Supply Chain

Name

Institution

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1. Pareto Chart
2. The Pareto Chart was created using excel.

|  |  |  |  |
| --- | --- | --- | --- |
| **Success Factor** | **Number of Occurrences** | **Cumulative Total** | **Percent** |
| Leadership | 50 | 50 | 21% |
| Creativity | 45 | 95 | 40% |
| Presentation Skills | 41 | 136 | 57% |
| EQ Score | 38 | 174 | 73% |
| IQ Score | 25 | 199 | 83% |
| Education | 22 | 221 | 92% |
| Experience | 18 | 239 | 100% |
| **Total** | 239 |  |  |

Table : Pareto Table Values

Figure : Pareto Chart

1. The Pareto chart shows that Leadership, Creativity, Presentation Skills, EQ Score and IQ Score are the attributes had the most impact on the growth of the companies. They contributed to more 80% growth. On the other hand, Experience and Education had the least impact on growth because they contributed to less than 20% of the growth.
2. Process Control
3. Table calculated filled and calculated Excel

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **Sample Mean (g)** | **Range (g)** |  | **CLx** | **LCLx** | **UCLx** |  | **CLr** | **UCLr** | **LCLr** |
| 1 | 49.998 | 0.017 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 2 | 50.001 | 0.011 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 3 | 50.025 | 0.025 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 4 | 50.121 | 0.005 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 5 | 50.012 | 0.001 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 6 | 49.953 | 0.004 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 7 | 49.999 | 0.007 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 8 | 50.002 | 0.022 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 9 | 50.007 | 0.001 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
| 10 | 49.099 | 0.014 |  | 49.9217 | 49.9184 | 49.925 |  | 0.0107 | 0.019014 | 0.002386 |
|  |  |  |  |  |  |  |  |  |  |  |
| **Average** | 49.9217 | 0.0107 |  |  |  |  |  |  |  |  |

Table : Sample Means and Range UCL and LCL Calculations

1. Plots and charts

Figure : Sample Means Control Limits Plot

Figure : Range Control Limit Plot

1. The mint should not invest in the new machine because as it has been established in the plots, the points are below the LCL and above the UCL. This is an indication that the points are out of the obtained limits showing that the process is out of control.
2. Specification Limits

is greater than 1 indicating that the process if capable of producing sufficient parts to specification. On the other hand, is less than 1 indicating that the system cannot produce sufficient parts to specification as a result of the high variation. The mean of the process has shifted towards the lower control limits and will result in the system producing defects.

References

Heizer, J., Render, B., & Griffin, P. (2020). *Operations Management: Sustainability and Supply Chain Management, Third Canadian Edition, 3rd edition.* Pearson Canada. Retrieved August 2, 2021