The Role of Continuous Improvement Strategy (Kaizen) in organizational innovation: An analytical research in the General Company of Electrical and Electronic Industries /The Ministry of Industry and Minerals

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Received:15/3/2021 Accepted: 18/4/2021 Published: SEPTEMBER/ 2021

Abstract

This paper aims at the fact that most organizations today suffer from a waste of time, effort, and cost, and they have difficulty in achieving the best performance situations and compete strongly. The researcher distributed 108 questionnaires as a statistical analyzable sample society where the sample intentionally consists of general managers, department head, and division head. The questionnaire was formulated according to the Likert scale. The use of personal interviews and observations are additional tools for data collection and a number of statistical methods is used for data analysis such as simple regression and correlation coefficient (Pearson). One of the most prominent conclusions is that the company has adequate and creative capabilities on the ground and for the production of Iraqi does not have competitive and creative capabilities and must work on the development of new methods in the administrative work within the company. The results also show the lack of conviction difficulties and turn them into opportunities that promote creative work, expand growth opportunities and create cadres that start creative work and experience the element of risk. Engaging employees in training courses can acquire or increase their skills.

Keyword: continuous improvement strategy (Kaizen), organizational innovation: plan, do, check, act,
Introduction
Continuous improvement is given tremendous and increasing attention by modern departments as it is one of the steps of total quality management, as well as it works to improve the work of organizations of all types and sizes continuously that enables them to face the challenges and changes in the external environment. Kaizen continuous improvement strategy plays an essential role in achieving organizational innovation in the organization, which has also recently increased in importance in light of the intense competition between these organizations. Without creativity, no organization can efficiently produce and provide new services. The need for organizational innovation arises when senior management recognizes that there is a disparity between actual and desired performance, prompting the management of the organization to adopt a new way of working on trying to improve performance.

The hypothesis of the research
The hypothesis scheme aims to clarify the logical relationships of the set of primary variables and related sub-variables for each of them

Figure Research Model
Source: Prepared by the researcher

Research importance
This paper tries to draw the attention of management explain to the respondents to examine the strategic dimensions (Kaizen) and make it more convenient for one performance required under the regulatory environment in troubled Iraq.

The importance of continuous improvement as one of the critical resources, renewable, it is not easy to compensate, so the administration to deal efficiently to improve access to creative executive central technology
The importance of balancing the continuous improvement strategy with organizational innovation and deepening the understanding of senior management and managers of the continuous improvement strategy
Continuous improvement strategy (Kaizen) first-

The origins of the Kaizen strategy go back to supply chain management in the Japanese automotive industry around Toyota production systems developed and implemented in early 1950 by Taiichi Ono, a former executive vice president of Toyota Motor Corporation; Kaizen initially focused on the concept of waste-free manufacturing and waste removal from production processes. (Demirbas et al., 2019:3) Kaizen is a Japanese strategy and consists of two Japanese words (Kai), meaning change and (Zen), meaning the best and translated into continuous improvement (De Carvalho, 2016: 12) and have confirmed the researchers to continuous improvement entrances are the Japanese and the U.S., the Japanese emphasize on the process of continuous improvement, it is through this doorway analysis is described with the cumulative come gradually. While the American portal focuses on making process changes entirely, and often these changes are significant and radical on products, processes and in the short term and (Prosic, 2011: 173) points out that it is a process that, when done correctly, adds humanity to the workplace, eliminates unnecessary hard work and teaches people how to conduct rapid experiments using scientific methods and how to dispose of waste, (Al-Jubouri and Al-Gharbawi, 306:2015). Pan Kaizen expresses a Japanese life strategy that suggests that a person's life and life cycle can be continuously improved and focuses on fixing problems or making changes. Kaizen it creates a mindset for improvement and brings people to address issues. (Agmoni, 2016: 226) The Kaizen must show a mindset continuous improvement strategy. As in figure (2)

![Figure 2: Kaizen mindset through support, policy, success and organizational creativity](SOURCE: Kimiaki Jin: Role of Kaizen in Japan’s Overseas Development Cooperation:2018:P:59)

Moreover, policy support from the senior management and, in turn, will lead to motivation and self-confidence, which has a significant impact on improving performance using tools and methods of continuous improvement.

It can be clarified the continuous improvement elements of Kaizen strategy called(5s) can all be illustrated with the letter (S5), which, as mentioned by (Dawood et al., 35:2015) and (Kobayashi, K., Fisher, R., & Gapp, R., 2008:7). As in Figure (3)
1. Sorting, which is in Japanese Seiri: which means moving necessary things when they are needed and getting rid of unnecessary things in the sense of excluding traditional means and using modern means.

2. Set in order which is in Japanese Seiton: which means putting things in their proper places in the sense of arranging means.

3. Shining an in Japanese Seiso: it is intended to provide a suitable working environment which helps to improve the quality of performance.

4. Standardize is a Japanese Seiketsu: refers to ensure that equipment and machines remain in good working condition to avoid frequent holidays.

5. Sustain a Japanese Shitsuke: it is intended to make all of the parts of the above elements of the daily behavior of the worker and requires the commitment of management and employees to the rules of work.

Figure 3 : Elements of Kaizen strategy 5s

Steps Continuous improvement (Kaizen) strategy:
It is represented by four steps called the PDCA cycle: (Aichouni & Al-Ghonamy, 2010: 129-130)) A-planing (PLAN): at this stage, planning is done, what should be done, in the sense of setting the necessary goals, specifications, and processes. B- (DO): at this stage, what has been planned is executed. C - (CHECK): at this stage, the results obtained from the process are evaluated and examined by comparing them with the objectives and specifications, D - (ACT): At this stage, the results of the evaluation are to make a correction and modifications to the process or product, we return to the first phase, etc.
The Dimensions of The Kaizen Continuous Improvement Strategy

A- (PLAN): Kaizen strategy deals with planning for change by developing improvement plans based on being continuous and gradual in the steps of the following paper and is an approach to competitiveness (Kocik, 2017: 20).

B- (DO): Requires the use of a toolkit to assess the solution and its efficiency. These tools can be quantity or quality based on the goal of improvement, which shows whether the problem has been alleviated or eliminated (Oliveros et al., 2018: 177).

C- CHECK: The CHECK of Kaizen's strategy indicates whether the solutions provided to the organization have achieved appropriate results, and at this stage, measurements are taken and compared to the values placed in the plan, and here observation schemes and indicators can be used to measure practical capacity, and if the effectiveness of implementing the appropriate solutions is proven, then the transition to the fourth step and if not requires a return to the first step, which is planning, so the audit phase is important in the process of continuous improvement (Kocik), 2017: 20

D-(ACT): He pointed out that the ACT phase is intended to review and evaluate any difference in standards and that the benefits of using the correction process are to reduce the probability of losses and make continued improvements easier while reducing time waste as the standards are set for all activities and help to raise the level of improvement, maintain the quality of services and develop the culture of the organization (Knop & Mielczarek, 2015: 66)

It is also necessary to address the tools of continuous improvement, which are represented by methods and tables of the most prominent. (Aichouni & Al-Ghonamy, 2010: 131-133)

1- Other IT training: this is a scheme describing the nature of the process and steps that pass hang or service.

2- check Sheets is one of the technologies that allow the collection and recording of data on the process in a simplified and efficient way. By organizing this data, this data can be easily analyzed and facilitated, which helps in solving process problems and making improvements to the product or service.

3- Pareto Diagram is a graphical representation of the problems found in the product or service process, and through this, the technique can be arranged to descend from the most occurring to the least, i.e., according to their importance and frequency of occurrence and thus identify the most critical problems collected

4- Histogram: It allows a simplified analysis of data that serves the aim of the study, the quality of their outcomes, and discovers their flaws

5- Cause and Effect Diagram after collecting data on the process or problem under investigation through the test list, and converting this data through Pareto diagram has been the site know the reasons for the difference, adopt from the quality improvement tools available to the process improvement teams
6. Scatter Diagram is used to analyze process data in a graphical way by which a possible or expected relationship between two variables can be searched. It is possible to search and detect the cause-effect relationship between two variables and clarify the type of relationship between the two variables and find out the strength of the correlation between them.

7- Control Charts are graphs that show the changes and deviations that occur in the properties of quality maps over time

The second - Organizational innovation

Organizational innovation, adoption of new ideas or behavior concerns the industry in which the organization operates, the market, or the general environment. (Daft, 2010: 421) The innovation of goods and services by focusing on technological innovation and the development of new products includes improvements to the product, in addition to the methods and procedures of new production (Hisrich, 2017: 98). While the authors (Kreituer & Kinicki) suggested that the creative process includes the following five stages: While authors (Kreituer & Kinicki) suggest that the creative process includes the following five stages:

1- Preparation: how long an individual spends studying, reading, training at work, attending conferences, seminars, etc., to understand and feel the dimensions of the problem.
2- Concentration: at this stage, the individual focuses his attention, efforts, and thinking on the problem?
3- Incubation: at this stage that the individual in his daily work exerts excellent effort in the Research for information.
4- Illumination: at this stage that the individual works to connect information and find relationships between things.
5- Proof / verification: replay the entire process in order to prove, modify or experiment with the idea of (Hamdan, 2011:16), and Figure 4 shows the stages of organizational innovation.
Figure 4 Stages of creative processes


1- Creative service

Creative service is defined as changes in physical and moral characteristics and improvement of the quality of service so that it is modern, effective, and delivered promptly (Schwandt, 2011: 92). Service innovation is customer-driven innovation called the Attraction style (Gupta, 2008: 88). Many services rely on direct interaction between the service provider and the customer, and these interactions affect the formation of customer perceptions and impressions of the quality of service provided positively or negatively, and often the quality of Service is judged by customer satisfaction with the service providers, which is reflected in the company's reputation and brand, the service provider being the link between) (Hussein & Hafez, 2011: 18)

2- Creative behavior

From the point of view of (Leong & Rasli, 2014: 593), creative behavior is defined as an action aimed at generating, promoting, and applying creative thinking in the organization to improve personal and organizational performance that enables employees to use innovative ways of thinking quickly and accurately to respond to rapid changes in customer demands, and creative behavior is described as an initiative by employees in organizations to introduce new processes and products into the organization (Gozukara & Yildirim, 2016: 63).
3-Creative processes

are defined as the process by which new methods of production are used, through the use of new management approaches and modern technology that can be invested to improve production and management processes (Schwan, 2011: 92)

4-Creative strategy

Creative strategy is defined as a fundamental reworking of what the business is about, which leads to a dramatically different way of managing the rules of the game in the existing strategic business (Schwan, 2011: 92).

5- Creative Marketing

Organizations seek to adopt all their money from the impact in improving their marketing performance. These applications creative marketing, which opens up to organizations new horizons that enable them to improve their marketing performance on the one hand and enter into new markets on the other (Schwandt, 2011: 92).

So in exchange for creativity, there is continuous improvement; if creativity represents a significant strategic leap that is transmitted by knowledge, continuous improvement otherwise is small additions and partial adjustments to better respond to the needs of the market and customers, which contributes to finding and improving the competitive advantage. It requires significant investments in skills, knowledge, laboratories, avant-garde factories, programs, and large projects with excellent results in their field, and this is other than continuous improvement that is continuous with the participation of all workers and does not require large investments as described in the following table: (Najm:2015:279).

The practical framework:

first: There is a significant correlation between continuous improvement strategy and organizational innovation.

The correlation coefficient between the continuous improvement strategy and organizational innovation was (0.604) at the indication level (0.00). This means that whenever the company adopts the elements of continuous improvement, this led to the achievement of organizational creativity more. Under the preceding, accept the first central premise, which states a moral correlation between the elements of the strategy of continuous improvement and organizational creativity.
<table>
<thead>
<tr>
<th>Overall indicator</th>
<th>Elements of continuous improvement</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Act</td>
<td>Check</td>
</tr>
<tr>
<td></td>
<td>0.604</td>
<td>0.476</td>
</tr>
</tbody>
</table>

Table (1) The results of correlations between continuous improvement strategy and organizational innovation

The results of the correlation relations at dimensions of this paper are as follows:

1- Relationship between planning and organizational creativity: the results of the correlation analysis between the planning dimension and organizational creativity show a positive moral correlation with the correlation coefficient (0.595), which indicates the role of planning in providing outstanding and creative service to customers and thus the company adopted this strategy achieved to win more customers and continuously.

Relationship between implementation (do) and organizational creativity: by scrutinizing the results of the statistical analysis between the variables of the research indicates a positive moral correlation between the dimension of implementation on the one hand and organizational creativity on the other hand; when the value came (0.528), which shows that the implementation enables the organization to provide products of high quality, defect-free and environmentally friendly to be more

Relationship between audit (check) elements and organizational innovation: the results of the statistical analysis of the Research variables confirm a positive ethical correlation relationship between audit and organizational innovation, and the correlation value was (0.507), and this ethical value confirms the logical proportionality of the audit role based on the key elements in enabling the firm to focus on specific sectors of audit, Specific markets or customers maintain through which this privacy policy as a strategy to possess it more robust and better than competitors store her vast knowledge in the area of concentration, capabilities, and competitors constantly proposal as a unique company
**Relationship between correction (act) and organizational creativity**

The results of the statistical analysis showed that the presence of a positive correlation between the post-correction and organizational creativity, as the value of the correlation coefficient between these variables (0.476), as this result indicates the role of correction by raising the performance of the company investigated as well as the role of continuous improvement in solving the problems facing the company through the test of influence relations between continuous improvement strategy in organizational innovation. There is an impact of the continuous improvement strategy in organizational innovation) as the analysis will be done according to the simple linear regression model as follows:

1- **Test the first sub-hypothesis**

To test the hypothesis that provided for what comes there is an effect of planning dimension in organizational innovation. The analysis will be done according to the simple linear regression model as follows:

\[ Y = \alpha + \beta (X) \]

\[ Y = 0.846 + 0.691 (X) \]

The calculated value of (F) between after planning in organizational innovation was (57.987). It is greater than the tabular value (F) of (3.94) at the level of indication (0.05). Therefore, we accept the hypothesis that there is a significant effect of the planning dimension in organizational innovation) at the level of indication (5%), i.e., a degree of confidence (95%). Through the value of the determination factor (R^2) of (0.354), it is clear that after planning explains (35%) of the variables that occur in the organizational innovation, and the remaining (65%) returns to other variables. It is clear from the value of the marginal slope factor (\(\beta\)) of (0.691) that an increase after planning by one unit will increase organizational innovation by (9%). The value of the constant (\(\alpha\)) in the equation is (0.846), i.e., when the layout is equal to zero, the organizational creativity will not be less than this value.

2- **Second sub-hypothesis testing**

The analysis is carried out according to the simple linear regression model as follows:

\[ Y = \alpha + \beta (X) \]

\[ Y = 0.846 + 0.691 (X) \]

The calculated value of (F) between after planning in organizational innovation was (57.987). It is greater than the tabular value (F) of (3.94) at the level of indication (0.05). Therefore we accept the hypothesis that there is a significant effect of the planning dimension in organizational innovation) at the level of indication (5%), i.e., a degree of confidence (95%). Through the value of the determination factor (R^2) of (0.354), it is clear that after planning explains (35%) of the variables that occur in the organizational innovation, and the remaining (65%) returns to other variables. It is clear from the value of the marginal slope factor (\(\beta\)) of (0.691) that an increase after planning by one unit will increase organizational innovation by (9%). The value of the constant (\(\alpha\)) in the equation is (0.846), i.e., when the layout is equal to zero, the organizational creativity will not be less than this value.
3- Third sub-hypothesis testing:

To test the hypothesis that provided for what comes (there is an effect of audit dimension in organizational creativity), the analysis will be carried out according to the simple linear regression model as follows:

\[ Y = 1.690 + 0.484 (X) \]

The calculated value of \( F \) between after the audit of the organizational innovation amounted to (36.585). It is greater than the tabular value \( F \) of (3.94) at the level of indication (0.05). Therefore we accept the hypothesis that (there is a significant effect of the audit dimension in Organizational Innovation) at the level of indication (5%), i.e., a degree of confidence (95%). Through the value of the determination factor \( (\hat{R}) \) of (0.257), it is clear that after the audit explains (26%) of the variables that occur in the organizational innovation, and the remaining (74%) return to other variables. It is clear from the value of the marginal inclination factor \( (\beta) \) of 0.484 that an increase after the audit by one unit will increase organizational creativity by (48%). The value of the constant \( (\alpha) \) in the equation is (1.690), i.e., when after checking it is equal to zero, the organizational creativity will not be less than this value.

4- Fourth sub-hypothesis test

To test the hypothesis that provided for what comes (there is an effect of Correction dimension in organizational creativity), the analysis will be done according to the simple linear regression model as follows:

\[ Y = 1.785 + 0.463 (X) \]

The calculated value of \( F \) between after the correction in the organizational innovation was (30.976). It is greater than the tabular value \( F \) of (3.94) at the level of indication (0.05). Therefore we accept the hypothesis that (there is a significant effect of Correction dimension in Organizational Innovation) at the level of indication (5%), i.e., a degree of confidence (95%). Through the value of the determination coefficient \( (\hat{R}) \) of (0.226), it is clear that after correction explains (23%) of the variables that occur in the organizational Innovation, the remaining percentage (77%) return to other variables not included in the model. It is evident through the value of the marginal inclination coefficient \( (\beta) \) of (0.463) that an increase after correction by one unit will increase organizational creativity by (46%). The value of the constant \( (\alpha) \) in the equation is 1.785, i.e., when after correction it is equal to zero, the organizational creativity will not be less than this value. Table (2) shows this.
Table (2) Analysis of the dimensions of the strategy of continuous improvement in organizational creativity

<table>
<thead>
<tr>
<th>Significance</th>
<th>Sig</th>
<th>Tabular value (F)</th>
<th>Calculated value (F)</th>
<th>Selection factor (R²)</th>
<th>The value of the coefficient of marginal inclination (β)</th>
<th>Fixed limit value (α)</th>
<th>Adopted variable</th>
<th>continuous improvement strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moral</td>
<td>0.000</td>
<td>3.94</td>
<td>57.987</td>
<td>0.354</td>
<td>0.691</td>
<td>0.846</td>
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<td>Do</td>
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<td>0.278</td>
<td>0.555</td>
<td>1.450</td>
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<td>Check</td>
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<tr>
<td>Moral</td>
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<td>36.585</td>
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<td>Act</td>
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</tr>
<tr>
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</table>

First: CONCLUSIONS AND RECOMMENDATIONS

Continuous improvement is a saturated process as it is applied to all aspects of the company. It turns out that the company does not have effective and creative capabilities and is abundant on the ground; the Iraqi production does not have competitive and creative capabilities despite the durability of the Iraqi product.

Second: Recommendations

It is highly recommended not to fear of future risks and work on the principle of going through difficulties and turning them into opportunities that promote creative work and expand growth opportunities. Involve employees in training courses to gain them or increase their skills in using information technology devices while subjecting the training program to diversification and continuous modernization.

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دور استراتيجي التحسين المستمر (كيهزن) في الإبداع التنظيمي - بحث تحليلي

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Received: 15/3/2021 Accepted: 18/4/2021 Published: SEPTEMBER/2021

المستخلص

يهدف البحث إلى حقيقة أن معظم المنظمات اليوم تعاني من ضعف النواتج والجهد والتكلفة، وأنها تواجه صعوبة في تحقيق أفضل حالات الأداء والتنافس بقوة قام الباحث بتوزيع (108) استبيانا كمجتمع عينة قابلة للتحليل الإحصائي حيث تكون العينة عن فردية من (مدير عام ، رئيس قسم ، رئيس شعبة ،) تم صياغة الاستبيان وفقاً لمقياس Likert في رؤية أعضاء العينة ، الذي تضمن (60) الفقرة. باستخدام المقابلات الشخصية والملاحظات الميدانية كأداة مساعدة في جمع وتحليل الأساليب الإحصائية، وأبرزها spss و معامل الإعداد البسيط ومعامل ارتباط (بيرسون) من أبرز الاستنتاجات أن استراتيجي (كيهزن)

التحسين المستمر تبين أن الشركة لديها قدرات فعالة وبداعية على أرض الواقع ولكن لانتاج العرقي لاحظى بقدرات تنافسية وبداعية ولابد من العمل على استحداث طرق جديدة في العمل الإداري داخل الشركة المبحوثة كما تبين عدم افتقار الأعمال الوسطي بالتغيير والذي يعتبر سر النجاح المنظمة أو الشركة والذي يوجه بدوره إلى التحسين المستمر في مفاصل المنظمة واستحداث طرق جديدة في العمل الإداري والابتعاد عن التمثيل والإدارة الروتيني وابرز التوصيات هي الابتعاد عن الخوف من المخاطر المستقبلية والعمل على مبدأ المورر بالصعوبات وتحويلها إلى فرص تزويج العمل الإبداعي وتوضع فرص التنمو وخلق الكوارد التي تباعد العمل الإبداعي وتجربة عصر المخاطرة. وإشارا الموظفين في الدورات التدريبية لاتشكيهم أو زيادة مهاراتهم.

المصطلحات الرئيسية: للبحث: التحسين المستمر (كيهزن) والإبداع التنظيمي، تطبيق، تدقيق،

* الباحث مسلت من رسالة ماجستير