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**AN ANALYTICAL STUDY ON TALENT ANALYTICS
WITH REFERENCE TO HUMAN RESOURCE MANAGEMENT**

Dr. Krunal Parekh, Prof. Vikita R. Agrawal

EVALUATION OF CRITICAL SUCCESS FACTORS FOR QUALITY CIRCLES

Mr. Shantanu R. Kulkarni, Dr. A. P. Kedar

**A CRITICAL STUDY ON IMPLEMENTATION OF QUALITY CIRCLES
IN MANUFACTURING UNITS IN NAGPUR**

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AN ANALYTICAL STUDY ON TALENT ANALYTICS WITH REFERENCE TO HUMAN RESOURCE MANAGEMENT

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Abstract:

Human resources analytics, also called HR (business analytics), is the application of sophisticated data mining and Talent Analytics (TA) techniques to human resources (HR) data. The goal of human resources analytics is to provide an organization with insights for effectively managing employees so that business goals can be reached quickly and efficiently. The challenge of human resources analytics is to identify what data should be captured and how to use the data to model and predict capabilities so the organization gets an optimal return on investment (ROI) on its human capital. Although most organizations have enough data to make analytics useful, the data is often created and stored in multiple places in multiple formats. There is no shortage of vendors who offer dedicated human resources analytics software products, but many companies simply create a custom data warehouse for HR data and leverage business intelligence (BI) applications on top. The researcher is basically focused on Talent analytics which provides valuable insight for data analytics in talent acquisition, retention, growth and development and succession planning.

Keywords: Talent Analytics, Return on Investment, Business Intelligence

Introduction

The word is out on talent analytics, and interest -- along with technology -- is growing rapidly. A positive sign of this increased enthusiasm is that in addition to numerous HR analytics vendors, talent management suites are now available with embedded HR analytics. Organizations are also turning their attention to employee engagement with talent analytics, doing away with unreliable surveys and using sentiment analysis to measure engagement in real time.

Examples are:

- **Attrition:** using data to predict which employees will leave the organization.
- **Headcount:** how many employees work for the organization.
- **Competencies:** trainable skills.

Objective of the study

1. To study the Talent Analytics practices for the development of an organization.
2. To study the issues related to Talent Analytics.

Strategies of Business Analytics

Business analytics and company strategy:

If interest in talent analytics is growing, it's because it has delivered results and strengthened the human resources profile within the organization. For instance, one expert says that CFOs are showing more interest in human resources application suites, with some choosing to unify HR analytics with their financial platforms. This recognition of HR analytics and the benefits it brings to an organization's bottom line is giving human resources an integral role in planning and achieving business objectives, as detailed in this section

Another strategy: aligning talent analytics with business objectives so that the information you're gathering about employees is data that can actually improve productivity, reduce attrition and cut costs. **“Business analytics needs to be about decision support.”**

Review of Literature:

According to **Davenport** (2010) the data provided can be used to analyze and evaluate the employee's talent, to find the right person for the right position, to evaluate the well-being of the employees and calculate the number of employee needed.

As per studied in **Ivey Business Journal**, Hr Analytics is very helpful in organization as workforce analytics involves modeling data (both qualitative and quantitative) to understand the past, present and future drivers of organizational performance. Finally, analytics is most successful when applied to an immediate and pressing business problem whose solution is critical to competitive success.

As per the **Sai Om Journal of Commerce and Management**, Hr analytics is a contemporary practice to measure the performance of the employees. The management of talent is only possible by talent analytics and it has made huge pace in today's scenario. Hr analytics boost the motivation and morale of employees.

Lawler and Mohrman (2003) to identify the use of metrics as one of our main characteristics that leads to HR being a strategic partner.

Becker, Huselid and Ulrich (2001) helped bring these ideas together in the HR scorecard, which highlights how the alignment of HR activities with both corporate strategy and activity improve organizational outcomes.

Research Methodology:

Research Methodology is a way to systematically solve the research problem. The process used to collect information and data for the purpose of making business decisions. Research in this paper is done mainly using various management books and websites.

For this study, the main focus is on the secondary data and not on the primary data. Hence the main source for this paper is the book and various websites. The research is explained with the help of a **case-study** as an example.

eBay Inc. is an American multinational corporation and e-commerce company, providing consumer-to-consumer & business-to-consumer sales services via Internet. The company manages eBay.com, an online auction and shopping website in which people and businesses buy and sell a broad variety of goods and services worldwide.

Brian Fruchey, Analytics Manager - Talent Acquisition at eBay, Inc. He is the person who leads Ebay for Hr Analytics.



1995–2012



From 2012–present

Ebay company follows Business Analytics by using this 03 steps, these are as follows:

1. **Getting started:** Early adopters of talent analytics share their experiences -- both good and bad with the technology. They not only reveal the first step to HR analytics, but also provide four more for good measure.
2. **Increased interest in talent analytics:** A positive sign of this increased enthusiasm is that in addition to numerous talent analytics vendors, talent management suites are now available with embedded talent analytics. Organizations are also turning their attention to employee engagement with talent analytics, doing away with unreliable surveys and using sentiment analysis to measure engagement in real time.
3. **Talent analytics and company strategy:** *It is seen that if interest in Talent analytics is growing, it's because it has delivered results and strengthened the human resources profile within the organization. For instance, one expert says that CFOs are showing more interest in human resources application suites, with some choosing to unify HR analytics with their financial platforms. This recognition of talent analytics and the benefits it brings to an organization's bottom line is giving human resources an integral role in planning and achieving business objectives, as detailed in this section.*

Theoretical Perspectives:

Human resources are stepping into the spotlight with talent analytics. Business analytics in Human Resource Management is quickly becoming a new area of innovation and focus because of the insights it can provide around workforce management. In years past, one of HR's primary goals was to collect and keep track of employees' personal and professional information, such as payroll, health benefits and performance reviews.

Now, the tide of technology has reached HR's shores and is carrying it into deeper waters where it can analyze data to play a more active role in the organization. HR analytics allows human resources to interpret data, recognize trends or issues, and take proactive steps with different departments to keep the organization running smoothly and profitably.

The Highlights to include in Business Analytics:

- To adopt a strategy where HR can make the connection between statistics and business in effective and efficient decision making.
- To understand the actual analytics for producing reports and why you wait until you have 100% accuracy in results.

•To get key takeaways to improve the HR function, and launch a new analytics program, or shift to a more data driven workforce.

PRINCIPLES OF BUSINESS ANALYTICS:

There are some principles which help in making **Talent Analytics** Effective:

1. **Organizations make investments in people without any data or with the wrong data.**
2. **Employee engagement is not a business outcome.**
3. **People and organizations are complex. The linkages between attitudes and outcomes have to be understood within your organization using your data.**
4. **Once a connection/linkage is made with the data, accountability is unavoidable (and that's a good thing).**
5. **Big Data/Analytics should be at a minimum predictive and preferably cause-effect.**
6. **Actual business impact must be shown—making predictions are not enough.**

Explanations:

1. **Organizations make investments in people without any data or with the wrong data:** Many organizations believe that their expensive programs (recruiting technology, assessments, training, leadership development, executive coaching, career development, expatriate assignments) are critical for their people development. Unfortunately, very few show an actual business case for making the investment. Does our recruiting technology actually yield better employees?
2. **Employee engagement is not a business outcome:** Many HR leaders put a lot of focus of their investments and initiatives on improving engagement of the workforce. This is not a bad goal, but engagement is not on any financial statements—and there is not one study that proves any financial value of employee engagement. Also, there is not an agreed-upon definition of engagement and front-line managers don't understand it or see the value in it. Companies should link employee attitudes directly to business outcomes that matter to them.
3. **People and organizations are complex: The linkages between attitudes and outcomes have to be understood within your organization using your data.** Studies from other organizations that show the business impact of people practices are a great starting point. But your organization is unique, particularly your culture. What works at Google may not work for organization. So take time to connect people data to your business outcomes.

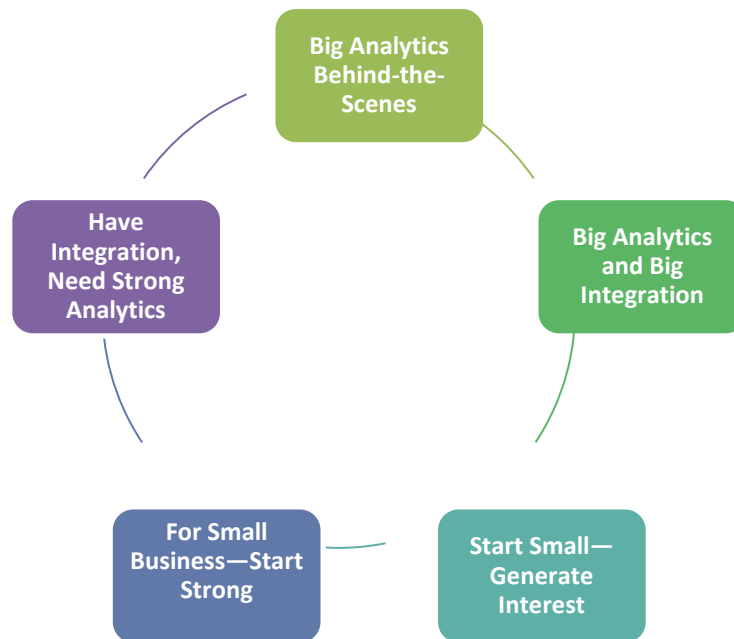
4. **Once a connection/linkage is made with the data, accountability is unavoidable (and that's a good thing):** If you show that your people initiatives are directly connected to business outcomes, then you, the HR leader should be held accountable for the business outcomes, and not just the compliance rates of your initiatives. Yes, that is a good thing, and the true definition of having a seat-at-the-table.
5. **Big Data/Analytics should be at a minimum predictive and preferably cause-effect:** Correlations do not tell you the whole story and can cause leaders to make the wrong investments. There are numerous studies that show a correlation between employee engagement and shareholder stock price. Problem with this analysis is that maybe success of the business (stock price) is causing engagement to increase and not the other way around.
6. **Actual business impact must be shown—making predictions are not enough:** Many 'thought leaders' are saying that predictive analytics are the Holy Grail. Not true! They are only predictions. The Holy Grail is following up a year later and showing if the predictions were actually true and how much of an ROI your HR investments actually had on the bottom line. Remember that a lot of experts made predictions about the U.S. Presidential Election, and many of those experts' predictions were wrong.

Process of Business Analytics

- **Hindsight:** To gather the data by reporting it to the manager.
- **Insight:** To make analysis and monitoring of the data.
- **Foresight:** To develop predictive models for the results.

MAKING BUSINESS ANALYTICS A REALITY.

Using analytics in HR to show business impact and predict future performance is the next trend in our profession. Many organizations want to achieve success using this approach, but are unsure how to get there. Unfortunately, talent analytics has gotten off to rough start because it hasn't been well-defined. True analytics that drive the business and show a real return-on-investment is about linking HR data, using cause-effect statistics, to actual business outcomes. These are the 5 Paths of Success for making the path of a manager easy to go.



“That’s one of the most important things HR can do: to produce information and put it in the hands of managers so they can better manage people.”

How to measure HR Metrics:

According to Peter Drucker, “If you can’t measure it, you can’t manage it” and “what gets measured, gets managed; what gets managed, gets executed.”

Human resource metrics, human capital metrics, HR analytics, HR scorecards and HRIS are valuable for talent management. Data mining in HR is contemporary issue and potential and value of the employees is well known by it.



Key Success to Business Analytics:

1. Transparency of business and workforce information.
2. Analytics as a journey, not an end.
3. Develop culture of data – driven decision making.
4. Empower line leaders not just HR.

Conclusion:

Business intelligence can be developed by applying the principles of talent analytics like performance management, reporting, data mining, benchmarking, process mining and event processing etc. Companies make sure the right people are in the right place at the right time by means of Talent analytics. Talent analytics assists HR function in the formulation of corporate strategies and also it can be a valuable tool for competitive advantage.

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Evaluation of Critical Success Factors for Quality Circles

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Abstract:

“A Quality Circle is a volunteer group composed of members who meet to talk about workplace and service improvements and make presentations to their management with their ideas.” (Prasad, L.M,1998). Quality Circle is a powerful tool to strengthen problem solving skills and foster human development across the length and breadth of every organization. Every organization is made of people and it is important to hone their skills by tapping their strengths. In this context, Quality Circle is a means of bringing people to work and think together to achieve the improvement in the organizational performance. The activities such as companywide quality control, self-development and mutual development and improvement within the work station, utilizing quality control techniques with the participation of all the members are carried out on continuous basis by Quality Circle groups.

This study aims to develop a model indicating relationship between the critical success factors of QCs and the performance of manufacturing units in Indian context.

This empirical study has the following objectives.

- 1) To explore the concept of Quality Circles for the Indian Manufacturing Units
- 2) To determine the critical success factors of QCs based on the literature review
- 3) To determine the performance indicators

Keywords: Quality Circle, Manufacturing unit, Success factor

1. Introduction:

There have been different interpretations of the concept of quality circles in various organizations in India and abroad. However, the most commonly accepted definitions in keeping with the essence of the philosophy as it originated in Japan are:

“Quality circles are a formal, institutionalized mechanism for productive and participative problem-solving interaction among employees”(Lozano & Thompson 1980).

“Quality control circle is not just a little room adjacent to the factory floor, whose occupants make a nuisance of themselves to everyone else. It is a state of mind and a matter of leadership with everyone from the president to production trainee involved”(Rehder 1981).

The preamble to the constitution of Quality Circles Forum of India(QCFI) defines quality circles as “ The creation of an environment for active involvement and participation of employees, in every area of human Endeavour by bringing into play their total commitment, dedication and innovative spirit, through their appreciating, understanding and following philosophy of quality circles, for achieving excellence in performance, thereby increasing satisfaction, happiness and improving the quality of life”.

2. Objectives

This study aims to develop a model indicating relationship between the critical success factors of QCs and the performance of manufacturing units in Indian context.

This empirical study has the following objectives.

- a) To explore the concept of Quality Circles for the Indian Manufacturing Units
- b) To determine the critical success factors of QCs based on the literature review
- c) To determine the performance indicators

3. Research Methodology

The researcher has used Exploratory Research Technique to get into the insights of the proposed research work. In this study, the researcher has taken responses from following samples in a structured questionnaire through personal interview method:

- Total 334 officials,
- 101 are Senior level officials and remaining 233 are Junior level officials
- Total 47 companies were observed

The 5 point Likert's scale is used to collect the responses where every Likert's item is provided the given weights: 1-Very low importance, 2-Low importance 3-Medium importance, 4- High importance and lastly 5- Very high importance.

To test the reliability of the format design a pre survey test is necessary before executing the overall study. For this Cronbach's Alpha Reliability test is performed on the last two sections. Since the target variable is not involved in the evaluation of success factors and performance indicators, use of Principal component analysis (PCA) is performed using the SPSS software tool, where following tables are used to interpret the results.

(i) KMO and Bartlett's Test

- a. Kaiser-Meyer-Olkin Measure of Sampling Adequacy - This measure varies between 0 and 1, and values closer to 1 are better. A value of .6 is a suggested minimum.
- b. Bartlett's Test of Sphericity - This tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is matrix in which all of the diagonal elements are 1 and all off diagonal elements are 0. You want to reject this null hypothesis.

Taken together, these tests provide a minimum standard which should be passed before a factor analysis (or a principal components analysis) should be conducted.

(ii) Scree plot:

The plot decide the number of components for the given data (based on the steepness of the curve, we can take either 2 or 3 components for the evaluation of critical success factors and the performance parameters).

(iii) Evaluation of variables from the Two matrix table

- (a) Components matrix table: The correlation of the variables between the components before the orthogonal transformation.
- (b) Structure Matrix table: The correlation of the variable between the components after the orthogonal transformation using Oblimin with Kaiser Normalization which supports the 5 point Likert's scale data types.

Note: Any correlation below 0.3 will be discarded as it tends towards the low correlation to negative correlation.

(iv) Component correlation matrix table

This table provides the correlation between the identified numbers of components. The low correlation (below 0.5), between them is the good indication of the test.

(v) Component Plot in rotated space:

This is a plot between the components which provides the information about the spread of the variables under consideration. Here the variables having all the positive correlation with respect to the components are considered as the best variables.

4. Findings

After thorough analysis, the list of critical success factors are developed which are as follows:-

1.	Inspiring more effective team work
2.	Create problem solving capability in the employees
3.	Increasing employee motivation
4.	Follow up of implementation of suggestions.
5.	Developing harmonious manager, supervisor and worker relationship
6.	Team spirit of all members towards Quality Circle operations
7.	Interest or competence of leaders/facilitator
8.	Preparing recommendations for implementing solution(s).
9.	Problem data bank and identification of problems for QC work
10.	Objectives and causes first, solutions next approach
11.	Knowledge of old and new QC tools
12.	Visible management support
13.	Role and attitude of middle level executives
14.	Communication gap between Circles and departmental head
15.	Listening to and showing respect for the views of other members.
16.	Building an attitude of problem prevention

Again list of best performance indicators are as follows:

1.	Better quality management culture in organization
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2.	Improved reputation of the company
3.	Reduction of losses
4.	Improved quality of products
5.	Value creation due to adoption of new technologies
6.	Capacity building of employees
7.	Increased productivity
8.	Improvement in capacity utilization of industries
9.	Higher profitability of the industry
10.	Sustainable local, regional and global growth

5. Suggestions

- The members of Quality Circle should be thoroughly trained in statistical analysis (graphs and table reading, histograms, scatter diagrams stratification, etc.) because this helps in information processing. Since they have to work in groups, an understanding of group dynamics is also necessary. Additionally they should develop a problem-solving approach.
- The members of Quality Circle should have full freedom to choose any problem which they feel is most crucial. In addition they should be free to implement and monitor the results.
- The Quality Circle cannot be a successful exercise unless the opportunities to meet frequently are allowed. Hence, facilities for such meetings should be provided without hitch or hindrance.
- Quality Circle is not a quick solution to the problems of quality. Management must be willing to go through the often painstaking and slow task of changing. As the management needs ample time to be introduced to the concept of Quality Circle and so must be ready and willing to receive ideas about structuring, managing, and operating.
- Management should organize workshops and seminars to bring about greater awareness of quality circles.
- Management should initiate specific research projects in this field. It will help in enhancing the results of quality circle.

6. Conclusion:

However quality circle cannot be called panacea for all kind of problems in industries. It must be noted that there are issues related with quality which can be dealt with quality circle approach. Again while implementing quality circle it is important that follow up of implemented suggestion should be taken at periodical intervals. Members should work with team spirit in order to get desired results from quality circle. The suggestion of any one can be beneficial for the entire industry. In this case, it is important that the team should take the suggestion of every one with positive spirit. Respecting each other and their solutions are very important. Also the team should prepare the proper recommendations for given suggestions.

Quality circle approach also requires Interested and competent leaders/facilitator. The research shows that there is high regards for leader of quality circle. It is almost required that problem data bank must be available & there should be identification of proper problems. If the problems are identified correctly, than quality circle approach can recommend proper solutions. During the research work it is found that after identification of problem the second task is to understand the causes of the problem. Based on the causes, quality circle can provide solutions.

One has to evaluate the impact of quality circles on performance indicators. Quality circle approach promotes the better quality management culture in manufacturing industries. The focus is on improving the quality & providing the better quality products. It results in various ways which are beneficial for the company. On one hand it improves the reputation of the company & on other hand it reduces losses.

As this approach helps in improving quality of the product, it is bound to happen that manufacturing units are getting good reputations. The new quality control tools provide solutions which are based on value creation through adoption of new technologies. The new technology provides quantitative as well as qualitative advantage. Another performance indicator is capacity building of employees. The quality control approach enhances capacity of the employees and makes them more productive. It is most common to see that industries are utilizing their capacity to the fullest which ultimately results in higher profitability of the industry. Quality circle approach also ensures that these benefits are for long term & should not be vanished in short term.

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A Critical Study on Implementation of Quality Circles in Manufacturing Units in Nagpur

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Abstract:

Quality circle is a small group to perform capital quality control activities within the same workshop. This small group carries on continuously as a part of companywide quality control activities self-development and mutual development and improvement within the workshop, utilizing quality control techniques with all members participating. It is important to see how the concept of quality circle is utilized in practice.

This research paper analyses the important factors which affect the implementation of quality circle concept. It also evaluates the performance indicators of quality circle. In this study the primary data is collected from 14 manufacturing units of Nagpur. The sample respondents are divided into two category i.e. junior level executive & senior level executive. Perspective of both the executives was taken in order to come to a conclusion.

This is exploratory study & only facts received through questionnaire have been stated in it.

Keywords: Quality Circle, Implementation in manufacturing unit

1. Introduction:

In Japan, quality circles are organized within a department or work area for the purpose of studying and eliminating production related problems. They are problem solving teams which use simple statistical methods to research and decide on solutions to workshop problems.

Quality circles in North America are similar to Japanese circles in spite of the fact that each may emphasize a particular function such as problem solving, team building or quality control.

Underlying the quality circle concept is the assumption that the causes of quality or productivity problems are unknown to workers and to management. It is also assumed that shop floor workers have hands on knowledge, are creative and can be trained to use this natural creativity in job problem solving. Quality Circles, however, are a people building, rather than a people using, approach.

There have been different interpretations of the concept of quality circles in various organizations in India and abroad. However, the most commonly accepted definitions in keeping with the essence of the philosophy as it originated in Japan are:

“Quality circles are a formal, institutionalized mechanism for productive and participative problem-solving interaction among employees”(Lozano & Thompson 1980).

“Quality control circle is not just a little room adjacent to the factory floor, whose occupants make a nuisance of themselves to everyone else. It is a state of mind and a matter of leadership with everyone from the president to production trainee involved”(Rehder 1981).

2. Objectives:

To identify the factors affecting implementation of quality circle in manufacturing unit

To identify the performance indicators of quality circle in manufacturing unit

3. Research Methodology:

The study is based on primary data. In this study, the researcher has taken responses from following samples:

- Total 124 officials,
- 43 are senior level officials and remaining 81 are junior level officials
- Total 14 companies were observed

Predefined structured questions were asked to officials in formal environment. The responses given by them averaged for drawing a meaningful conclusion.

4. Findings

Based on the data analysis, following are the major findings of the research:-

- Both types of the officials (85.92 %) have strong belief for "Promoting Job Involvement" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (83.83%) have strong belief for "Create Problem Solving Capability in the Employees" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (79.34%) have strong belief for "Improving communication channel's efficiency" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (79.04%) have strong belief for "Promote leadership qualities" factor which helps in overall quality improvement in manufacturing industry.

- Both types of the officials (84.13%) have strong belief for "Promote Personal Development" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (87.13%) have strong belief for "Improving morale of employee" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (87.43%) have strong belief for "Inspiring more effective team work" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (78.45%) have strong belief for "Building an attitude of problem prevention" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (82.63%) have strong belief for "Developing harmonious manager, supervisor and worker relationship" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (87.72%) have strong belief for "Increasing employee motivation" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (78.84%) have strong belief for "Regular meetings of quality circle's members" factor which helps in overall quality improvement in manufacturing industry.
- Both type of the officials (76.65%) has strong belief for "Preparing recommendations for implementing solution(s)." factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (82.64%) have strong belief for "Follow up of implementation of suggestions" factor which helps in overall quality improvement in manufacturing industry.
- Both type of the officials (82.34%) has strong belief for "Interest or competence of leaders/facilitator" factor which helps in overall quality improvement in manufacturing industry.
- Both type of the officials (75.75%) has strong belief for "Role and attitude of middle level executives" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (84.33%) have strong belief for "Team spirit of all members towards Quality Circle operations" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (71.85%) have strong belief for "Visible management support" factor which helps in overall quality improvement in manufacturing industry.

- Both types of the officials (73.05%) have strong belief for "Communication gap between Circles and departmental " factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (46.11%) have moderate belief for "Resistance from trade unions" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (76.05%) have strong belief for "Training of all QC members by an expert consultant" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (76.65%) have strong belief for ". Problem data bank and identification of problems for QC work" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (78.14%) have strong belief for "Evaluation of award/recognition" factor which helps in overall quality improvement in manufacturing industry.
- Both type of the officials (88.92%) have strong belief for "Listening to and showing respect for the views of other members" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (75.35%) have strong belief for "Criticizing ideas, not persons" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (88.32%) have strong belief for "Objectives and causes first, solutions next approach" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (78.45%) have strong belief for "Knowledge of old and new QC tools" factor which helps in overall quality improvement in manufacturing industry.
- Both types of the officials (75.27%) have moderate belief for "Higher profitability of the industry "factor which indicates the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (66.17%) have moderate belief for "Improved market share " factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.

- Both types of the officials (73.96%) have moderate belief for “Sustainable local, regional and global growth” factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (86.23%) have strong belief for “Reduction of losses “factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (85.93%) have strong belief for "Increased productivity” factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (88.63%) have strong belief for “Improved quality of products" factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (85.63%) have strong belief for "Improved quality of products" factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (89.22%) have strong belief for "Improved quality of products" factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (88.32%) have strong belief for "Higher Customer satisfaction" factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (90.72%) have strong belief for "Higher Employee satisfaction" factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (85.03%) have strong belief for "Capacity building of employees” factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.

- Both types of the officials (86.83%) have strong belief for “Value creation due to adoption of new technologies” factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.
- Both types of the officials (91.02%) have strong belief for “Improvement in capacity utilization of industries” factor which indicate the fact that Quality Circle Implementation ensures improvement in results of key performance indicators.

5. Recommendations

- Management of industries should develop special programmes for various classes of employees.
- Management of industries should provide a network for collection, storage and dissemination of information on quality work life.
- Management of industries should educate and making employees aware of quality work life.
- Management of industries should improve communication within the organization.
- Management of industries should respect humanity and build a happy bright work place environment which is meaningful to work in.
- Management of industries should involve workers in decision making process.
- Management of industries should re- examination of policies of work.
- Management of industries should make provision of physical-amenities at the work place, health and safety, and welfare provisions.
- Management of industries should enrich human capability, confidence, moral, attitude and relationship.

6. Conclusion

Quality circles inspire more effective team work which enhances the problem solving ability of the individuals & group. It is also observed in the research that employees become more creative while solving the problem. Quality circle approach has an advantage that employees remain motivated at work. This helps in solving the work related problems. It is also observed during the research that quality circle enhances harmonious relationship among manager, supervisor and worker. When people work as one team the results are bound to come positive.

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