1.0 PURPOSE

This procedure is to ensure adequate appropriate data (statistics) within the organization are determined, defined and documented, subsequently the defined data are collected and analysed at pre-determined intervals in order to evaluate where continual improvement can be made or to determine potential non-conformity for preventive action.

2.0 SCOPE

This procedure is applicable to all processes and areas in the Quality Management System (QMS) in the organisation.

3.0 PROCEDURE

3.1 Determine and Define Specific Appropriate Data

3.1.1 Based on the organization chart and processes determined in the Process Map, Head of Department (HOD) based on input from Managers shall determine, define and document the following four (4) categories of specific appropriate data in their departments / units including the analysis frequency, analysis responsibility and analysis methods (e.g. linear graph, bar chart, column chart) in the 'Analysis of Data Table' during the establishment of the QMS.

a) Conformity of services;
b) Degree of customer satisfaction;
c) Performance and effectiveness of the quality management system;
d) Performance of external providers.

3.1.1.1 The purposes of the analysis and evaluation are to evaluate,

a) if planning has been implemented effectively;
b) the effectiveness of actions taken to address risks and opportunities;
c) the need for improvements to the quality management system.

3.1.1.2 Any useful and significant appropriate data in the organization shall be further determined, defined by the head

of functions/ departments/ units concerned and be added into the 'Analysis of Data Table' from time to time.

3.1.1.3 The determined appropriate data including the analysis frequency, analysis responsibility and analysis method based on the above four categories of data in the QMS shall defined and documented in the 'Annex B - Analysis of Data Table'.

3.2 Collect and Analyse Data

3.2.1 Based on the appropriate data which have been determined and defined, the staff responsible for the analysis of the appropriate data shall collect, collate and analyse each of the data accordingly at pre-determined intervals, e.g. yearly or half yearly as defined in the column 'Analysis Frequency' of the 'Analysis of Data Table'.

3.2.1.1 Analysis interval as defined in the 'Analysis Frequency' means, e.g. if the analysis frequency for a data defined as yearly, the collected data shall be plotted / updated and drawn with conclusion once a year (e.g. at the beginning of the following year).

3.2.1.2 The statistical method, e.g. linear graph, bar chart or column chart used to analyse each set of data shall be consistent to the method which have been determined and defined in the 'Analysis Method' column of the 'Analysis of Data Table'.

3.1.2.3 The title to be identified for each of chart collated/ plotted shall be consistent with the data sentence defined in the 'Analysis of Data Table' in order to enhance traceability between the chart and the data defined.

3.2.2 After each set of data collated and / or plotted, the staff concerned shall submit the charts to their HOD/ HOU for evaluation by drawing appropriate conclusion/ interpretation against any abnormal trend or is it normal or acceptable trend at the specified analysis frequency.

3.2.2.1 The conclusion/ interpretation can be written at the bottom of the chart or as attachment to the chart.

Note: Please note that 'Analysis and Evaluation' as required by ISO9001:2015 means,
1) Collate and/ or plotting the chart; and
2) Drawing conclusion/ interpreting the chart.

3.3 Decision on Continual Improvement or Risk Management (Preventive Action) (if any)

3.3.1 Based on the analysed data/ charts, the head of functions/ departments/ units concerned shall,
1) evaluate whether continual improvement can be made; OR
2) determine is there any potential non-conformity for initiating preventive action;

3.1.1.1 If the graph / chart shows a significant deteriorating trend/ performance, a decision shall be made to initiate preventive action as per **Risk Management.**

3.1.1.2 If the graph/ chart presents a current situation where can be improved further, a continual improvement programme shall be decided, initiated and planned based on Plan, Do, Check and Act (PDCA) as per **Continual Improvement Procedures.**

3.4 Documented Information Control

3.4.1 After completion of analysis and evaluation of each data at analysis interval, the person in charge shall immediately file the original copy of the analysed and evaluated charts in a hard copy file labelled as "**Analysis of Data – Year 2020 (example)**", each department/ unit one file which is maintained by an assigned clerk/ executive by the Manager.

3.4.1.1 The charts shall be filed by month, quarter, half yearly or yearly in an ascending order.

3.4.1.2 Each set of charts shall be separated with a divider labelled with the title of the appropriate data, example, e.g. "Lane up time hours per plaza per month".

3.4.2 As soon as the analysis of data file is updated, the assigned clerk/ executive by the Manager shall immediately place the file in rack/ cabinet labelled as "Analysis of Data".

3.4.2.1 Anyone who were to retrieve the analysis of data file shall obtained verbal permission from the Manager concerned.

3.4.2.2 The analysis of data file shall be kept for minimum 3 years from the year ending of the analysed data.

4.0 APPLICABLE CLAUSES

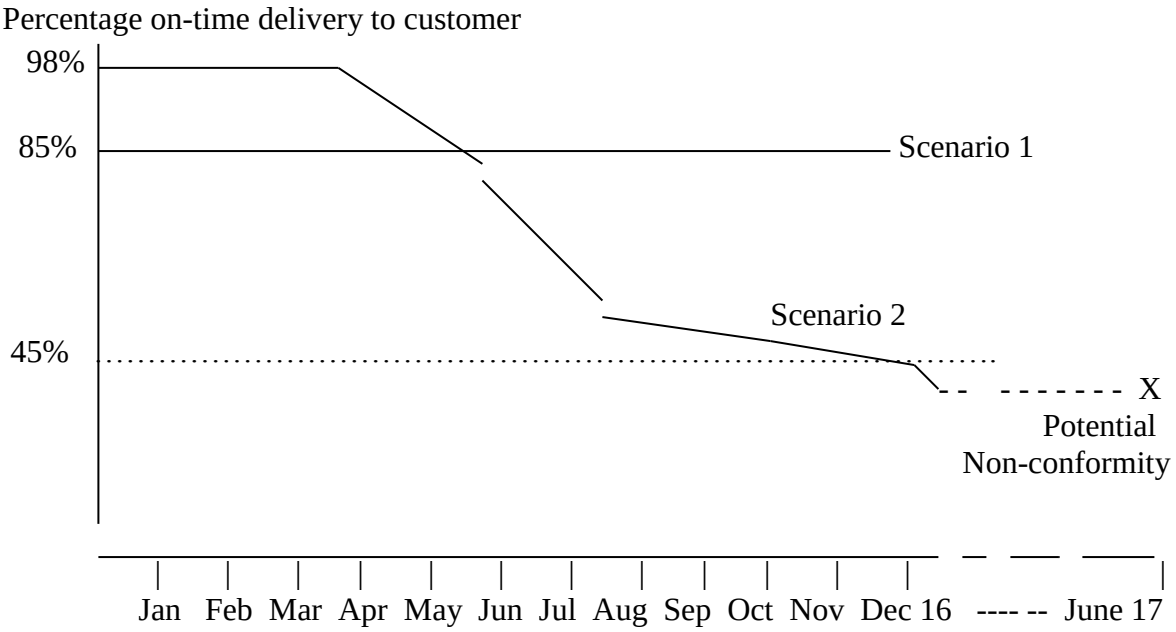
4.4 Quality Management System and Its Processes

5.0 QUALITY RECORDS

No.	Title of Records	Retention Period (Year)
1	Analysis Data Table	3 years

Annex A: Sample

Monthly Percentage On-time Delivery to Customer per Month



Scenario 1 shows that there is an opportunity for continual improvement because the monthly on-time delivery is at average 85% and it can be improved further to e.g. 98% in a specified period e.g. in 2 years or 3 years period. If continual improvement decided to be taken, a continual improvement plan should be planned and implemented based on plan, do, check and act (PDCA) concept.

Scenario 2 may lead to potential non-conformity and it is a new issue (e.g. potential loss of customers at point 'X', e.g. in June 2017, as projected) if the monthly % of on-time delivery continue to be deteriorating. This scenario shall require preventive action to prevent the occurrence of the potential non-conformity as per Risk Management procedures.

Note: Decision for preventive action or continual improvement is one the seven quality principles i.e. 'Factual Decision Making' based on analysis of data.

Annex B:

Analysis of Data Table

Appropriate Data to be Analysed	Analysis Frequency	Analysis Responsibility	Analysis Method
A) Conformity of services			
1) Lane up time hours per plaza per month.	Yearly	IT Manager	Bar Chart or any suitable chart.
2) Number case of traffics and revenue report for both cash and Electronic Toll Collection System submission exceed timeline.	Yearly	Function Manager	
3) Number case submission of Traffic and Toll Revenue report error.	Yearly	Function Manager	
B) Degree of Customer Satisfaction			
1) Number of customer complaint by nature of complaint per month. Operational and System related.	Yearly	Executive in charge	
2) Customer satisfaction survey index scores by survey area (e.g. Toll Collector service at toll booth, Touch N Go and Smart Tag lane service, Efficiency Service of 'Pusat Khidmat Pelanggan).	Yearly	Executive In Charge	Bar Chart or any suitable chart.
3) No. of compliment per year.	Yearly	Executive in charge	
C) Process performances and effectiveness of the QMS			
1) Toll Collection Operation a) Toll Collector Performance matrix rating exceed rating 4. b) No. of Wrong Classification transaction and shortage per plaza per month. c) No. of toll document checked and verified within 3 working days from operational date.	Yearly	Executive in charge	

Appropriate Data to be Analysed	Analysis Frequency	Analysis Responsibility	Analysis Method
2) Maintenance a) No. cases of the equipment breakdown per month that resulted unnecessary lane closure. b) Response time to any system failure within 2 hours time by highway.	Yearly	IT Executive	Bar Chart or any suitable chart
3) Human Resources a) Total number of staff per month. b) No. of staff by department per month. c) No. of staff resign per month. d) No. of staff recruited within time frame required by categories per month. e) No of training conducted per year.	Yearly	HCD Executive	
4) Purchasing a) No. of delivery from suppliers received per month by category b) No. cases of PO not generated and approved on time per month.	Yearly	Procurement Manager	
5) Internal Quality Audit a) Total number of CAR per year. b) Number of CAR per department per audit. c) Number of observations per department per audit.	Yearly	Internal Quality Audit Executive	
D) Performance of external providers 1. Periodic vendor evaluation (major suppliers) results by evaluation criteria (e.g. quality, delivery, pricing, service). 2. No. cases of failure at incoming receiving in term of: i). Product quality ii). On-time delivery	Yearly	Procurement Executive	Bar Chart or any suitable chart

DOCUMENT AMENDMENT REGISTER

NO	DATE	REASON	CHAPTER	VERSION
1	15/10/2020	Initial Release	All	1.0
2	30/08/2021	Amendment on Analysis Method for Annex B.	All	1.1