

# Appendix

## Table of Contents

1	Information Quality Assessment Survey .....	A1
2	Assessment of Data Quality Dimensions .....	A3
3	Online Experiment Scenarios – Screenshots .....	A4
4	Statistical Results .....	A7
5	Trend Function for Calculating Data Points.....	A16
6	Informed Consent.....	A18

# 1 Information Quality Assessment Survey

For each statement, indicate the extent to which this information is true: “This information” refers to the information or database selected by your company for reporting on this information quality questionnaire.	Not at all	Completely
1. This information is easy to manipulate to meet our Needs.	0	10
2. It is easy to interpret what this information means.	0	10
3. This information is consistently presented in the same format.	0	10
4. This information includes all the necessary values.	0	10
5. This information is easily retrievable.	0	10
6. This information is formatted compactly.	0	10
7. This information is protected against unauthorized access.	0	10
8. This information is incomplete.	0	10
9. This information is not presented consistently.	0	10
10. This information has a poor reputation for quality.	0	10
11. This information is complete.	0	10
12. This information is presented concisely.	0	10
13. This information is easy to understand.	0	10
14. This information is believable.	0	10
15. This information is easy to aggregate.	0	10
16. This information is sufficient volume for your needs.	0	10
17. This information is correct.	0	10
18. This information is useful to our work.	0	10
19. This information provides a major benefit to our work.	0	10
20. This information is easily accessible.	0	10
21. This information has a good reputation.	0	10
22. This information is sufficiently current for our work.	0	10
23. This information is difficult to interpret.	0	10
24. This information is not protected with adequate security.	0	10
25. This information is doubtful credibility.	0	10
26. The amount of information does match our needs.	0	10
27. This information is difficult to manipulate to meet our needs.	0	10
28. This information is not sufficiently timely.	0	10
29. This information is difficult to aggregate.	0	10
30. The amount of information is not sufficient for our needs.	0	10
31. This information is incorrect.	0	10
32. This information does not add value to our work.	0	10
33. This information was objectively collected.	0	10
34. It is difficult to interpret the coded information.	0	10

35. The meaning of this information is difficult to understand.	0 1 2 3 4 5 6 7 8 9 10
36. This information is not sufficiently current for our work.	0 1 2 3 4 5 6 7 8 9 10
37. This information is easily interpretable.	0 1 2 3 4 5 6 7 8 9 10
38. This information is neither too much nor too little.	0 1 2 3 4 5 6 7 8 9 10
39. This information is accurate.	0 1 2 3 4 5 6 7 8 9 10
40. Access to this information is sufficiently restricted.	0 1 2 3 4 5 6 7 8 9 10
41. This information is presented consistently.	0 1 2 3 4 5 6 7 8 9 10
42. This information has a reputation for quality.	0 1 2 3 4 5 6 7 8 9 10
43. This information is easy to comprehend.	0 1 2 3 4 5 6 7 8 9 10
44. This information is based on facts.	0 1 2 3 4 5 6 7 8 9 10
45. This information is sufficiently complete for our needs.	0 1 2 3 4 5 6 7 8 9 10
46. This information is trustworthy.	0 1 2 3 4 5 6 7 8 9 10
47. This information is relevant to our work.	0 1 2 3 4 5 6 7 8 9 10
48. Using this information increases the value of our work.	0 1 2 3 4 5 6 7 8 9 10
49. This information is presented in compact form.	0 1 2 3 4 5 6 7 8 9 10
50. This information is appropriate for our work.	0 1 2 3 4 5 6 7 8 9 10
51. The meaning of this information is easy to understand.	0 1 2 3 4 5 6 7 8 9 10
52. This information is credible.	0 1 2 3 4 5 6 7 8 9 10
53. This information covers the needs of our tasks.	0 1 2 3 4 5 6 7 8 9 10
54. Representation of this information is compact and concise.	0 1 2 3 4 5 6 7 8 9 10
55. This information adds value to our tasks.	0 1 2 3 4 5 6 7 8 9 10
56. The measurement units for this information are clear.	0 1 2 3 4 5 6 7 8 9 10
57. This information is objective.	0 1 2 3 4 5 6 7 8 9 10
58. Information can only be accessed by people who should see it.	0 1 2 3 4 5 6 7 8 9 10
59. This information is sufficiently timely.	0 1 2 3 4 5 6 7 8 9 10
60. This information is easy to combine with other information.	0 1 2 3 4 5 6 7 8 9 10
61. This information is represented in a consistent format.	0 1 2 3 4 5 6 7 8 9 10
62. This information is easily obtainable.	0 1 2 3 4 5 6 7 8 9 10
63. This information comes from good sources.	0 1 2 3 4 5 6 7 8 9 10
64. This information is quickly accessible when needed.	0 1 2 3 4 5 6 7 8 9 10
65. This information has sufficient breadth and depth for tasks.	0 1 2 3 4 5 6 7 8 9 10
66. This information presents an impartial view.	0 1 2 3 4 5 6 7 8 9 10
67. This information is applicable to our work.	0 1 2 3 4 5 6 7 8 9 10
68. This information is sufficiently up to date for our work.	0 1 2 3 4 5 6 7 8 9 10
69. This information is reliable.	0 1 2 3 4 5 6 7 8 9 10

## 2 Assessment of Data Quality Dimensions

Here is how the data quality dimensions were calculated from the Information Quality Assessment Survey (Lee et al., 2006).

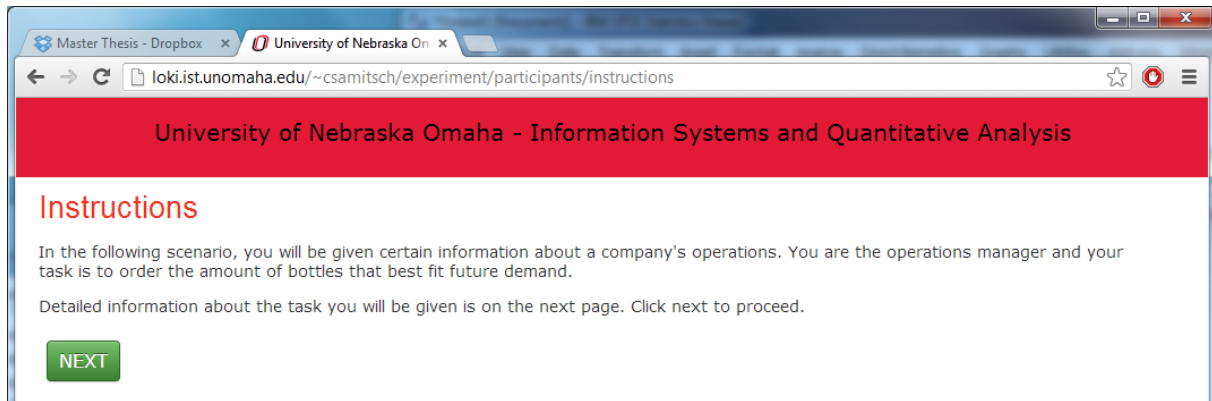
Category	Dimensions	Questionnaire Statement Number
Intrinsic	Accuracy Objectivity Believability Reputation	17, 31 (R), 39, 69 33, 44, 57, 66 14, 25 (R), 46, 52 10 (R), 21, 42, 63
Contextual	Value-Added Relevancy Timeliness Completeness Appropriate Amount	19, 32 (R), 48, 55 18, 47, 50, 67 22, 28 (R), 36 (R), 59, 68 4, 8 (R), 11, 45, 53, 65 16, 26 (R), 30 (R), 38
Representational	Interpretability Ease of Understanding Representational Consistency Concise Representation Ease of Operation	2, 23 (R), 34 (R), 37, 56 13, 35 (R), 43, 51 3, 9 (R), 41, 61 6, 12, 49, 54 1, 15, 27, 29, 60
Accessible	Accessibility Access Security	5, 20, 62, 64 7, 24 (R), 40, 58

The item values were summed up and the average of these values was built. (R) indicates that the item value needs to be reversed. As an example, accuracy can be calculated adding the values of item 17, 39, 69, and the inverse value of item 31, and then dividing the sum by 4.

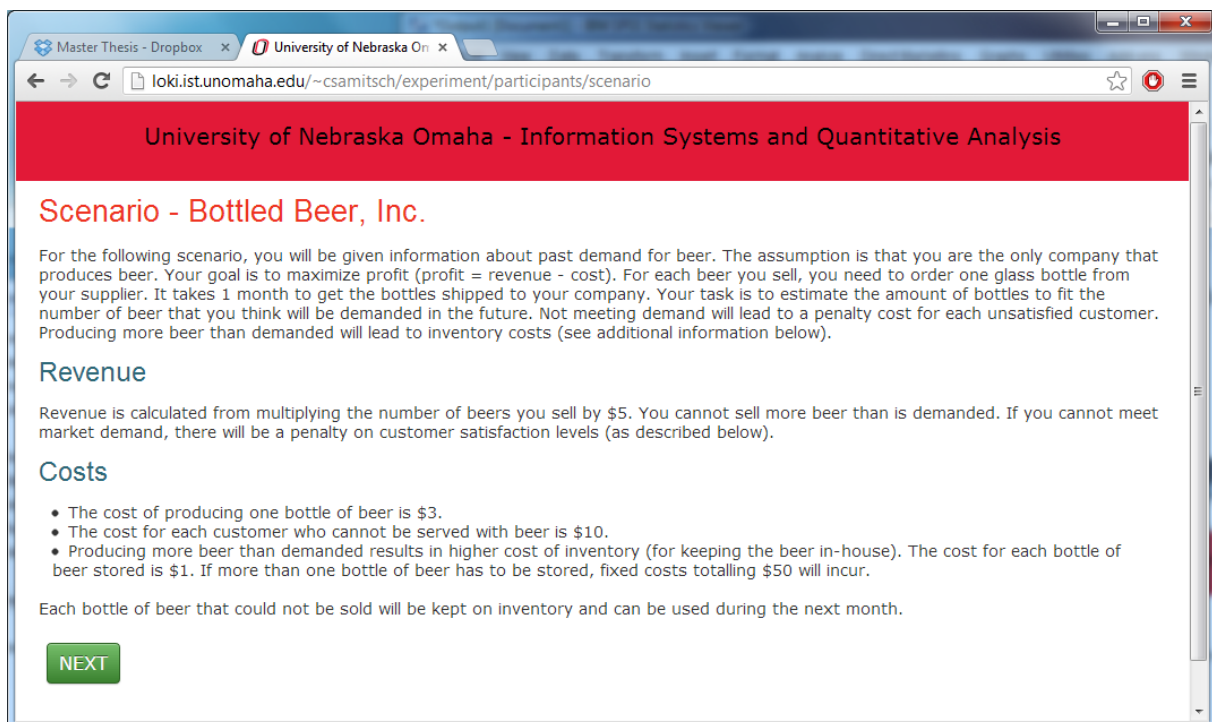
### 3 Online Experiment Scenarios – Screenshots

The experiment was available to participants through the following link:  
<http://loki.ist.unomaha.edu/~csamitsch/experiment/participants>.

#### Instruction page one



#### Instruction page two



### Task one in group one

University of Nebraska Omaha - Information Systems and Quantitative Analysis

Analyze Information - BottledBeer, Inc. - January 2013

The following information about beer demand [unit: bottles] is given for the past twenty months (company started 20 months ago):

2011

January	February	March	April	May	June	July	August	September	October	November	December
				no data	188	no data	270	no data	205	no data	290

2012

January	February	March	April	May	June	July	August	September	October	November	December
no data	210	no data	295	no data	230	no data	300	no data	237	no data	320

Current profit is 0. Profit = Revenue - Cost

Beer in stock: 0

Bottles to order for January 2013 [bottles ordered + bottles in stock = your estimate]

NEXT

### Task two in group one

University of Nebraska Omaha - Information Systems and Quantitative Analysis

Analyze Information - BottledBeer, Inc. - February 2013

The following information about beer demand [unit: bottles] is given for the past twenty months (company started 20 months ago):

2011

January	February	March	April	May	June	July	August	September	October	November	December
				no data	188	no data	270	no data	205	no data	290

2012

January	February	March	April	May	June	July	August	September	October	November	December
no data	210	no data	295	no data	230	no data	300	no data	237	no data	320

Actual demand for January 2013 was 343. Your estimation was 350.

Your profit for January 2013 is \$629.

The highest possible profit for January 2013 was \$686.

Your total profit for 2013 is **\$629**.

Beer in stock: 7

Bottles to order for February 2013 [bottles ordered + bottles in stock = your estimate]

NEXT

### Task three in group one

University of Nebraska Omaha - Information Systems and Quantitative Analysis

Analyze Information - BottledBeer, Inc. - March 2013

The following information about beer demand [unit: bottles] is given for the past twenty months (company started 20 months ago):

**2011**

January	February	March	April	May	June	July	August	September	October	November	December
				no data	188	no data	270	no data	205	no data	290

**2012**

January	February	March	April	May	June	July	August	September	October	November	December
no data	210	no data	295	no data	230	no data	300	no data	237	no data	320

Actual demand for January 2013 was 343. Your estimation was 350.  
Actual demand for February 2013 was 249. Your estimation was 257.  
Profit for February 2013 is \$440.  
The highest possible profit for February 2013 was \$498.  
Your total profit for 2013 is **\$1069**.  
Beer in stock: 8

Bottles to order for March 2013 [bottles ordered + bottles in stock = your estimate]

NEXT

### Information Quality Assessment Survey

University of Nebraska Omaha - Information Systems and Quantitative Analysis

Information Quality Assessment Survey - Page 1/3

The following questions are all related to the completion of the scenario from before.

**1) The information presented in the scenario was easy to interpret.**

0 = Absolutely disagree | 10 = Absolutely Agree

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

**2) The information presented in the scenario was consistently presented in the same format.**

0 = Absolutely disagree | 10 = Absolutely Agree

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

**3) The information presented in the scenario includes all necessary values to successfully complete the task.**

0 = Absolutely disagree | 10 = Absolutely Agree

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

**4) The information presented in the scenario was formatted compactly.**

0 = Absolutely disagree | 10 = Absolutely Agree

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

## 4 Statistical Results

### RQ1

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.433 <sup>a</sup>	.187	.092	223,413

a. Predictors: (Constant), concise\_representation, accuracy, amount, interpretability, representational\_consistency, timeliness, completeness, relevancy, ease\_of\_understanding

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	885015,220	9	98335,024	1,970	.054 <sup>a</sup>
	Residual	3843312,735	77	49913,152		
	Total	4728327,954	86			

a. Predictors: (Constant), concise\_representation, accuracy, amount, interpretability, representational\_consistency, timeliness, completeness, relevancy, ease\_of\_understanding

b. Dependent Variable: total\_time

**Coefficients<sup>a</sup>**

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)		2,628	.010
	accuracy	-,254	-2,077	.041
	relevancy	.230	1,082	.283
	timeliness	.009	.049	.961
	completeness	.286	1,247	.216
	amount	-,316	-1,989	.050
	interpretability	-,408	-1,457	.149
	ease_of_understanding	.066	.220	.827
	representational_consistency	.279	1,806	.075
	concise_representation	-,101	-,575	.567

a. Dependent Variable: total\_time

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.417 <sup>a</sup>	.174	.078	1416,231

a. Predictors: (Constant), concise\_representation, accuracy, amount, interpretability, representational\_consistency, timeliness, completeness, relevancy, ease\_of\_understanding

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32576409,059	9	3619601,007	1,805	.081 <sup>a</sup>
	Residual	1,544E8	77	2005710,181		
	Total	1,870E8	86			

a. Predictors: (Constant), concise\_representation, accuracy, amount, interpretability, representational\_consistency, timeliness, completeness, relevancy, ease\_of\_understanding

b. Dependent Variable: profit



Coefficients<sup>a</sup>

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)		-,806	,423
	accuracy	,035	,281	,779
	relevancy	-,208	-,970	,335
	timeliness	-,174	-,903	,369
	completeness	,254	1,185	,240
	amount	-,177	-1,104	,273
	interpretability	,227	,806	,423
	ease_of_understanding	,088	,289	,773
	representational_consistency	,356	2,285	,025
	concise_representation	-,071	-,400	,690

a. Dependent Variable: profit

## RQ2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,549 <sup>a</sup>	,301	,165	214,239

a. Predictors: (Constant), paper\_and\_pen, completeness, student, calculator, accuracy, gender, interpretability, age, representational\_consistency, amount, concise\_representation, timeliness, relevancy, ease\_of\_understanding

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1423642,991	14	101688,785	2,216	,015 <sup>a</sup>
	Residual	3304684,963	72	45898,402		
	Total	4728327,954	86			

a. Predictors: (Constant), paper\_and\_pen, completeness, student, calculator, accuracy, gender, interpretability, age, representational\_consistency, amount, concise\_representation, timeliness, relevancy, ease\_of\_understanding  
b. Dependent Variable: total\_time

Coefficients<sup>a</sup>

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)		3,387	,001
	accuracy	-,337	-2,700	,009
	relevancy	,265	1,114	,269
	timeliness	,025	,131	,896
	completeness	,297	1,426	,158
	amount	-,456	-2,773	,007
	interpretability	-,516	-1,812	,074
	ease_of_understanding	,269	,866	,390
	representational_consistency	,202	1,325	,189
	concise_representation	-,118	-,663	,510
	gender	,104	,912	,365
	age	-,187	-1,509	,136
	student	,083	,714	,478
	calculator	,091	,805	,423
	paper_and_pen	,239	2,022	,047

a. Dependent Variable: total\_time

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,492 <sup>a</sup>	,242	,095	1402,830

a. Predictors: (Constant), paper\_and\_pen, completeness, student, calculator, accuracy, gender, interpretability, age, representational\_consistency, amount, concise\_representation, timeliness, relevancy, ease\_of\_understanding

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45325079,431	14	3237505,674	1,645	,088 <sup>a</sup>
	Residual	1,417E8	72	1967930,744		
	Total	1,870E8	86			

a. Predictors: (Constant), paper\_and\_pen, completeness, student, calculator, accuracy, gender, interpretability, age, representational\_consistency, amount, concise\_representation, timeliness, relevancy, ease\_of\_understanding

b. Dependent Variable: profit

Coefficients<sup>a</sup>

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)		-,539	,591
	accuracy	,067	,513	,610
	relevancy	-,374	-1,511	,135
	timeliness	-,203	-1,039	,302
	completeness	,241	1,109	,271
	amount	-,149	-,872	,386
	interpretability	,237	,798	,427
	ease_of_understanding	,111	,342	,733
	representational_consistency	,336	2,119	,038
	concise_representation	-,005	-,029	,977
	gender	,196	1,655	,102
	age	-,121	-,939	,351
	student	-,114	-,948	,346
	calculator	-,106	-,908	,367
	paper_and_pen	-,073	-,592	,556

a. Dependent Variable: profit

### RQ3

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	performance_january	75,4828	87	72,98628	7,82495
	performance_february	86,4943	87	60,57474	6,49429
Pair 2	performance_february	86,4943	87	60,57474	6,49429
	performance_march	125,1034	87	183,13440	19,63407

Paired Samples Test

		Paired Differences		
		Mean	Std. Deviation	Std. Error Mean
Pair 1	performance_january - performance_february	-11,01149	73,27719	7,85614
Pair 2	performance_february - performance_march	-38,60920	163,15397	17,49194

Paired Samples Test

		Paired Differences		t
		95% Confidence Interval of the Difference		
		Lower	Upper	
Pair 1	performance_january - performance_february	-26,62898	4,60599	-1,402
Pair 2	performance_february - performance_march	-73,38202	-3,83637	-2,207

Paired Samples Test

		df	Sig. (2-tailed)
Pair 1	performance_january - performance_february	86	,165
Pair 2	performance_february - performance_march	86	,030

#### RQ4

Correlations

		time_january	performance_january
time_january	Pearson Correlation	1	-,100
	Sig. (2-tailed)		,356
	N	87	87
performance_january	Pearson Correlation	-,100	1
	Sig. (2-tailed)	,356	
	N	87	87

Correlations

		time_february	performance_february
time_february	Pearson Correlation	1	,068
	Sig. (2-tailed)		,533
	N	87	87
performance_february	Pearson Correlation	,068	1
	Sig. (2-tailed)	,533	
	N	87	87

Correlations

		time_march	performance_march
time_march	Pearson Correlation	1	-,133
	Sig. (2-tailed)		,220
	N	87	87
performance_march	Pearson Correlation	-,133	1
	Sig. (2-tailed)	,220	
	N	87	87

### Correlations

		total_time	profit
total_time	Pearson Correlation	1	,100
	Sig. (2-tailed)		,355
	N	87	87
profit	Pearson Correlation	,100	1
	Sig. (2-tailed)	,355	
	N	87	87

### RQ5

#### Multivariate Tests<sup>b</sup>

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	,988	714,799 <sup>a</sup>	9,000	77,000	,000
	Wilks' Lambda	,012	714,799 <sup>a</sup>	9,000	77,000	,000
	Hotelling's Trace	83,548	714,799 <sup>a</sup>	9,000	77,000	,000
	Roy's Largest Root	83,548	714,799 <sup>a</sup>	9,000	77,000	,000
gender	Pillai's Trace	,224	2,468 <sup>a</sup>	9,000	77,000	,016
	Wilks' Lambda	,776	2,468 <sup>a</sup>	9,000	77,000	,016
	Hotelling's Trace	,289	2,468 <sup>a</sup>	9,000	77,000	,016
	Roy's Largest Root	,289	2,468 <sup>a</sup>	9,000	77,000	,016

a. Exact statistic

b. Design: Intercept + gender

#### Tests of Between-Subjects Effects

Source	Dependent Variable	F	Sig.
Corrected Model	accuracy	,088	,767
	relevancy	3,515	,064
	timeliness	8,034	,006
	completeness	12,583	,001
	amount	11,458	,001
	interpretability	,866	,355
	ease_of_understanding	,086	,771
	representational_consistency	3,683	,058
	concise_representation	3,235	,076

#### Multivariate Tests<sup>c</sup>

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	,989	775,278 <sup>a</sup>	9,000	77,000	,000
	Wilks' Lambda	,011	775,278 <sup>a</sup>	9,000	77,000	,000
	Hotelling's Trace	90,617	775,278 <sup>a</sup>	9,000	77,000	,000
	Roy's Largest Root	90,617	775,278 <sup>a</sup>	9,000	77,000	,000
student	Pillai's Trace	,135	1,335 <sup>a</sup>	9,000	77,000	,233
	Wilks' Lambda	,865	1,335 <sup>a</sup>	9,000	77,000	,233
	Hotelling's Trace	,156	1,335 <sup>a</sup>	9,000	77,000	,233
	Roy's Largest Root	,156	1,335 <sup>a</sup>	9,000	77,000	,233

### Tests of Between-Subjects Effects

Source	Dependent Variable	Sig.	Partial Eta Squared
Corrected Model	accuracy	,602	,003
	relevancy	,364	,010
	timeliness	,990	,000
	completeness	,496	,005
	amount	,422	,008
	interpretability	,808	,001
	ease_of_understanding	,881	,000
	representational_consistency	,630	,003
	concise_representation	,712	,002

### Multivariate Tests<sup>c</sup>

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	,980	401,769 <sup>a</sup>	9,000	72,000	,000
	Wilks' Lambda	,020	401,769 <sup>a</sup>	9,000	72,000	,000
	Hotelling's Trace	50,221	401,769 <sup>a</sup>	9,000	72,000	,000
	Roy's Largest Root	50,221	401,769 <sup>a</sup>	9,000	72,000	,000
age	Pillai's Trace	,866	1,444	54,000	462,000	,026
	Wilks' Lambda	,370	1,480	54,000	371,724	,020
	Hotelling's Trace	1,153	1,502	54,000	422,000	,016
	Roy's Largest Root	,527	4,511 <sup>b</sup>	9,000	77,000	,000

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept + age

### Tests of Between-Subjects Effects

Source	Dependent Variable	F	Sig.
Corrected Model	accuracy	1,457	,204
	relevancy	3,567	,004
	timeliness	1,191	,320
	completeness	3,101	,009
	amount	,692	,657
	interpretability	1,346	,247
	ease_of_understanding	,852	,534
	representational_consistency	1,141	,346
	concise_representation	,376	,892

### Multivariate Tests<sup>c</sup>

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	,986	613,673 <sup>a</sup>	9,000	77,000	,000
	Wilks' Lambda	,014	613,673 <sup>a</sup>	9,000	77,000	,000
	Hotelling's Trace	71,728	613,673 <sup>a</sup>	9,000	77,000	,000
	Roy's Largest Root	71,728	613,673 <sup>a</sup>	9,000	77,000	,000
calculator	Pillai's Trace	,084	,783 <sup>a</sup>	9,000	77,000	,633
	Wilks' Lambda	,916	,783 <sup>a</sup>	9,000	77,000	,633
	Hotelling's Trace	,091	,783 <sup>a</sup>	9,000	77,000	,633
	Roy's Largest Root	,091	,783 <sup>a</sup>	9,000	77,000	,633

Tests of Between-Subjects Effects

Source	Dependent Variable	Sig.	Partial Eta Squared
Corrected Model	accuracy	,222	,017
	relevancy	,341	,011
	timeliness	,919	,000
	completeness	,822	,001
	amount	,828	,001
	interpretability	,348	,010
	ease_of_understanding	,471	,006
	representational_consistency	,543	,004
	concise_representation	,927	,000
Intercept	accuracy	,000	,968
	relevancy	,000	,863
	timeliness	,000	,858
	completeness	,000	,754
	amount	,000	,892
	interpretability	,000	,834
	ease_of_understanding	,000	,830
	representational_consistency	,000	,924
	concise_representation	,000	,903
calculator	accuracy	,222	,017
	relevancy	,341	,011
	timeliness	,919	,000
	completeness	,822	,001
	amount	,828	,001
	interpretability	,348	,010
	ease_of_understanding	,471	,006
	representational_consistency	,543	,004
	concise_representation	,927	,000

Multivariate Tests<sup>c</sup>

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	,979	397,251 <sup>a</sup>	9,000	77,000	,000
	Wilks' Lambda	,021	397,251 <sup>a</sup>	9,000	77,000	,000
	Hotelling's Trace	46,432	397,251 <sup>a</sup>	9,000	77,000	,000
	Roy's Largest Root	46,432	397,251 <sup>a</sup>	9,000	77,000	,000
paper_and_pen	Pillai's Trace	,170	1,752 <sup>a</sup>	9,000	77,000	,091
	Wilks' Lambda	,830	1,752 <sup>a</sup>	9,000	77,000	,091
	Hotelling's Trace	,205	1,752 <sup>a</sup>	9,000	77,000	,091
	Roy's Largest Root	,205	1,752 <sup>a</sup>	9,000	77,000	,091

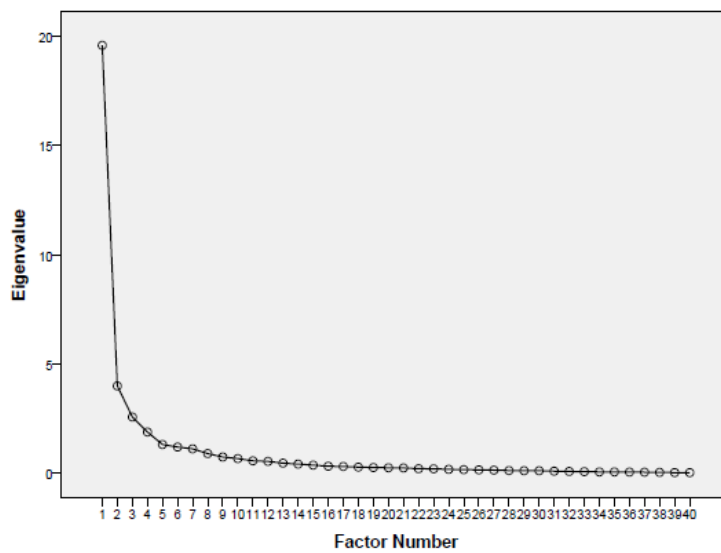
Tests of Between-Subjects Effects

Source	Dependent Variable	Sig.	Partial Eta Squared
Corrected Model	accuracy	,628	,003
	relevancy	,076	,037
	timeliness	,156	,024
	completeness	,671	,002
	amount	,206	,019
	interpretability	,066	,039
	ease_of_understanding	,027	,056
	representational_consistency	,309	,012
	concise_representation	,286	,013
Intercept	accuracy	,000	,948
	relevancy	,000	,792
	timeliness	,000	,782
	completeness	,000	,659
	amount	,000	,855
	interpretability	,000	,750
	ease_of_understanding	,000	,740
	representational_consistency	,000	,884
	concise_representation	,000	,852
paper_and_pen	accuracy	,628	,003
	relevancy	,076	,037
	timeliness	,156	,024
	completeness	,671	,002
	amount	,206	,019
	interpretability	,066	,039
	ease_of_understanding	,027	,056
	representational_consistency	,309	,012
	concise_representation	,286	,013

### Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,903
Bartlett's Test of Sphericity	Approx. Chi-Square	3727,562
	df	780
	Sig.	,000



Communalities

	Initial	Extraction			
item_2	,863	,780	item_35	,876	,713
item_3	,717	,276	item_36	,733	,302
item_4	,876	,720	item_37	,826	,716
item_6	,726	,305	item_38	,695	,516
item_8	,780	,435	item_39	,905	,619
item_9	,734	,117	item_41	,925	,693
item_11	,882	,760	item_43	,887	,807
item_12	,842	,526	item_45	,928	,848
item_13	,883	,775	item_47	,886	,765
item_16	,884	,755	item_49	,817	,606
item_17	,918	,654	item_50	,889	,730
item_18	,824	,535	item_51	,922	,806
item_22	,828	,629	item_53	,921	,839
item_23	,749	,524	item_54	,903	,709
item_26	,832	,753	item_56	,802	,676
item_28	,632	,242	item_59	,808	,623
item_30	,806	,527	item_61	,927	,844
item_31	,878	,271	item_65	,861	,768
item_34	,881	,819	item_67	,816	,671

Communalities

	Initial	Extraction
item_68	,883	,737
item_69	,855	,659

Extraction Method:  
Maximum Likelihood.



## 5 Trend Function for Calculating Data Points

$T := 4$

$t := [0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7 \ 8 \ 9 \ 10 \ 11 \ 12 \ 13 \ 14 \ 15 \ 16 \ 17 \ 18 \ 19]^T$

$\omega := \frac{2 \cdot \pi}{T}$

$y := [265 \ 188 \ 175 \ 270 \ 300 \ 205 \ 180 \ 290 \ 298 \ 210 \ 190 \ 295 \ 320 \ 230 \ 202 \ 300 \ 340 \ 237 \ 205 \ 320]^T$

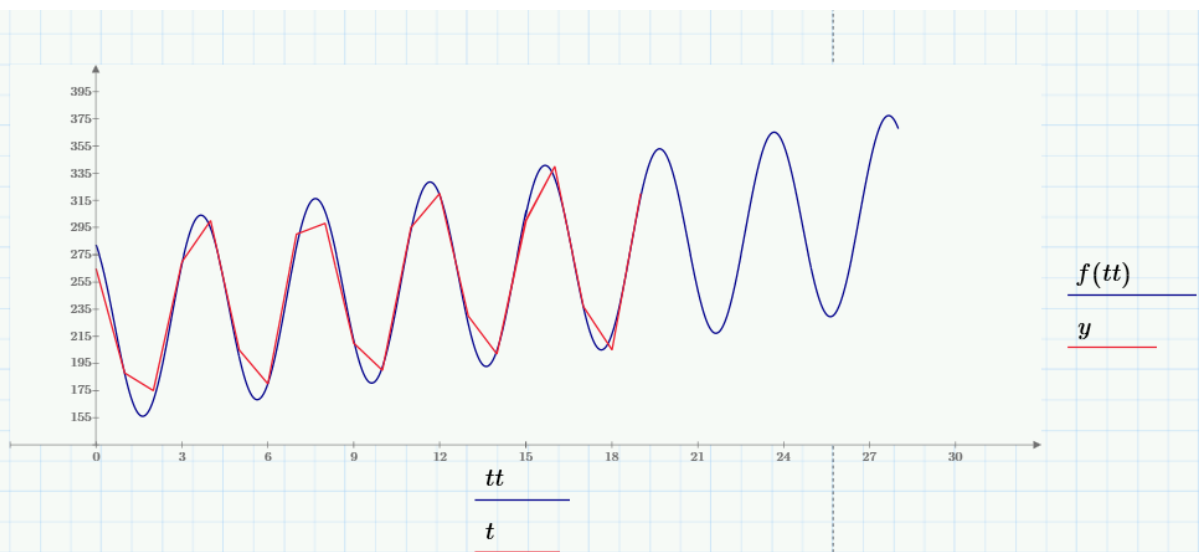
$fit(t) := \begin{bmatrix} 1 \\ t \\ \cos(\omega \cdot t) \\ \sin(\omega \cdot t) \end{bmatrix}$

$A := \text{linfit}(t, y, fit)$

$A = \begin{bmatrix} 221.911 \\ 3.062 \\ 60.162 \\ -37.438 \end{bmatrix}$

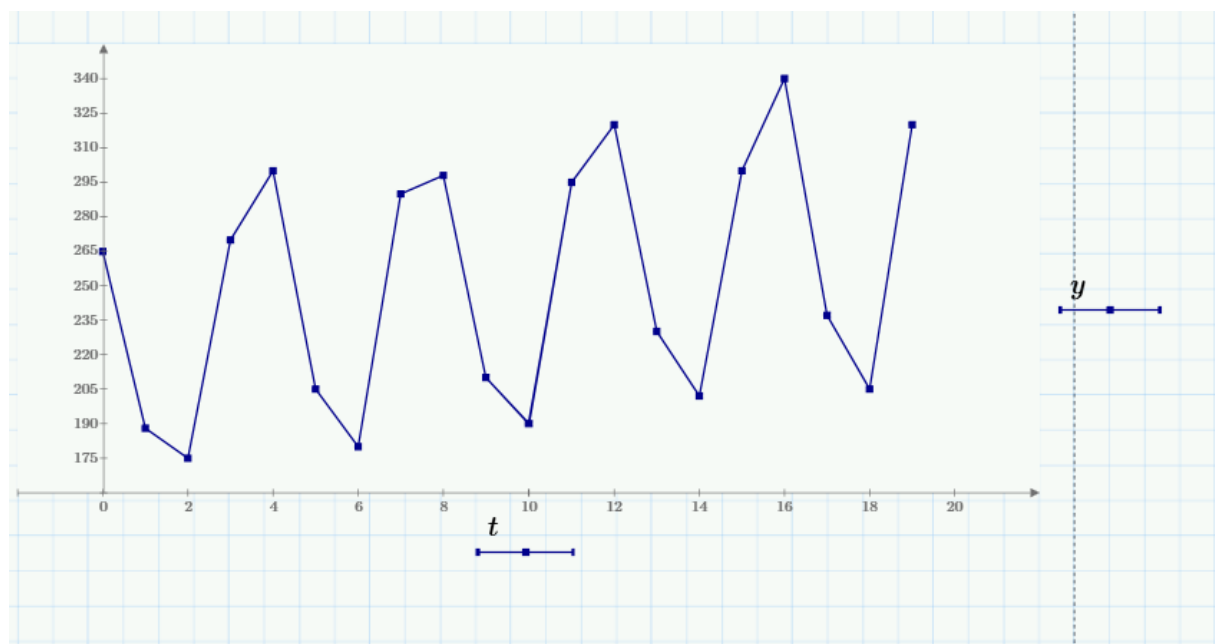
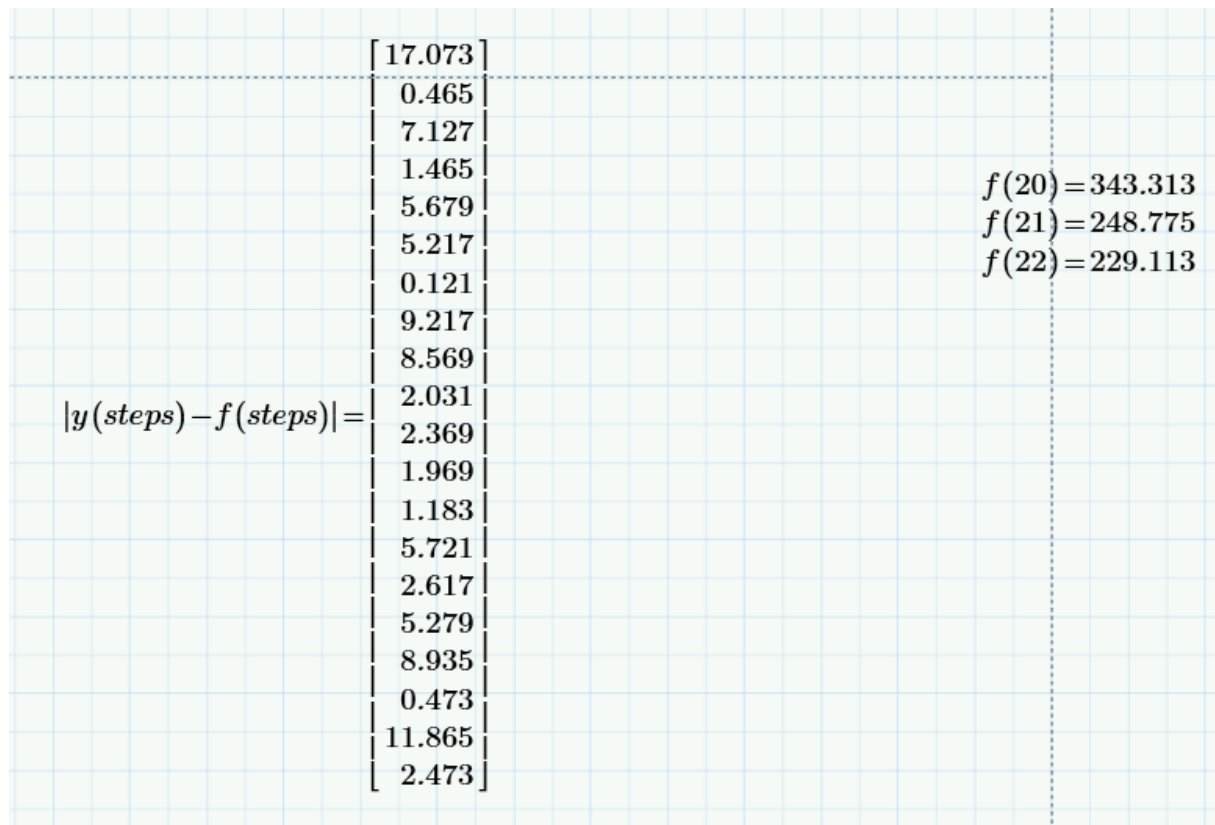
$f(t) := A \cdot fit(t)$

$tt := 0, 0.01 \dots 28$



$interval := 0, 1 \dots 30$

$steps := 0, 1 \dots 19$



## 6 Informed Consent

Experiment: Data quality and its impacts on decision making efficiency in decision support systems

Dear Participant,

You are invited to participate in this research study. The information in this consent form is provided to help you decide whether to participate. If you have any questions, please do not hesitate to ask.

During the 20 minutes that you participate in this study, you will be asked to provide information pertaining to estimations based on analysis of given data and to respond to questions regarding your personal attitudes and opinions as well as demographic information. None of this information will be connected to any personally identifiable information. Throughout the duration of the study, everything on the screen of the laptop or computer you will be using will be recorded for later analysis.

The alternative to participating in this study is non-participation.

Reasonable steps will be taken to protect your privacy and the confidentiality of your study data. Any information obtained in connection with this study will remain confidential. The research data will be stored in a password-protected database, accessible only by the primary investigator named below. No contact information will be obtained and no follow up responses to the survey will be pursued.

Prospective subjects who are younger than 19 years may not participate in this study. Please confirm that you are 19 years or older.

By completing the survey at the end of the experiment, you are implying consent.

Primary (principal) investigator: Christoph Samitsch | email: csamitsch@unomaha.edu

Data Quality and its Impacts on Decision-Making

How Managers can benefit from Good Data

Samitsch, C.

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