



A Gate-Way To R&D,L&D,T&D,F&D,M&D And G&D [A Review With The Online Surveys And Online Calculators]

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ABSTRACT

This review paper focuses on the introduction to the most fastest available tools for the Research and Development, Learning and Development, Training and Development, Familiarization and Development , Materialization and Development & Generalization and Development .

Here the roles of the on-line surveys and the on-line calculators had been reviewed and briefed to prevent the cost and the time over-runs for the above mentioned.

Keywords: R&D, L&D, T&D, F&D, M&D and G&D

1. INTRODUCTION

R&D stands for the Research and Development, L&D stands for the Learning and Development , T&D stands for the Training and Development, F&D stands for the Familiarization and Development , M&D stands for the Materialization and Development , G&D stands for the Generalization and Development .

Statistics is very essential for the treatment of the findings before the data is submitted with the valid and the reliable conclusions .And any statistical treatment for the techniques orientation rather than the objective orientation would take an impression that the higher methods through the statistics had been used .

There are basically 5-Levels of the Statistics :

Table(S) 1-5 : Levels of the Statistics

1. Level – 5 Statistics

Multi-Variate Methods	Factor Analysis
	Cluster Analysis
	Probit & Logit Analysis
	Path Analysis
	Profile Analysis
	Multi-Variate Analysis
	Analysis of Factorial Experiments



2. Level-4 Statistics

Tests for the Assurance & Relationship	Tests of the Independence between the attributes
	Contingency & Association Measures
	Correlation & Regression
	Non-Parametric methods

3. Level-3 Statistics

Tests for the Hypotheses	Comparison of the means of the Independent Groups
	Comparison of the means of the paired values
	Comparison of the Proportions
	Comparison of the Variances

4. Level-2 Statistics

Tests for the Basic Statistics	Proportions
	Percentages
	Averages
	Standard Deviation
	Measures of the Consistency of the Data
	Frequency of Distribution
	Histograms
	Measures of Location
	Measures of Variation
	Measures of Shape
Cross-Tabulation	

5. Level-1 Statistics

Data Collection-Data Recording	Sampling Scheme
	Lay-Out of the Experiment
	Data –Coding
	Data-Scoring
	Data-Recording
	Data Tabulation
	Data conversion to percentages

2. LITERATURE REVIEW

The statistical conclusions could be very well drawn with the computers for the below benefits :

1. For STEM ; S-Science , T-Technology ,E-Engineering ,M-Medical [1]
2. Designing ,Manufacturing and Analysis [2]
3. Transformation from the professional skills to the process skills is very essential for Problem Analysis and Problem Solving ,Analytical Skills and Critical Thinking ,Interdisciplinary Competencies , Innovation and Creativity ,Collaborations ,Project Management and Leadership ,Dissemination and Communicatio and Social Abilities. [4].
4. The same is applicable for the Agricultural Technology ,Industrial Technology ,Information Technology , Bio-Technology ,Nano-Technology and Service Technology .
The 11 M's by Dr. M Visweswarayya – Manpower,Machinery ,Materials ,Market ,Motivational Power, Money , Management ,Means of Communication ,Momentum ,Methods and Measurements .
For R- ITPLJ ; Right Information to the Right Personnel at the Right Time at the Right Place at the Right Location and at the Right Job. [5]
5. The 7A's i.e. Accessibility ,Affordability ,Availability ,Achievability ,Accomplishability,



Attestability , Appreciability and Artful.

The qualitative constraints i.e. acceptable constraints ,unacceptable constraints ,behavioural constraints and side constraints could be considered .

Some people hate the very name statistics ,but I find them full of beauty and interest ,whenever they are not brutalized ,but deliberately handled by the higher methods and are warily interpreted ,their power of dealing with the complicated phenomenon is extra-ordinary (Sir Francis Galton) .

Let us now compare the mathematical features with the statistical features :

Table-6 : Mathematical features versus Statistical features

Mathematical Features	Statistical features
Equations,Integrations ,Optimizations,Deconvolutions,Fourier Transformations ,Spectral decompositions , Time series analysis , Gabor Transforms,Wavelet analysis , Simulate Random Data	Descriptive Statistics , Contingency Tables, Parametric Tests , Non-Parametric Tests , Regression analysis , Multi-Variate analysis

Table-7 : Descriptive Statistics versus Inferential Statistics

Descriptive Statistics	Inferential Statistics
Describing the data in an interpretable form .	Estimation of the un-known parameters of the population . Testing whether the sample data have significant evidence to support or reject the hypotheses about the population parameters .

3. METHODOLOGY

Table-8 : Null and Alternate Hypotheses

Hypotheses Definition	These are the verifiable statement about the population characteristics ,parameters ;formulated with the prior knowledge /based considerations /theoretical considerations .
Let us understand at how to arrive at the conclusion : Method A is better than Method B .	
Null Hypotheses (H_0)	There is no difference between the two methods .
Example	H_0 : The average time spent by an operator on the computer is 08 Hours .
Alternate Hypotheses (H_1)	There is a difference between the two methods .
Example	H_1 : The time spent by an operator is less than 08 Hours. H_1 : The time spent by an operator is more than 08 Hours. H_1 : The time spent by an operator is not equal to 08 Hours.
Whenever the NULL Hypotheses is not true implies that the ALTERNATE Hypotheses is true .In the case of the Alternate Hypotheses , there could be a Truncation i.e. Left-Tailed and Right –Tailed Truncations. In the above case , left-tailed being the lesser than the average and the right –tailed being the more than the average .	

From the On-Line Survey(S)

Table-9 : Survey No.-1

http://www.esurveyspro.com/SurveyResults.aspx?surveyId=205961	
By sending the survey URL via an e-	http://www.eSurveysPro.com/Survey.aspx?id=0a377f7a-78c5-4d73-bf00-



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mail program.	7b335d295d00
By providing a link to the survey from the home page .	Click here to take the survey now. The survey was created with eSurveysPro.com survey software.
By embedding the full survey page in the web page .	<iframe src="http://www.eSurveysPro.com/Survey.aspx?id=0a377f7a-78c5-4d73-bf00-7b335d295d00" frameborder="0" width="800" height="600" style="overflow: hidden">Click here to take the survey now. The survey was created with eSurveysPro.com survey software.</iframe>

Table-10 : Survey No.-2

http://www.esurveyspro.com/SurveyResults.aspx?surveyId=220524	
By sending the survey URL via an e-mail program.	http://www.eSurveysPro.com/Survey.aspx?id=f6844aa9-f175-4373-b327-f500cf5191c9
By providing a link to the survey from the home page .	Click here to take the survey now. The survey was created with eSurveysPro.com survey software.
By embedding the full survey page in the web page .	<iframe src="http://www.eSurveysPro.com/Survey.aspx?id=f6844aa9-f175-4373-b327-f500cf5191c9" frameborder="0" width="800" height="600" style="overflow: hidden">Click here to take the survey now. The survey was created with eSurveysPro.com survey software.</iframe>

From the On-Line Calculators

Table-11 : Survey on-line calculators

Statistical Requirements	Links of the On-Line Calculators
Factor Analysis	http://www.danielsoper.com/statcalc3/ http://www.graphpad.com/quickcalcs/ http://vassarstats.net/
Cluster Analysis	
Probit & Logit Analysis	
Path Analysis	
Profile Analysis	
Multi-Variate Analysis	
Analysis of Factorial Experiments	
Tests of the Independence between the attributes	
Contingency & Association Measures	
Correlation & Regression	
Non-Parametric methods	

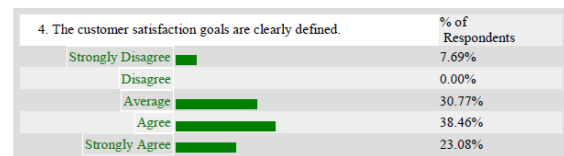
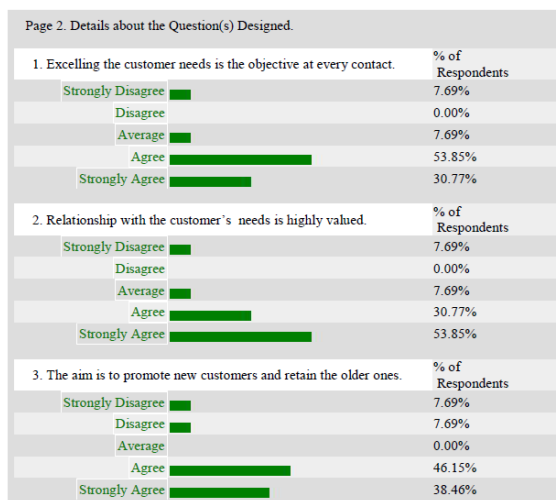


Comparison of the means of the Independent Groups	http://www.calculatorsoup.com/ http://www.alcula.com/
Comparison of the means of the paired values	http://stattrek.com/statistics/statistics-table.aspx
Comparison of the Proportions	
Comparison of the Variances	http://www.wessa.net/
Proportions	http://www.socscistatistics.com/tests/mannwhitney/
Percentages	
Averages	https://www.dssresearch.com/KnowledgeCenter/toolkitcalculators/statisticalpowercalculators.aspx
Standard Deviation	
Measures of the Consistency of the Data	
Frequency of Distribution	http://www.calculator.com/scialc.html
Histograms	
Measures of Location	http://www.numberempire.com/statisticscalculator.php
Measures of Variation	
Measures of Shape	http://www.meta-calculator.com/online/
Cross-Tabulation	
Sampling Scheme	
Lay-Out of the Experiment	
Data –Coding	
Data-Scoring	
Data-Recording	
Data Tabulation	
Data conversion to percentages	

4. REVIEW ANALYSIS -DATA COLLECTION & DATA INTERPRETATION

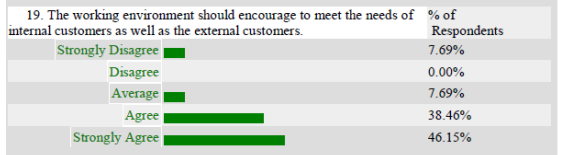
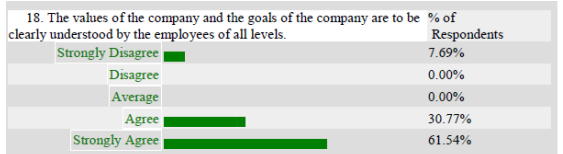
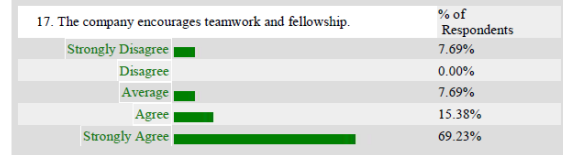
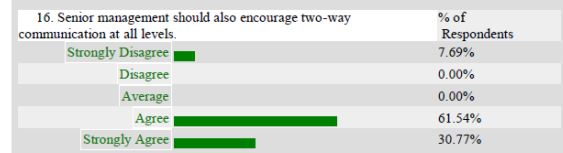
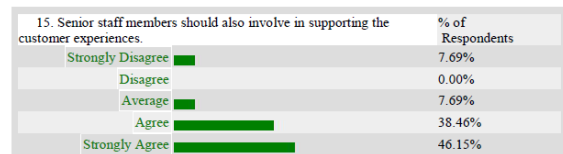
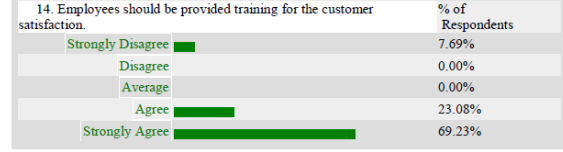
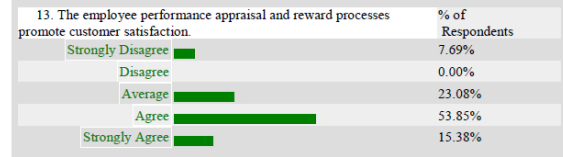
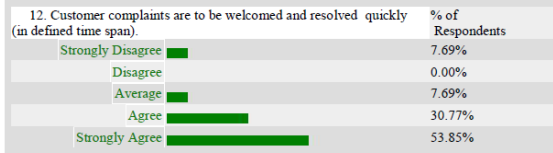
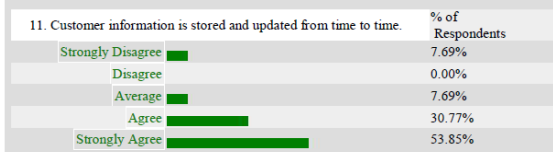
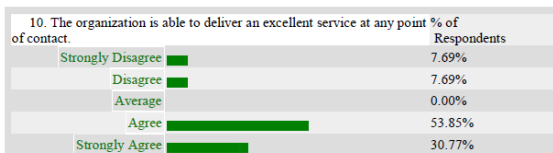
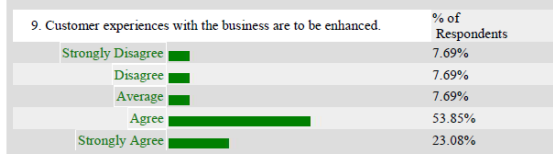
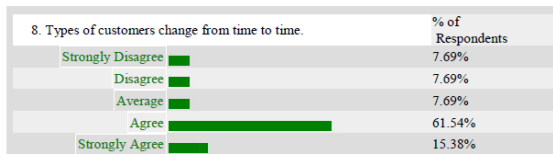
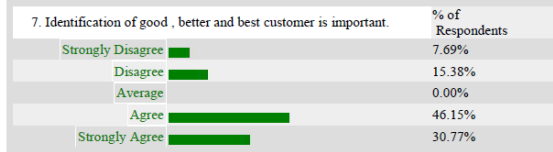
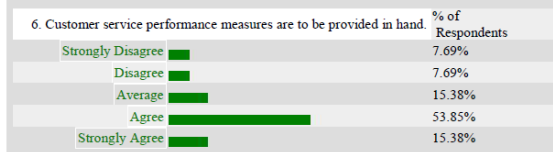
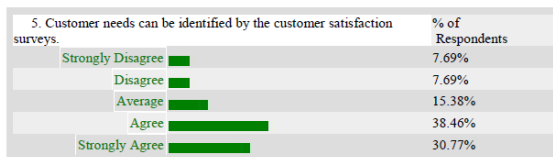
For the Survey No.-1

- <http://www.esurveyspro.com/SurveyResults.aspx?surveyId=205961>





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20. Employees should be provided training for the customer delight.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	15.38%
Agree	38.46%
Strongly Agree	38.46%

21. Group excels the customer needs as the objective at every contact.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	23.08%
Agree	46.15%
Strongly Agree	23.08%

22. Maintains good relationship with the customers.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	0.00%
Agree	46.15%
Strongly Agree	46.15%

23. Always welcomes the new customers and encourages the old customers.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	0.00%
Agree	53.85%
Strongly Agree	38.46%

24. The customer satisfaction goals are achieved.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	23.08%
Agree	46.15%
Strongly Agree	23.08%

25. Identifies the customers needs perfectly.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	15.38%
Agree	61.54%
Strongly Agree	15.38%

26. Customer service performance is up to the mark.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	7.69%
Agree	76.92%
Strongly Agree	7.69%

27. Customers are valued at every visit .	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	15.38%
Agree	38.46%
Strongly Agree	38.46%

28. Customers are provided with all the true information at every visit.	% of Respondents
Strongly Disagree	7.69%
Disagree	7.69%
Average	7.69%
Agree	61.54%
Strongly Agree	15.38%

29. Customer experiences with the business are always enhanced.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	7.69%
Agree	61.54%
Strongly Agree	23.08%

30. The group is able to deliver an excellent service at any point of contact.	% of Respondents
Strongly Disagree	7.69%
Disagree	7.69%
Average	30.77%
Agree	23.08%
Strongly Agree	30.77%

31. Old and new customers are identified and treated equally.	% of Respondents
Strongly Disagree	7.69%
Disagree	7.69%
Average	30.77%
Agree	38.46%
Strongly Agree	15.38%

32. Customer complaints are always welcomed and resolved quickly (in defined time span).	% of Respondents
Strongly Disagree	7.69%
Disagree	7.69%
Average	7.69%
Agree	46.15%
Strongly Agree	30.77%

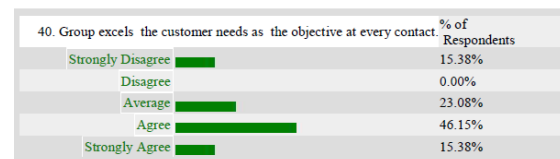
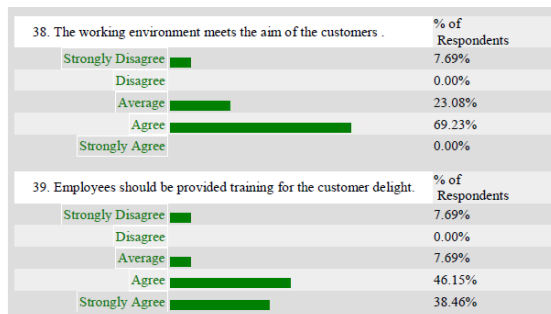
33. The employee performance at every contact provides a new shopping experience.	% of Respondents
Strongly Disagree	15.38%
Disagree	0.00%
Average	7.69%
Agree	53.85%
Strongly Agree	23.08%

34. Employees should be provided more training on certain aspects of customer dealing and management.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	7.69%
Agree	46.15%
Strongly Agree	38.46%

35. Two-way communication between the customer and the seller is clearly taken care of	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	15.38%
Agree	61.54%
Strongly Agree	15.38%

36. The incentives provided to the customers on the purchases is up to the mark.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	23.08%
Agree	53.85%
Strongly Agree	15.38%

37. The environment is perfectly created for a good shopping experience.	% of Respondents
Strongly Disagree	7.69%
Disagree	0.00%
Average	7.69%
Agree	61.54%
Strongly Agree	23.08%



For the Survey No.-2

2. <http://www.esurveyspro.com/SurveyResults.aspx?surveyId=220524>

In the same way the data collection and the data interpretation was obtained for this survey as well .

5. CONCLUSIONS & IMPLICATIONS

Drawing the conclusions and understanding more about the sources of the data is the goal of the statistical analysis (Kachigan)

Based upon the 5-point Likert Scale for the Strongly Agreed Statements (SD-SA) (5-pointer is for the Strongly Agreed Statement)

- 1) The relationship with the customer's needs is highly valued .
- 2) The customer's information is stored and updated from time-to-time .
- 3) The customer complaints are to be welcomed and resolved quickly .
- 4) The Employees should be provided training for the customer satisfaction .
- 5) The Senior staff members should also involve in supporting the customer experiences.
- 6) The company encourages the team-work and the fellow-ship.
- 7) The values of the company and the goals of the customer are to be clearly understood by the employees at all the levels .
- 8) The working environment should encourage to meet the needs of the internal customers as well as the external customers .
- 9) The group should be able to deliver an excellent service at any point of the contact.

Based upon the 7-point Likert Scale for the Strongly Agreed Statements (SD-SA) (5-pointer is for the Strongly Agreed Statement)

Customers Expectation(S)

- 10) The Excellent organizations should have the modern looking equipments.
- 11) The physical facilities at the excellent organizations should be visually appealing.
- 12) The Employees at excellent organizations should be neat in their appearances .
- 13) The materials associated with the service should be visually appealing at the excellent organizations .
- 14) When the customer has a problem ,excellent organization should show a sincere interest in solving it .
- 15) The excellent organization should provide the service at the time they promise to do so .
- 16) The Employees of the excellent organizations should give prompt service to the customers .
- 17) The employees of the excellent organizations should always be willing to help the customers .
- 18) The behaviour of employees in excellent organizations should instill confidence in the customers .
- 19) The customers of the excellent organizations should feel safe in the transactions .
- 20) The employees of the excellent organizations should be consistently courteous with the customers .
- 21) The excellent organizations should give individual attention .



- 22) The excellent organizations should have their customers best interests at heart
- 23) The employees of the excellent organizations should understand the specific of their Customers.

Customers Perception(S)

- 24) The organizations are in possession of the modern looking equipment .
- 25) The organizations physical features are visually appealing .
- 26) The materials associated with the service do visually appeal at the organization .
- 27) When the organization promises to do something by a certain time , it does so .
- 28) When you have a problem ,the organization shows a sincere interest in solving it.
- 29) The employees in the organization tell you exactly when the services would be performed .
- 30) The behavior of the employees in the organization instills confidence in you .
- 31) The employees in the organizations do have the knowledge to answer your questions.
- 32) The organization do have the employees who give the personal attention .

6. DISCUSSIONS

With the above mentioned review , this could be clearly understood that a new GATE-WAY TO R&D,L&D,T&D,F&D,M&D AND G&D gets opened with the introduction of the online-tools and the online-calculators .

7. FUTURE WORK

The below mentioned is a 30-point check-list for the submission of the proposals to the funding agencies / foundation and that day is not so far –off when the online surveys and the online calculators could be linked to the same for the betterment .

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Proposal - recommended format. 2. Stated goals /priorities – Attended . 3. Worth of the proposal- Justified . 4. Contribution to the significant area of knowledge –Indicators. 5. Addition to the present knowledge –Indicators . 6. Refinement to the present knowledge – Indicators . 7. Conceptual Hypotheses- Stated . 8. Operational Hypotheses –Stated . 9. Field of Investigation-Familiarity. 10. Recent studies in the problem area(S) – Familiarity. 11. Hypotheses Testing –Indicators . 12. Research Design-Indicators . 13. Data Gathering Indicators . 14. Instruments –Indicators . 15. Procedures –Indicators . 16. Validity –Indicators . 17. Reliability-Indicators . | <ol style="list-style-type: none"> 18. Sampling procedures –Descriptive . 19. Recognition of the Confounding Variables – Indicators . 20. Minimisation of the influence of the variables –Proposed . 21. Data Analysis –procedures –Indicators . 22. Computers Usage –Indicators . 23. Funds Allocation –Proposed <ol style="list-style-type: none"> (a) Wages (b) Fringe Benefits (c) Purchase of the Equipments / Special Equipments . (d) Rental of the Equipments / Special Equipments . (e) Travel Expenses. (f) Over-Head Expenses. 24. Research Projects –Tangible. 25. Scholarly Journals –Tangible. 26. Academic Trainings –Tangible. 27. Qualification Trainings-Tangible. 28. Activities list with the Time versus Cost. |
|---|---|



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