Change as a Necessity and a Goal

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Man is the Foundation of Change

Industry and Society

Industry proved throughout history that it is the content that encompasses the different sides of theoretical and practical sciences, for it is the actual field for application and the main user of all these functions.

Industry, in term of behavior, plays the role of the director of development movement and change mechanisms that govern the inputs and outputs of these sciences, professions, and functions.

Reflecting upon this issue unveils that industry is the main touchstone and end of work for different professions such as engineers, technicians, accountants, auditors, economists, and money experts.

It is also a main dealer with banks and stock markets and a main consumer of energy sources, materials, and different services provided by the state. Using these resources and services, industry adopts the principles of rational uses.

Depending on this perspective, industry, in reality, pursues persistently and continuously to achieve its objectives and get success and invest it for more success.

Accordingly, industry is directly participating in the development and evolution movement in the surrounding society on the levels of human development, skill and efficiency improvement, bringing about the economical development, providing better services by means of enhancing demand, and an active actuation of the market mechanisms and tools.

The industrial community in Egypt

During the last period, Egypt witnesses several positive phenomena that were nonexistent in the previous times.

The most important of which was the formation of a legal progressive personality proved self-assertion during a very short time gaining a leading role in effecting and being affected by society. This legal personality is known as "the Union of Egyptian Industrialists."

The Union of Egyptian Industrialists began at the hands of a group of the pioneering industrialists endowed with sound economical and industrial visions, in addition to their great and international experience.

This successful start marked the expansion of the industrial community base to represent an industrial progress that grows in tangible and promising rates.

Among the fruits of this legal personality is the ability to behave and perform collectively on the base of the communal thought, performance, and planning to ensure the communal interest that overcomes in individual details for every unit by its own. Indeed, this fruit is proudly recording the first success in the industrial behaviors in Egypt.

Industrialists in Egypt

Thanks to Mr. Muhammad Farid Khamis, the head of the union of Egyptian Industries, the use of the term 'Egypt's industrialists' replaced the traditional synonym 'industry man'.

According to Mr. Khamis' preferable phrase, the head of the union of Egypt's industrialists. This name by its own carries so much development that modernizes the traditional concepts especially in the field of name and indication.

It is undoubtedly true that industry in the national naming expresses a material status regardless of the level's size, development degree, additional value, or the national or organizational outcomes.

Moreover, the successful industry does not make its success by itself but by the backing of one or more leading figures distinguished with excellent abilities and foresight in the fields of management, industrial engineering, performance estimation, and the ability of continuous development.

Thus, the name of Egyptian industrialist came to highlight and emphasize the essential role undertaken by individuals for the success of industry.

3. Change as an old concept

It is wondrous that the old concept of the word 'change' did not change through times from the past to the modern age when it is used by the experts of management sciences as an urgent necessity to cope with development and take necessary measure beforehand.

In this context, it is considerable to state a common saying ascribed to Imam `Ali ibn Abi Talib where he states,

'Do not bring your children up on the same course of life you had, for they are a different generation for a different course of life'

Is it not the same issue of generations' contact and experience transfer discussed by the sciences of modern management?!

It is proper here to mention Allah's saying,

Indeed, Allah does not change the condition of any people unless they first change the state of their selves"

Thus, the concept of change transmitted through ages and used in the modern industrial societies in the same meaning assuring that change is a necessity and a goal undertaken by humans. Moreover, Allah blesses this kind of change.

4. Change as a Modern Concept … Why Change?

As life runs and industrial success continues on the basis of free competition and wide field for every effort, thus the reality of tomorrow will certainly be different from that of the present time, for different reasons; some may be referred to the cause and some to the effect.

The today quality will be inefficient and unable to cope with tomorrow quality. Likewise, the values of stable matters like time unit and spaces are continuously differing throughout times and generations.

Therefore, it is necessary to predict the upcoming change in the near or far tomorrow and work assiduously since today to meet it in the midway.

The Today quality will be inefficient to cope with tomorrow quality.

Adopting the progressive viewpoint of change as a goal of the industrial progressive goals of the establishment, it is necessary to initiate an assiduous pursuit to bring about the change as a general plan for the establishment expanding to all of its individuals at the different levels.

Such a change may affect attitudes, plans, goals, and means. The attitude may have a leading nature aiming at the production of the "targeted change" movement predicting future's changes before occurrence by the use of the available energies and possibilities in the establishment. For example, the studies and future readings may be used as instruments for this attitude through

which it is easy to cross future by means of success elements' investment for greater successes.

However, if the establishment fails to cope with change and future developments passed by it without preparation, thus it is inevitable for it to deal with change as a necessity imposed whose lack may cost so much and may even be impassable.

Automobile industry provides good example for change as a goal and a necessity. For example, many of rising automobile industries that have wide acceptance and circulation are keen to produce several inventions and changes in every new model of their products though they occupy the first level in the business. Thus, they are adopting a leading attitude, one of the best forms of success investment.

The opposite example may also be taken form automobile industry where the underdeveloped types failing to cope with future change and dealing with change as an inevitable necessity retrospectively creating a lagging attitude. Soon they fail to cope with development and then leave competition.

This was the case with many examples of car factories that closed doors during the last twenty years.

Change must continue to be a Strategic Goal for the Industrial Establishments

6. The Cost of Change and the Cost of Lacking Change

Following up the product life circle and the gradualness of every phase up to the highest return value and then down to the frequent decreasing value, it is evident that the life circle of every product is dynamic where the cost elements and returns are greatly connected to the success degree of administering the

circulation of this product economically and its impact on the elements of the relevant life circle. It is undoubtedly true that if the product life circle has good qualities, it will lead to better qualities during the successive phases and then better economic revenue in return.

The care for change policy and undertaking the material costs related to it create a reaction towards the product life circle and admit it to the virtuous circles where every phase of success helps the success of the successive phase. This forms the economic phenomenon expressed colloquially by the phrase "the rich grow richer".

The lack of change, on the other hand, has negative effect on the product life circle. Thus, the life circle revenues are badly affected and the establishment will undergo a series of vicious circles affecting its very life and existence.

Even the Industrial Establishment, the rich grow richer and the poor grow poorer

7. Change Instruments and Costs

First: Facts on the Human Development: National Level/Industrial Establishments Level

Facts on the Human Development on the National Level

A. The today child is half the present and the whole future

   The old have to give a distinguished space for the young providing all the necessary securities and means to found a strong and healthy generation enjoying self-confidence, trusting the old, and exchange trust with others on equal basis.

B. The care for children is not a grace or welfare

It is unacceptable to regard the care for children as a mere act of good-doing. Indeed, this sacred duty undertaken even by insects and animals is not an act of grace or welfare.

The today child is, in reality, the main and unique connection between the present and the future. Moreover, it is the payer for the pensions of this generation that will get it in the future.

When the child grows strong and able endowed with the causes of success and capable of leading the affairs skillfully coping with the time changes, this will have positive returns and realize honorable life for the old community and the future pensioners.

Continuous Change is the Unique Means to Generation Contact

It is the duty of the state to adopt and encourage the production of continuous change in all fields of activities and services supervised by it.

Thus, the different generations will live, accept, and coexist with them leaving a space for addition and innovation to hearten inventors and so it abridges the gap and set bridges of contact among generations. In consequence, positive effects are expected to push forward the course of development and progress at all levels of life.

Facts on the Human Development on the Industrial Establishments Level

It is undisputed that investment in human development inside the establishment is one of the good means of investment that often exceeds the investment of the fixed assets such as machinery and equipments, for it secures the phases of development necessary for the future of the industrial establishment.

Furthermore, such strategy opens the door wide for the discovery of abilities and latent potential leaders of the establishment that human development plan helps their appearance and excellence.

The following facts highlight this concept in different sides:

a. Impure Hands are unable to produce pure products.

b. Like the empty stomach that cannot assimilate the morale, a worker who lacks the basic needs is unable to learn.

c. The quality of the product begins with the quality of the worker, thus neglecting the worker's role in the quality requirements leads to successive negative effects.

d. It is the responsibility of the establishment to improve and fulfill the five basic requirements up to the highest possible level. It is well known that the basic five requirements are: 1

1. Food and cloth

2. Sustenance security

3. Residence

4. Social needs

5. Self-assertion and then self-realization

According to the rules of sociology and management sciences, the worker cannot evolve his perceptions from a low level to a higher one unless his basic needs are fulfilled at this low level first.

Thus, fulfilling the basic needs at the three levels is a condition for accepting the industrial and ethical ideas and concepts, and for full partnership as an inherent element in the whole process.

As for the fulfillment of the fourth need, it is a condition for undertaking the leading or administrative positions. Thus, many rising industries are concerned with providing social activities for workers to meet these needs.

This also helps protect them from any deviated courses they may be exposed to in a moment of unconscious behavior or due to the lack of awareness.

Continuous training must be a permanent policy adopted by the establishment as a means to prompt workers for better position

Second: The importance of training: training cost /the cost of lacking training

Example: welder

The cost of good welding in comparison to the cost of bad welding

(it is wonder enough that good welding has the same cost of bad welding in terms of welding rod, instrument, and welder's wage)

a. The cost or repairing the bad welding when discovered in the factory (In most cases, the repair of bad welding necessitates a new process of welding with new cost equal to the main process)

b. The cost of detecting the bad welding outside the factory (in this case, the client bears the consequences of his bad choice and worker bears the consequences of bad reputation)

c. The cost of detecting the bad welding after exporting it abroad (The bad exported good in this case has a bad effect on the national level beyond

the costs scope, where good industries share the bad consequences of the bad industries)

The Quality of the Industrial process must be accomplished from the first time

Good product avails his producer

Bad product harms all industries

Third: Developing the technical and engineering education to meet industry requirements

Do engineering colleges and institutes produce graduates qualified to meet the industrial requirements?

Is there cooperation between industries, syndicates of engineering professions and colleges of engineering when laying down the educational programs?

Do the engineering and technical education fields have enough space for practical training in indifferent factories where direct and actual contact with the different specialties is available?

Examples like aircraft industry and national airline companies finance the studies of aircraft navigation engineering. Likewise, the railways organizations finance this specialty in the engineering colleges.

The same is true with regard to the medical engineering, the ship building industries and the relevant marine engineering, the automobile industries, and the armed forces' financing and directing car industry engineering.

Where we are? May it be a circle of change!

Fourth: Graduates and unemployment crisis

The issue seems like a plentiful harvest that finds no reaper! Is it bad planning, bad education, or declining employment market where the jobseeker may not meet the job provider?

Are the institution and faculties aware of their essential role and duty to market their graduates at the job providers through an honorable frame and sincere pursuit free from personal interests?

Many times we witnessed fairs held for this very purpose where the jobseekers meet the job providers freely, thus good, immediate and effective results follow for industry and graduates at the same time. For example, the American university in Cairo holds a yearly festival for the same purpose.

Fifth: Habilitation and rehabilitation:

- of craftsmen
- of professionals
- of graduates
- It is necessary to care for the technical habilitation of the average level and the technical specialty at the high level among engineers.
- Why do we no apply national rehabilitating courses under certain codes to keep pace with those applied in all industrial countries? Such measure will certainly place the technical employment on the beginning of the true track towards professional rehabilitation in clear cut manner where the worker and the employer know well the codes of the necessary training courses to have the qualification for practicing certain work.

Example:

- Welder (3 courses)
- Welding master (5 courses)
- Specialist welding engineer (a number of specialized courses befitting the nature of his specialty)

Note: The specialist required should be defined on the work order of the technical welding processes and the technicality of welding may be clearly specified.

- Welding expert (Undergoing the specialist courses backed by the necessary practical experience)

Note: his supervision by means of direct existence and reviewing all of the important welding process of technical importance like the foundation of metal bridges and the pressure vessel, and fuel tanks, gas tanks, etc.

It is no doubt that institutes and universities form a fertilized field for technical habilitation of engineers after graduation. The matter may be invested for rehabilitation in different specialties to enable graduates to get alternative work opportunities in more wide and required specialties.

Examples:

- Vertical change i.e. habilitation
- Horizontal change i.e. rehabilitation
- Expanding the training of workers depending on improving their technical level by means of habilitation in specialist technical courses financed by industry. Example: Mubarak-Kohl project and expanding it.
- Giving opportunity to workers with weak skills in rehabilitation programs financed by the different syndicates in participation with the ministry of labor and the ministry of social affairs.

There is no bad soldier, there is only bad officer!

There is no bad officer, there is only bad leader!

Sixth: Industrial discipline and professional discipline

a. Good qualities: It leads to developing and protecting the national industry from the dangers of pumping policies.

b. Abiding by the specifications

c. The Professional ethics and conventions

The list of 'Do' and 'Do not'.

Example: Cabdriver – obligations and prohibitions limits

Qualified electrician: has to refrain from making unsafe or illegal connection.

Qualified welder: has to refrain from making a dangerous work without consulting the higher technician.

d. Addressing the international world in his language and concepts.

Fulfilling the international qualifications:

International Organization for Standardization (ISO) 9000 and TOM of the entire quality management requirements.

Synonyms and vocabulary used by the world today are mainly concerned with founding a stable policy for the establishment depending on continuous improvement of quality. Indeed, the issue of quality is the responsibility of all workers from the most inferior one.

Likewise, zero defects (ZD) system and the principle of the client's complete content etc. practicing the Japanese quality system of Kaizen though it is wholly different in theory and attitude from the applied western theories.

Although the experiment filed does not provide enough space to draw comparison between the two systems, the success achieved by the two systems is unquestionable.

An independent study about the change on the establishment level known and practiced in Japan under the title of Kaizen has been enclosed for circulating the benefit.

Seventh: Letting free space for aspiration, we could reach the phase of innovation and industrial development, which is necessarily and inevitably required.

It is admittedly true that it is important to a treasure of innovative ideas and applicable inventions at the industrial establishment. Even if these inventions have not been used entirely, for they remain a strategic reserve for facing the changes and challenges that may confront the establishment.

Example: Automobile industry and the large reserve of inventions

Inviting universities and research centers to found banks for ideas, inventions, and researches financed by industries, each in the specialty concerned. Researches may be announced for marketing as a service for both researchers and seekers.

Eighth: The revolution of information

- Founding industrial information net at the national level to provide services in proper cost.
- Ninth: The international existence of Egyptian industry
- Backing and encouraging the Egyptian industries in the international fairs.

Finally, this is a mere introduction covering several sides of the subject of:

Change as a Necessity and a Goal

It may pave the way for fruitful and constructive dialogue shared by all industrialists through their views and ideas to give rise to a joint agenda. May God grant us all success!

Bringing about change in the foot steps of Japanese

KAIZEN

KAIZEN AND MANAGEMENT

1.1 The meaning of 'KAIZEN' is so easy and direct. It means improvement and continuity by the participation of all employees including managers and workers as well. In other words: **KAIZEN = continuous improvement and development shared by all individuals of the establishment**

1.2 The philosophy of KAIZEN supposed that our life style i.e. practical and social life, and family relationships, is worthy of continuous development and improvement.

1.3 Long and concentrated studies were made by researchers, information men, and businessmen to understand the miracle of this economic giant of Japan after the World War II. This miracle is represented in several factors: Productivity – Total Quality control (T.Q.C.) – Small Group Activities – Automation – Industrial Robot – and Employment Relationship etc. Researchers paid special attention for studying some unique Japanese practices of management such as the employment periods – wages, allowances, and bonuses – specialist labor unions, etc.

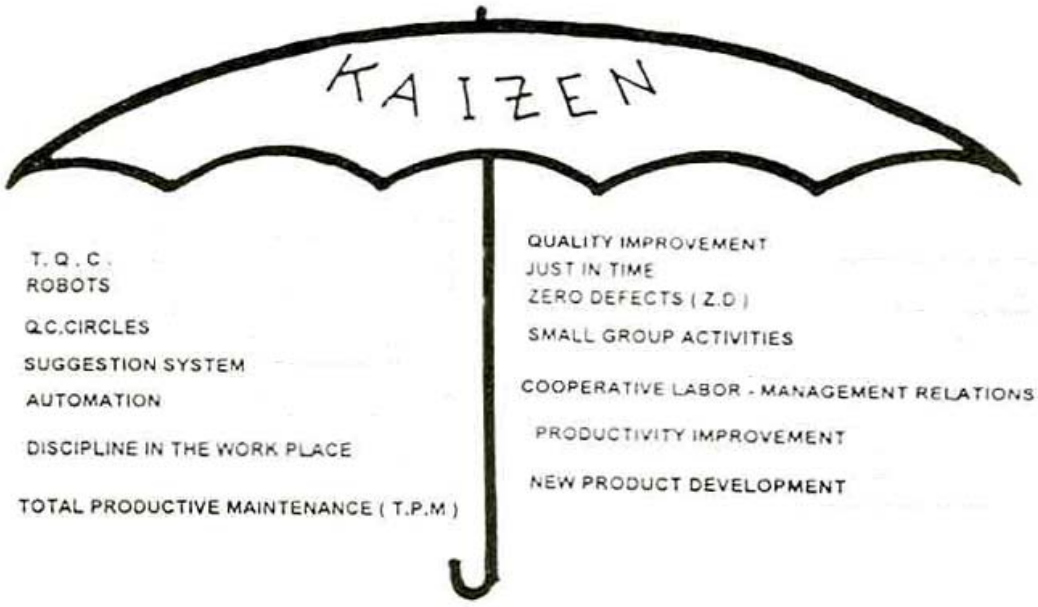
1.4 The essence of the Japanese unique practices of management i.e. productivity improvement – quality circles – total quality control etc., as above-mentioned, may be summarized in one word, namely, KAIZEN. Thus, when we mention KAIZEN, it means the productivity improvement – quality circles – total quality control, Zero defects (ZD) – etc.

KAIZEN is the concept that covers the unique Japanese practices achieved **recently and gained international fame around the world**

1.5 Figure (26) shows the concept of KAIZEN like an umbrella that covers most of these practices and concepts whose affectivity and excellence achieved and imparted:

2 00000000000000000000000000000000

3 KAIZEN



4

5 Figure (26): Umbrella of KAIZEN

5.1 The message KAIZEN relates is defined as follows:

No day shall pass without an improvement achieved in a place of the establishment

5.2 Figure (27) shows the way the Japanese see the jobs performance**:**

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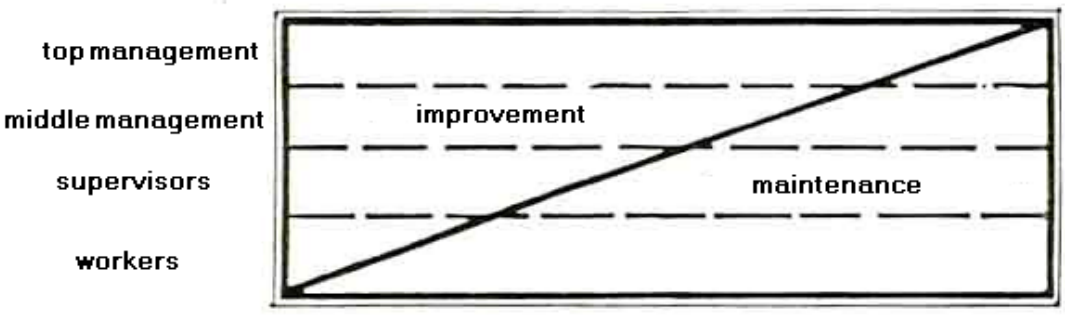


Figure (27): the Japanese vision of jobs performance

As seen from the figure, management is mainly composed of two things: maintenance and improvement

5.3 Maintenance constitutes the activities observed for preserving the technological and technical specifications in addition to the current and

running administrative specifications. Improvement refers to the activities observed for the sake of development and improving these specifications.

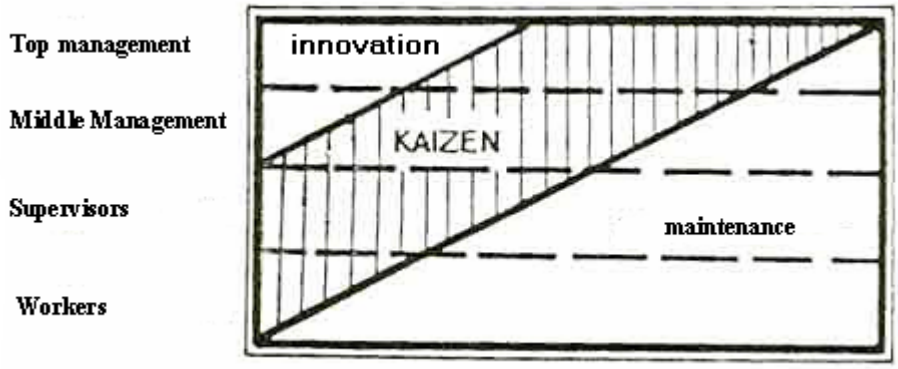
5.4 What is IMPROVEMENT?

It is possible to differentiate between KAIZEN concept of IMPROVEMENT and the western concept of it as follows:

- According to KAIZEN, it refers to the small continuous improvements resulted from the constant and concerted efforts of all individuals.

- The concept of innovation means the improving developments added due to huge investments in technology or modern equipments.

Figure (28) shows the division between (maintenance – KAIZEN – innovation) in the performance functions as seen by the Japanese.



A Japanese vision of Jobs Performance

5.5 According to the western viewpoint, most of western mangers maintain different vision of the performance of functions as shown in figure (29) where the concept of KAIZEN occupies a small place in this vision:

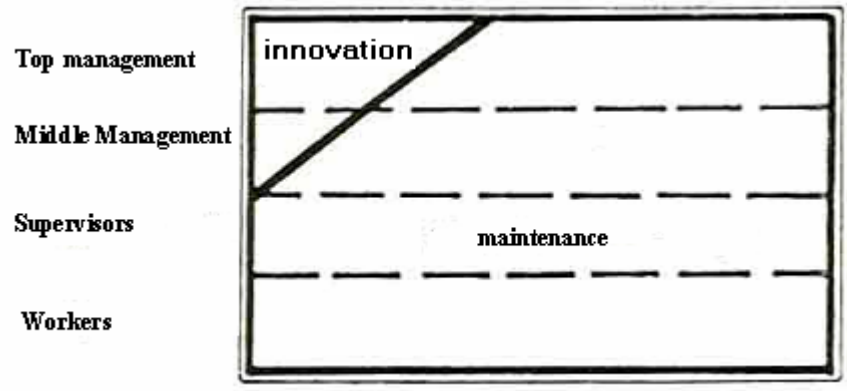


Figure (29): the western trend in the performance of functions

2. A comparative Study of the Japanese and Western Methodology of Application (KAIZEN VS INNOVATION)

2.1. There are two different trends for getting improvement and development

- **Gradualist Approach**
- **Great – Leap – Forward Approach**

2.2 Japanese companies generally prefer the application of the gradualist approach while the westerns prefer the great-leap-forward approach. These two trends have been listed under the titles of KAIZEN and INNOVATION respectively.

	KAIZEN	INNOVATION
Japan	**Powerful**	**Weak**
The West	**Weak**	**Powerful**

2.3 It is wonderful to indicate that the trend of KAIZEN does not stipulate the application of intricate techniques or high skilled technologies. The application of KAIZEN only requires the simple techniques known to all like the skill of using quality control means.

2.4 Table (6) shows a kind of comparison among the main traits of the two trends:

#	**COMPARISON**	**KAIZEN**	**INNOVATION**
1	EFFECT	Long-term – stable for a long period, but not strict	Short-term but strict
2	PACE	Small paces	Great leaps
3	TIME FRAME	Constant and growing	Interrupted and unacceptable of development
4	CHANGE	Gradual and stable	Sharp and fading
5	INVOLVEMENT	All individuals	Choosing a few leaders
6	APPROACH	Communality – concerted efforts – system oriented	Strict individuality and individual ideas and efforts
7	MODE	Maintenance and improvement	Cancellation and reconstruction
8	SPARK	Knowledge of know-how and the traditional skills	Technological ideas, inventions, and new theories
9	PRACTICAL REQUIREMENTS	Small investments but enormous effort for preservation and	Large investments and small effort for preservation and

		development	development
10	EFFORT ORIENTATION	Individuals	Technology
11	EVALUATION CRITERIA	Process and efforts for performance improvement	Results for gaining profits
12	ADVANTAGE	Befits the slowly developing economy	Befits the rapidly developing economy

Table (6)

2.5. Table (7) shows another comparison in concise and defined phrases:

#	**KAIZEN**	**INNOVATION**
1	Application ability	Innovation ability
2	Teamwork	Individuality
3	Care for generalization	Care for specialty
4	Care for details	Care for great leaps
5	Approach and concentration on individuals	Approach and concentration on technology
6	Open information system accepts participation	Closed and specialized information system

7	Trend of coordination among functions	Adopting the trend of specialist functions
8	Deepening and developing the existent technology	Searching for new technology
9	Cross-functional organization	Line - staff
10	Comprehensive feedback	Limited feedback

Table (7)

5.6 Since KAIZEN means a continuous process where all individuals of the establishment involved, thus every individual in the organizational framework of the establishment has his/her role according to the viewpoint of KAIZEN. Table (30) shows this system:

Table (30): KAIZEN system for the solidarity of all individuals in the organizational frame

Top management	Middle Management And department heads	Supervisors	Workers
Taking decision for introducing KAIZEN viewpoint as a work strategy for the establishment	Imparting and applying the goals of KAIZEN like the directions of the top management explaining the policies and the	Using KAIZEN in job performance	Introducing KAIZEN by the system of suggestions and small groups activities like
		Formulating plans	

<table>
<tr><td rowspan="2">Backing and directing KAIZEN technique of resources allocation</td><td rowspan="2">administration of functional coordination process</td><td rowspan="2">for applying KAIZEN and directing workers</td><td>(quality circles)</td></tr>
<tr><td>Practicing the technique in the work place</td></tr>
<tr><td>Laying down the policy of KAIZEN, defining its goals, and coordinating functions</td><td>Using KAIZEN for defining and developing the functional abilities</td><td>Improving the contact with workers and maintaining good morale</td><td>Starting the implementation of a continuous self-development to get the ability to resolve problems</td></tr>
<tr><td rowspan="2">Realizing the goals of KAIZEN by elucidating the policies and survey reviews</td><td>Founding, preserving, and developing the standard specifications</td><td rowspan="2">Supporting the small group activities (e.g. quality circles) and the system of individual suggestions for development and improvement</td><td rowspan="4">Enriching skills and experience of work performance through the exchange of culture and education</td></tr>
<tr><td rowspan="2">Informing the individuals of the concept of KAIZEN through concentrated training courses</td></tr>
<tr><td rowspan="3">Establishing the systems, measures, and frames related to KAIZEN APPLICATION</td></tr>
<tr><td rowspan="2">Helping individuals develop their skills and use of tools and means to resolve problems</td><td>Keeping order at the workplace</td></tr>
<tr><td>Explaining and clarifying KAIZEN suggestions for</td></tr>
</table>

		workers	

Table (31) is a boxlike diagram that shows the Japanese conceptions and that of the west for products through the concept of KAIZEN and the concept of INNOVATION

	TECHNOLOGY LEVEL	DETAILED PROCESSES	PRODUCT
The western conception	High technology	Technology concern – innovation	Inventive and modern product
The Japanese conception	Low technology - KAIZEN	Paying attention to individuals - KAIZEN	A developed product according to KAIZEN

Table (31) shows the western and the Japanese conceptions of the product

Table (32) shows the Japanese conception expected for the product which combines the qualifications of KAIZEN and INNOVATION in harmony defined in accordance with the technological level of the product industry.

TECHNOLOGY LEVEL	DETAILED PROCESSES	PRODUCT
High technology >>>	Technology concern – innovation>>>>	Inventive and modern product according to KAIZEN

PAYING ATTENTION TO TECHNOLOGY KAIZEN		
Low technology	Paying attention to individuals - KAIZEN	A developed product according to KAIZEN

Table (32) shows the Japanese conception of the expected product