ACTIVITY SOLUTION: IDENTIFY PROCESS CAPABILITY

GUIDELINES:

REVIEW THE GIVEN TWO SITUATIONS

IDENTIFY THE SIGMA LEVEL OF EACH SITUATION

ACTIVITY 01:

In an insurance process of updating loan applications on to mainframe, there are 10 critical fields. An auditor inspects 100 units randomly and he finds 8 units to be defective. The total number of defects that he found were 40.

Calculate the Sigma Level of this process

ACTIVITY 01 SOLUTION:

In an insurance process of updating loan applications on to mainframe, there are 10 critical fields. An auditor inspects 100 units randomly and he finds 8 units to be defective. The total number of defects that he found were 40.

Calculate the Sigma Level of this process.

- **No. of Units? 100**
- **No. of Opportunities of Errors? 10**
- **No. of Defects? 40**
- **No. of Defectives? 8**
- **DPO = D / (O*U) = 40 / (10*100) = 0.04**
- **DPMO = 1,000,000 * DPO = 1,000,000 * 0.04 = 40,000**

SIGMA CONVERSION TABLE

Sigma	DPMO	Sigma	DPMO	Sigma	DPMO
0.1	919243.3	2.1	274253.1	4.1	4661.2
0.2	903199.5	2.2	241963.6	4.2	3467
0.3	884930.3	2.3	211855.3	4.3	2555.2
0.4	864333.9	2.4	184060.1	4.4	1865.9
0.5	841344.7	2.5	158655.3	4.5	1350
0.6	815939.9	2.6	135666.1	4.6	967.7
0.7	788144.7	2.7	115069.7	4.7	687.2
0.8	758036.4	2.8	96800.5	4.8	483.5
0.9	725746.9	2.9	80756.7	4.9	337
1	691462.5	3	66807.2	5	232.7
1.1	655421.7	3.1	54799.3	5.1	159.1
1.2	617911.4	3.2	44565.4	5.2	107.8
1.3	579259.7	3.3	35930.3	5.3	72.4
1.4	539827.9	3.4	28716.5	5.4	48.1
1.5	500000.0	3.5	22750.1	5.5	31.7
1.6	460172.1	3.6	17864.4	5.6	20.7
1.7	420740.3	3.7	13903.4	5.7	13.4
1.8	382088.6	3.8	10724.1	5.8	8.5
1.9	344578.3	3.9	8197.5	5.9	5.4
2	308537.5	4	6209.7	6	3.4

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- **DPO = D / (O*U) = 40 / (10*100) = 0.04**
- **DPMO = 1,000,000 * DPO = 1,000,000 * 0.04 = 40,000**
- **SIGMA VALUE = 3.3 SIGMA**

ACTIVITY 02:

At Matrix Corp., the Quality Auditors capture the late arrival data of employees. Of the 300 samples for past 3 months, they identify that employees were late 270 times. If an employee does not arrive on time at work on a particular day, that instance is considered as a Defect.

Calculate the Sigma Level of this process.

ACTIVITY 02 SOLUTION:

At Matrix Corp., the Quality Auditors capture the late arrival data of employees. Of the 300 samples for past 3 months, they identify that employees were late 270 times. If an employee does not arrive on time at work on a particular day, that instance is considered as a Defect.

Calculate the Sigma Level of this process.

- **No. of Units? 300**
- **No. of Opportunities of Errors? 1**
- **No. of Defects? 270**
- **DPO = D / (O*U) = 270 / (1*300) = 0.9**
- **DPMO = 1,000,000 * DPO = 1,000,000 * 0.9 = 900,000**

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Calculate the Sigma Level of this process.

- **No. of Units? 300**
- **No. of Opportunities of Errors? 1**
- **No. of Defects? 270**
- **DPO = D / (O*U) = 270 / (1*300) = 0.9**
- **DPMO = 1,000,000 * DPO = 1,000,000 * 0.9 = 900,000**
- **SIGMA VALUE = 0.2 SIGMA**