DATA MINING APPROACH FOR TALENT ACQUISITION AMONG EMPLOYEES

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Abstract- Talent management refers to the skills of attracting highly skilled workers and developing, retaining current workers to meet current and future business objectives. The nature of research is qualitative and identifies the factors responsible for dissatisfaction among employees. In this research work, data is collected by mean of a questionnaire. Questionnaire has many attributes which are studied or analyzed based on the response given by the employees. Nine attributes are taken into consideration for analysis, out of which six attributes are found which are disagreed by the dissatisfied employees. This information is extracted with the help of scatter graph between various attributes and id. By taking more consideration on the six factors playing major role in dissatisfaction of employees, we can use the talent of dissatisfied employees more efficiently.

Introduction

Two type of clustering is used during the research; one is agglomerative clustering which is a part of hierarchical clustering and builds a hierarchy of clusters [1] [4]. It is based on idea of objects being more related to nearby objects than to objects farther away i.e. these algorithms connect objects to form clusters based on their distance [5]. Another clustering used is flatten clustering. Flat clustering creates a flat set of clusters that will relate clusters to every alternative. Flat clustering is efficient and conceptually easy, but it has a number of drawbacks. These algorithms come back a flat unstructured set of clusters; require a pre-specified number of clusters as input which is nondeterministic [1][3].

Two important factors are discussed here. The development plan part includes questions like the supervisor shows his responsibility towards employees or not. The supervisor discusses future career development plan or not. The organization offers the support and resources for development or not. On the other hand, in case of managing performance, role of supervisor is discussed as he is a good coach or not. The supervisor sets the objectives for department or not.

Data Analysis

Data collected is analyzed with the help of Rapid Miner Studio 7.3. For data analysis, two clustering techniques are used i.e. agglomerative clustering, flatten clustering. The questionnaire was filled by the employees of The Jind Co-operative sugar mills limited and Saint Gobain Gyproc India Limited, Jind. The questionnaire was filled on the basis of the extent to which the employee were satisfied or dissatisfied by indicating the opinion toward the statements and marking the appropriate column which represented strongly agree, agree, neutral, disagree and strongly disagree [1]. The data collected with the help of questionnaire was analyzed by using Rapid Miner Studio 7.3 [2], which is a code free environment for designing analytic process with machine learning, data mining, text mining and predictive analytics.

A	DEVELOPMENTAL PLAN
A1	The supervisor represents responsibility to their subordinate.
A2	The supervisor discusses for the future career development with staff
A3	Opportunities for further development within current job.
A4	There is a lot of scope for career development in the existing job

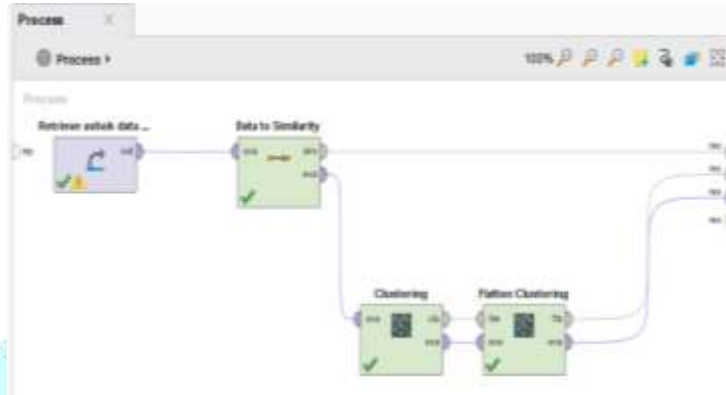| A5	The Organization offers the support and resources for development.
B	**MANAGING PERFORMANCE**
B1	Supervisor sets ambitious objectives for the department
B2	Supervisor clearly explains the evaluation of performance
B3	Supervisor gives feedback on the performance.
B4	Supervisor is a good coach for the unit.

Figure 1: Representing the Model for Data Analysis

In this figure, data was passed to the operator named "Data to Similarity" .This operator measured the similarity of each example of the given example set with every other example of the same example set. Output from "Data to Similarity" was given as input to agglomerative clustering tool and then output was given to flatten clustering tool [1]. The cluster 0 may be defined as the satisfied and cluster 2 may be defined as the non-satisfied and cluster 1 may be defined as neutral. Cluster 0 consists of 46 elements. Cluster 1 consists of 3 elements. Cluster 2 consists of 1 element.
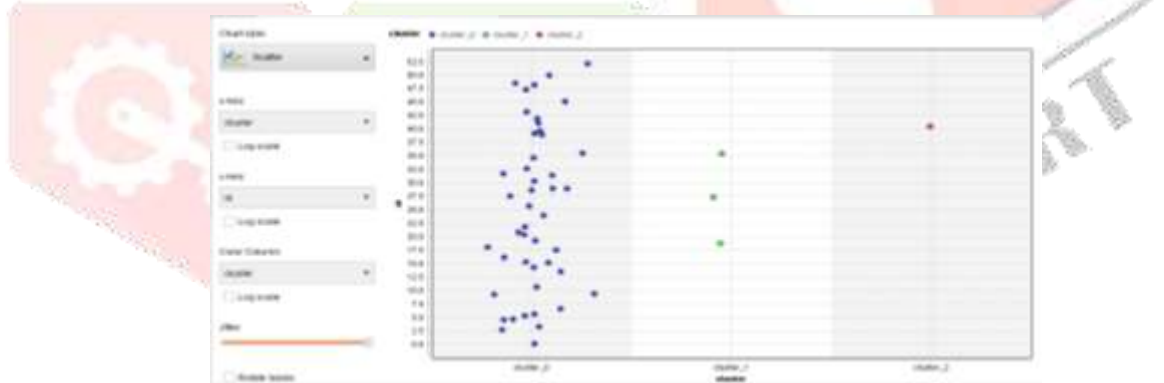

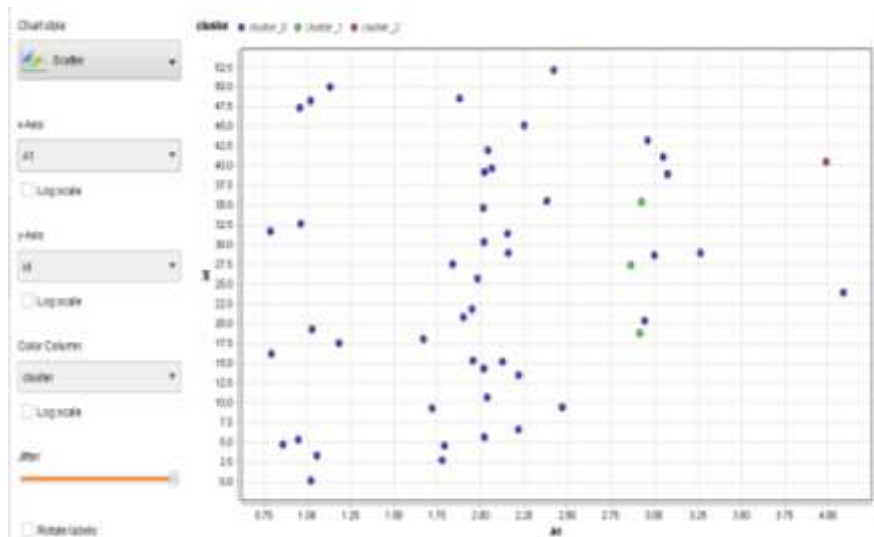**Figure 2: Showing the scatter graph on id verses cluster.**

Figure 3: Scatter graph of id verses A1

After that the scatter graph id verses attributes were made to show their contribution into the cluster. The graph of id verses A1 shown in figure 3 indicates that the higher the value of A1, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute A1.
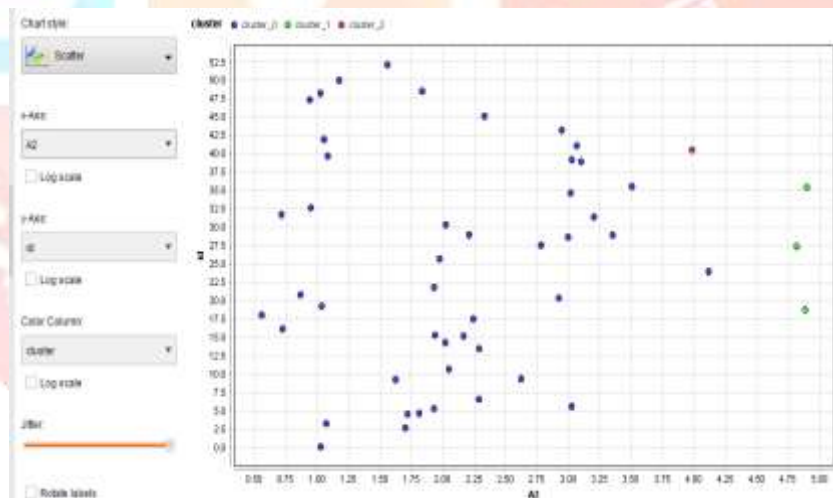

Figure 4: Scatter graph of id verses A2

The graph of id verses A2 shown in figure 4 indicates that the higher the value of A2, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute A2. Also, Neutral employees had highest range of A2.
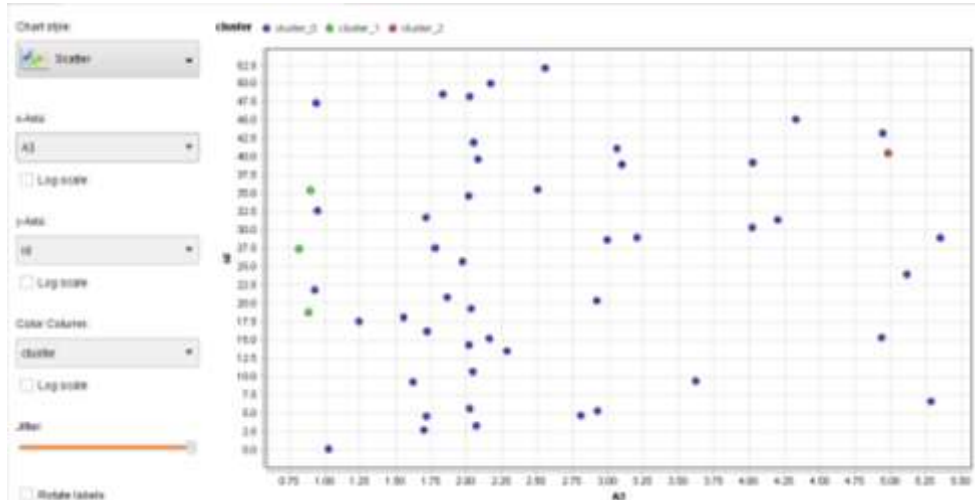
Figure 5: Scatter graph of id verses A3

The graph of id verses A3 shown in figure 5 indicates that the higher the value of A3, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute A3. Also, Neutral employees had lowest range of A3.
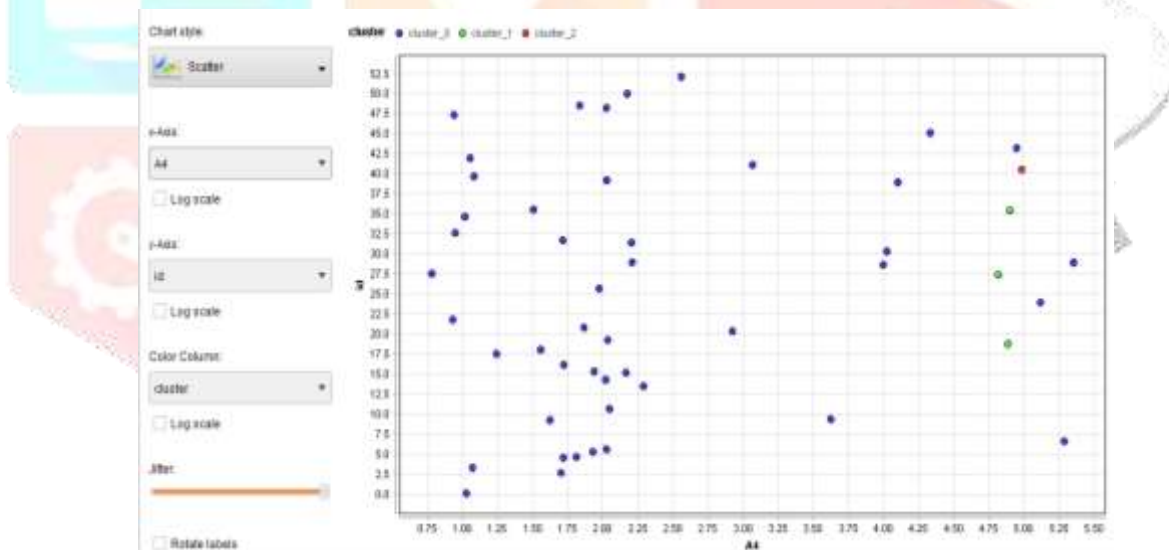

Figure 6: Scatter graph of id verses A4

The graph of id verses A4 shown in figure 6 indicates that the higher the value of A4, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute A4. Also, Neutral employees had highest range of A4.
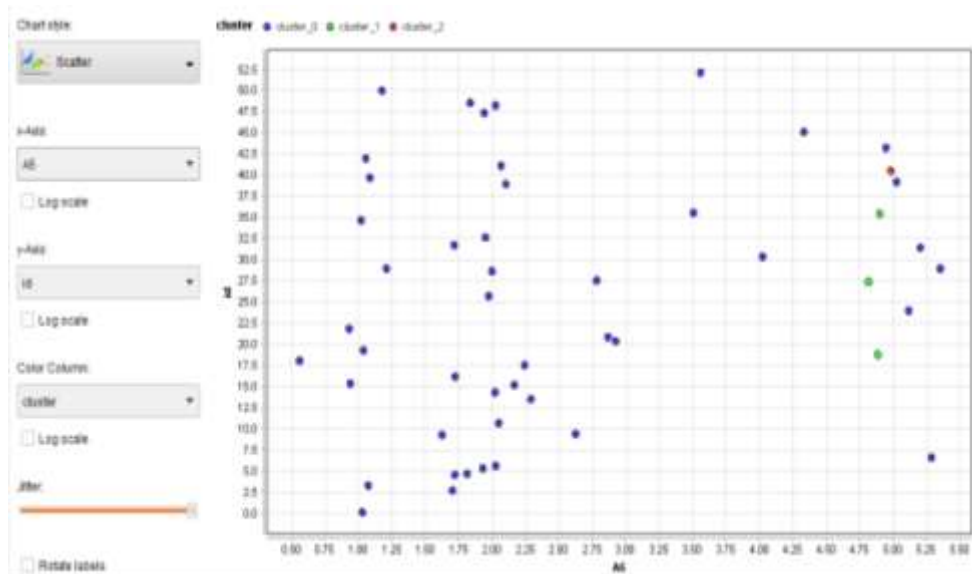
Figure 7: Scatter graph of id verses A5

The graph of id verses A5 shown in figure 7 indicates that the higher the value of A5, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute A5.
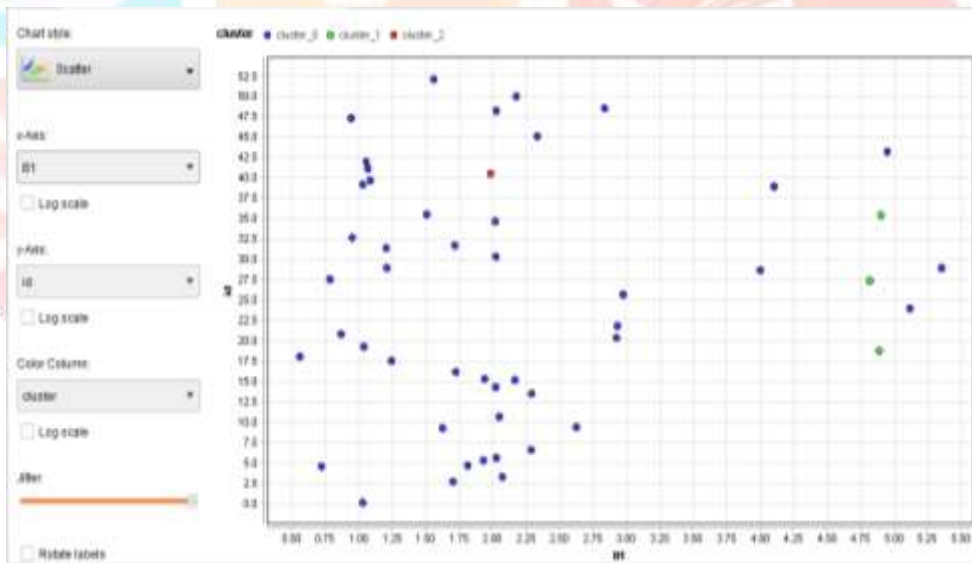

Figure 8: Scatter graph of id verses B1

The graph of id verses B1 shown in figure 8 indicates that the lower the value of B1, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute B1.
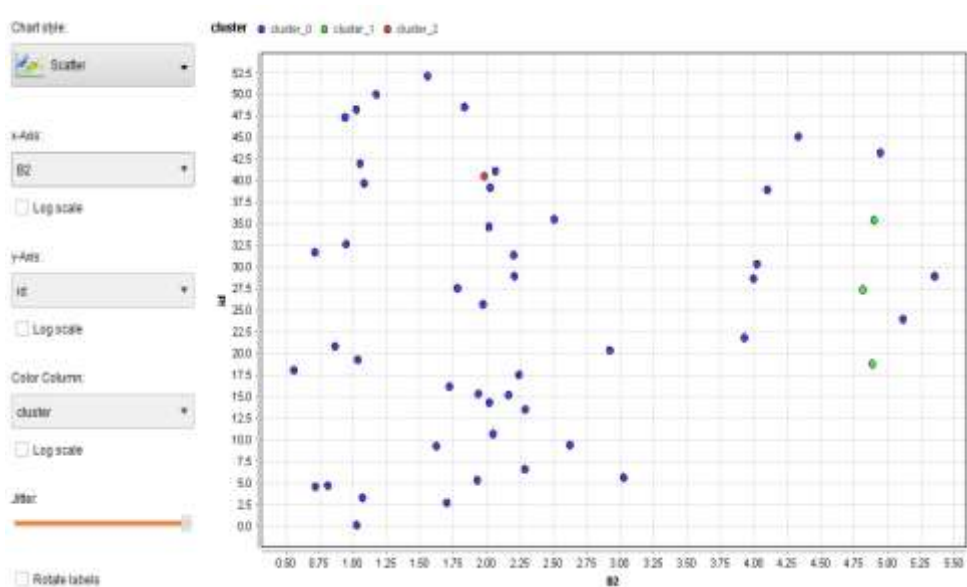
Figure 9: Scatter graph of id verses B2

The graph of id verses B2 shown in figure 9 indicates that the lower the value of B2, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute B2.
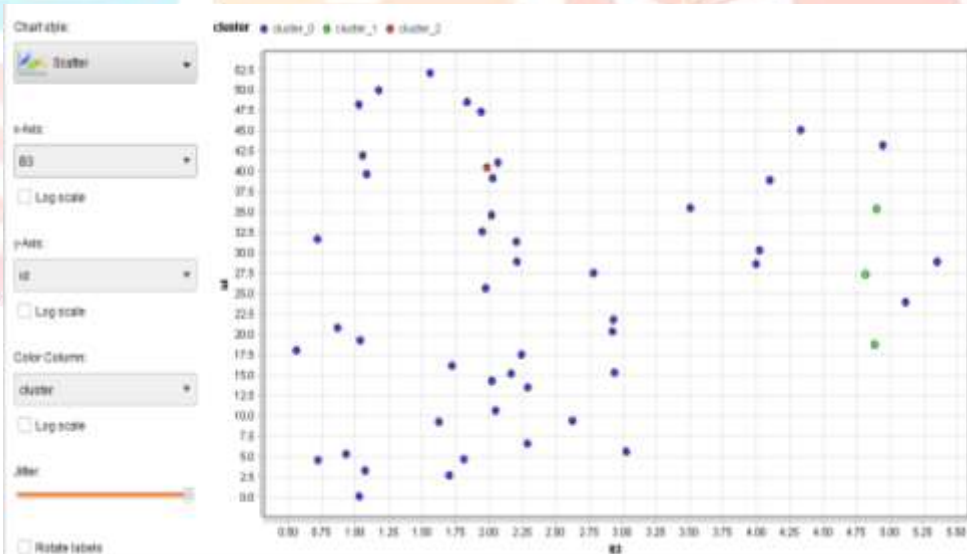

Figure 10: Scatter graph of id verses B3

The graph of id verses B3 shown in figure 10 indicates that the lower the value of B3, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute B3.
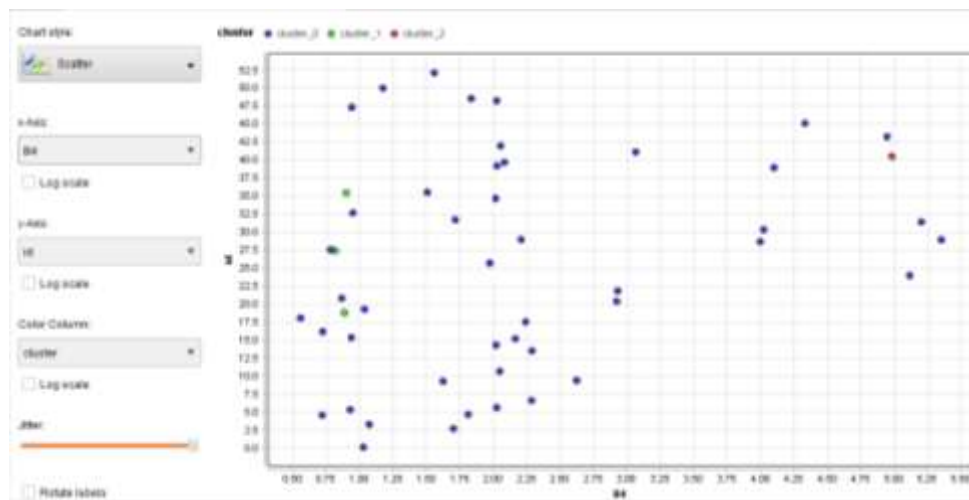
Figure 11: Scatter graph of id verses B4

The graph of id verses B4 shown in figure 11 indicates that the higher the value of B4, higher the dissatisfaction level where as the satisfied employee found throughout in the range of attribute B4.

Conclusion

In this research work, after data collection and analyzing various scatter graphs of id verses attributes, out of nine attributes, six are found to affect significantly the overall progress of the organization. These six attributes may discover some useful information. A1, A2, A3, A4, A5 and B4 are the attributes in which the dissatisfied employees are playing an important role. So, by taking more consideration of these attributes, we can manage the talent efficiently so that overall performance of the organization increases. The attributes are related to the categories of development plan for staff and managing performance. Moreover, some attributes related to managing performance like B1, B2, B3 are strongly agreed or agreed by majority of employees which can be satisfied or dissatisfied ones. By taking more consideration on the above six factors, we can use the talent of dissatisfied employees more efficiently.

References

[1] A. Bhatia, C. Sc, and C. Ranbir, "F a c t o r s A f f e c t i n g T a l e n t A c q u i s i t i o n a m o n g E m p l o y e e s : A D a t a M i n i n g A p p r o a c h," pp. 48–56.

[2] RapidMiner, "RapidMiner Studi o Manual," p. 110, 2014.

[3] Z. A. Jantan, H., Hamdan, A.R., Othman, "Talent Knowledge Acquisition using Data Mining Classification Techniques," *Conf. Data Min. Optim.*, vol. 11, no. June, pp. 28–29, 2011.

[4] D. Sisodia, "Clustering Techniques : A Brief Survey of Different Clustering Algorithms," vol. 1, no. 3, pp. 82–87.

[5] S. S. Ghuman, "Clustering Techniques- A Review," vol. 5, no. 5, pp. 524–530, 2016.