT KNOWLEDGE’ versus ‘ EXPLICIT KNOWLEDGE’:

This investigation helps us to understand and explain two fundamental approaches. They are tacit and explicit approaches,

The approach of TACIT knowledge accents understanding the individuals king of knowledge in an organisation make the people to transfer knowledge within the organisation, the people managing the key as knowledge carriers and creators.

The approach of EXPLICIT knowledge explains marches for express knowledge applied by one person, the pattern of organisation approaches for invention of new knowledge, and including information systems (development of systems) to distribute and express knowledge within the organisation. The comparative merits and demerits of both tacit and explicit approaches to knowledge Management are resumed.

TACIT KNOWLEDGE APPROACH:

The tacit knowledge approaches have some outstanding features is staple impression that knowledge is about personal knowledge in creation and

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unmanageable to deduce from the heads of single person. In all organisations tacit knowledge consists in an large amount ruins on the head of single person. An individual functioning from the site of knowledge inherently not public and remains large amount of tacit, this approach holds the public exposure of knowledge could be achieved by the transfer of people as ' knowledge carriers' from one part of an organisation to another people. By learning knowledge in the organisation happens when the single person come all to gather below condition that recommend others to spread their ideas and to make them to grow the inner sights all to gather that will give a way to create some new ideas. In an organisation, the collection knowledge is considered as a carrier of each and every individual who gather the information. To increase the wider use of tacit knowledge of a single person, the managers will emerge the knowledge processed by different peoples in an organisation. Organisation may arrange the kinds of communication between the knowledgeable peoples that will help the organisation process its present project, transfer the knowledge from the one branch to another branch, and to generate new knowledge, that may be worth full to develop the organisation as well.

Most if the manager in an organisation they never know what the special categories of the knowledge which the individuals know. According to the Hewlett-Packard in the 1980's 'If we only knew what we know, we could conquer the world'. As organisation develop into huge form, extra knowledge characterised by high degree, and extra universal distributed to wide area, the managers require to ' know what we know' is develop into extremely

sharp. Basically, the tacit is used to improve the knowledge who knows about what is required in and to an organisation.

For Example of a tacit knowledge approach, spreading the knowledge inside a organisation is provided by Toyota. In this process, Toyota needs to spread the knowledge to the new employees of its production system in a new assembly factory. Some of the factories opened in recent times such places like valenciennes, France, Etc. Toyota recruits some group of three hundred to four hundred peoples and gives training them for several months and gave work in assembly department in one of the busiest factory. After the few months, the manager studied the production report and seen new employed person's experience in assemble department and then send them back into new factories. The organisation increases their work into two or three time greater than the current position. This results production quantity and quality will reached the higher levels and improved the production in large amount in new factories. To create a new knowledge Toyota uses the quality circle also makes an example of the tacit knowledge approach. In the Toyota organisation the managing team spent two or three hours in the production department workers and analysis the problems faced by the working individual and