

Kühn, Katharina Isabella

## Article

Is Visiting the ESB Website Deteriorating the Air Quality of our Countries? A Statistical Analysis of the Relationship Between Air Pollution Levels and Information & Communication Technologies

Junior Management Science (JUMS)

## Provided in Cooperation with:

Junior Management Science e. V.

*Suggested Citation:* Kühn, Katharina Isabella (2021) : Is Visiting the ESB Website Deteriorating the Air Quality of our Countries? A Statistical Analysis of the Relationship Between Air Pollution Levels and Information & Communication Technologies, Junior Management Science (JUMS), ISSN 2942-1861, Junior Management Science e. V., Planegg, Vol. 6, Iss. 4, pp. 839-851, <https://doi.org/10.5282/jums/v6i4pp839-851>

This Version is available at:

<https://hdl.handle.net/10419/294970>

### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

### Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>



## **Online-Appendix zu**

# **„Is Visiting the ESB Website Deteriorating the Air Quality of our Countries? A Statistical Analysis of the Relationship Between Air Pollution Levels and Information & Communication Technologies “**

Katharina Isabella Kühn

ESB Business School Reutlingen

Junior Management Science 6(4) (2021) 839-851

## Appendix A Data

### A.1 WDC Categories

# AUSTRALIA

► Overall top strengths

▷ Overall top weaknesses

#### KNOWLEDGE

Subfactors	2015	2016	2017	2018	2019
Talent	3	6	8	8	7
Training & education	38	47	51	32	29
Scientific concentration	10	12	14	11	13

Talent	Rank	Training & education	Rank
Educational assessment PISA - Math	23	▷ Employee training	44
International experience	35	Total public expenditure on education	21
Foreign highly-skilled personnel	10	Higher education achievement	13
Management of cities	26	Pupil-teacher ratio (tertiary education)	32
▷ Digital/Technological skills	44	▷ Graduates in Sciences	53
► Net flow of international students	1	Women with degrees	10

Scientific concentration	Rank
Total expenditure on R&D (%)	19
Total R&D personnel per capita	-
Female researchers	-
R&D productivity by publication	17
Scientific and technical employment	6
High-tech patent grants	42
Robots in Education and R&D	24

#### TECHNOLOGY

Subfactors	2015	2016	2017	2018	2019
Regulatory framework	8	6	11	6	7
Capital	15	15	16	18	19
Technological framework	13	17	21	19	17

Regulatory framework	Rank	Capital	Rank
Starting a business	5	IT & media stock market capitalization	37
► Enforcing contracts	5	Funding for technological development	36
Immigration laws	23	Banking and financial services	28
Development and application of technol	22	► Country credit rating	1
Scientific research legislation	20	Venture capital	34
Intellectual property rights	14	Investment in Telecommunications	14

Technological framework	Rank
▷ Communications technology	54
Mobile Broadband subscribers	5
Wireless broadband	9
Internet users	29
Internet bandwidth speed	38
High-tech exports (%)	28

#### FUTURE READINESS

Subfactors	2015	2016	2017	2018	2019
Adaptive attitudes	2	2	4	2	7
Business agility	26	22	42	28	35
IT integration	6	8	10	6	11

Adaptive attitudes	Rank	Business agility	Rank
E-Participation	5	Opportunities and threats	38
Internet retailing	9	World robots distribution	29
► Tablet possession	3	▷ Agility of companies	45
Smartphone possession	9	Use of big data and analytics	28
Attitudes toward globalization	32	Knowledge transfer	30

IT integration	Rank
► E-Government	2
Public-private partnerships	26
Cyber security	39
Software piracy	5

## A.2 EPI categories

Policy Objective	Issue Category	TLA	Wt.	Indicator	TLA	Wt.	Page
Environmental Health HLT (40%)	Air Quality	AIR	65%	Household Solid Fuels	HAD	40%	5
				PM <sub>2.5</sub> Exposure	PME	30%	6
				PM <sub>2.5</sub> Exceedance	PMW	30%	7
	Water & Sanitation	H2O	30%	Drinking Water	UWD	50%	9
			Sanitation	USD	50%	10	
Heavy Metals	HMT	5%	Lead Exposure	PBD	100%	11	
Ecosystem Vitality ECO (60%)	Biodiversity & Habitat	BDH	25%	Marine Protected Areas	MPA	20%	12
				Biome Protection (National)	TBN	20%	13
				Biome Protection (Global)	TBG	20%	15
				Species Protection Index	SPI	20%	17
				Representativeness Index	PAR	10%	18
				Species Habitat Index	SHI	10%	19
	Forests	FOR	10%	Tree Cover Loss	TCL	100%	20
	Fisheries	FSH	10%	Fish Stock Status	FSS	50%	21
				Regional Marine Trophic Index	MTR	50%	23
	Climate & Energy	CCE	30%	CO <sub>2</sub> Emissions – Total	DCT	50%	29
				CO <sub>2</sub> Emissions – Power	DPT	20%	30
				Methane Emissions	DMT	20%	31
				N <sub>2</sub> O Emissions	DNT	5%	32
				Black Carbon Emissions	DBT	5%	33
Air Pollution	APE	10%	SO <sub>2</sub> Emissions	DST	50%	34	
			NO <sub>x</sub> Emissions	DXT	50%	35	
Water Resources	WRS	10%	Wastewater Treatment	WWT	100%	36	
Agriculture	AGR	5%	Sustainable Nitrogen Management	SNM	100%	38	

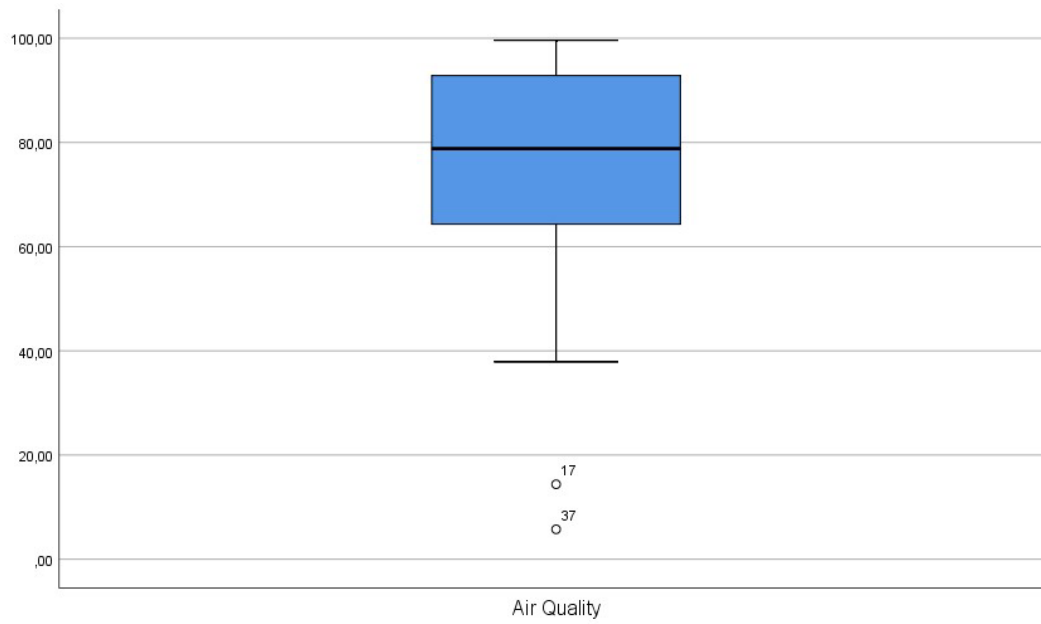
## Appendix B Original data (N=63)

### B.1 Air quality descriptive statistics

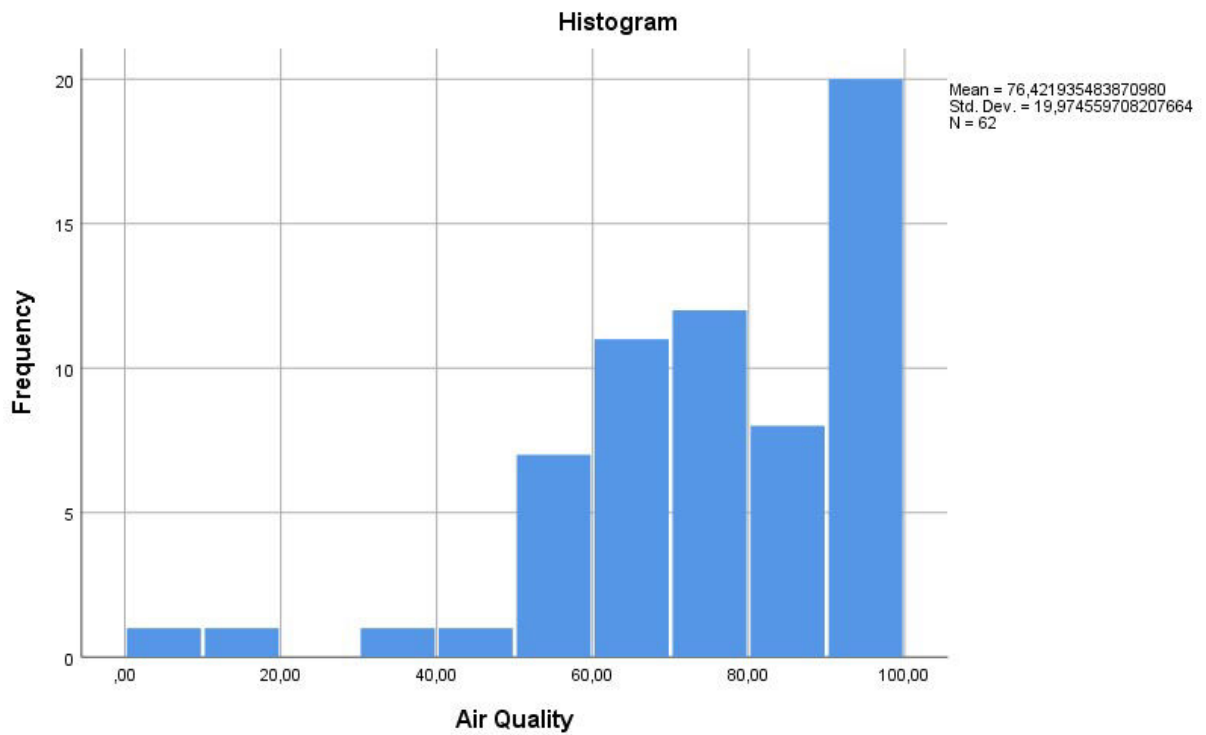
#### *Descriptives*

		<b>Statistic</b>	<b>Std. Error</b>
Air Quality	Mean	76.42193548 3870970	2.536771619 715262
	95% Confidence Interval for Mean	Lower Bound 71.34934712 3343450	
		Upper Bound 81.49452384 4398490	
	5% Trimmed Mean	78.28057347 6702500	
	Median	78.82500000 0000000	
	Variance	398.983	
	Std. Deviation	19.97455970 8207668	
	Minimum	5.750000000 000000	
	Maximum	99.61000000 0000000	
	Range	93.86000000 0000000	
	Interquartile Range	28.75749999 9999993	
	Skewness	-1.296	.304
	Kurtosis	2.343	.599

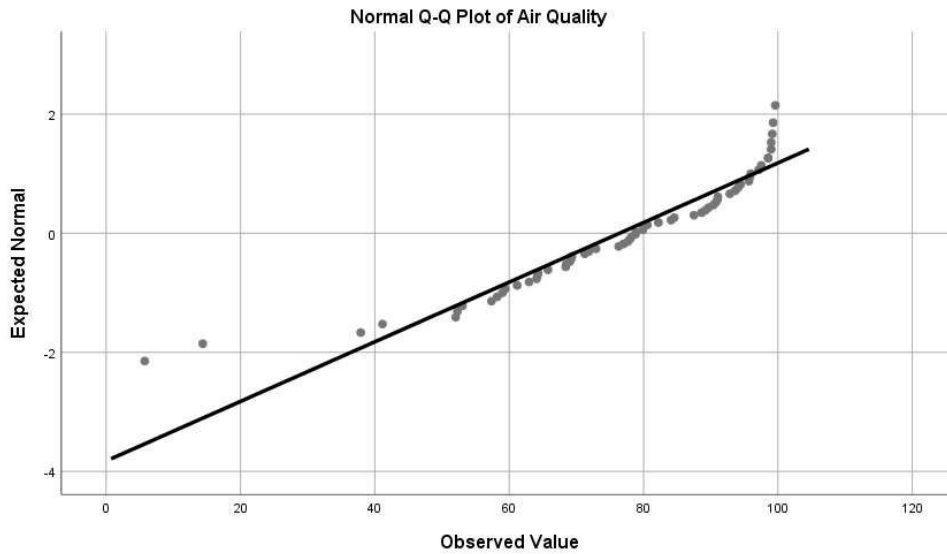
### B.1.1 Air Quality box plot



### B.1.2 Air Quality Histogram



### B.1.3 Air Quality Normal Q-Q Plot

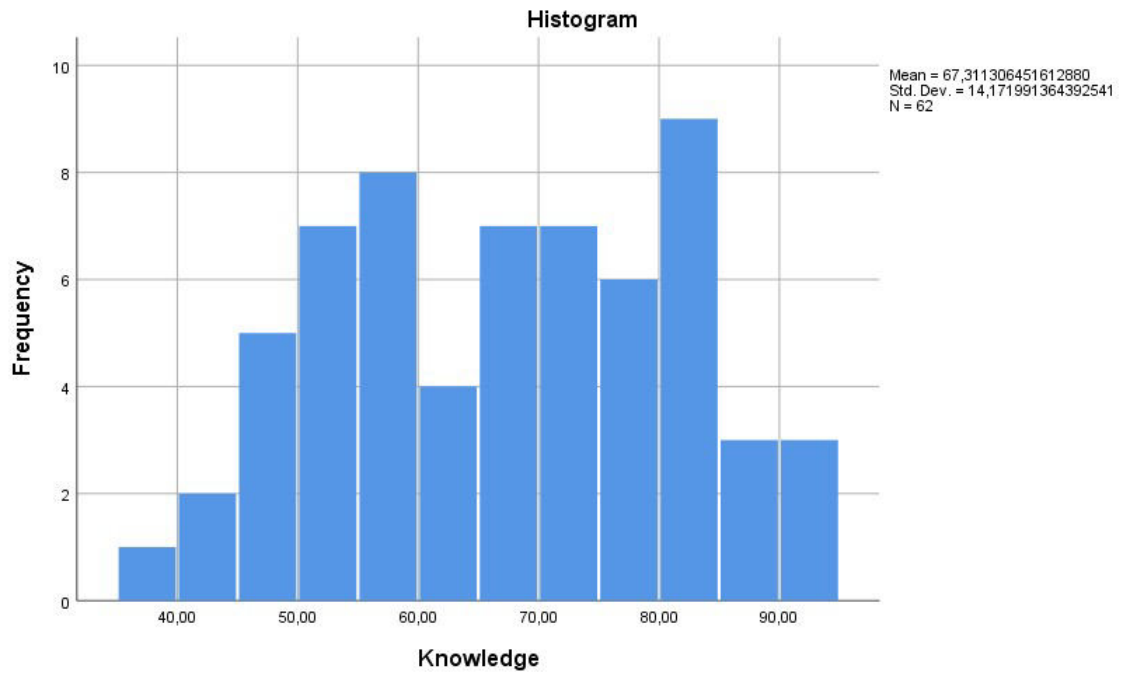


### B.2 Knowledge descriptive statistics

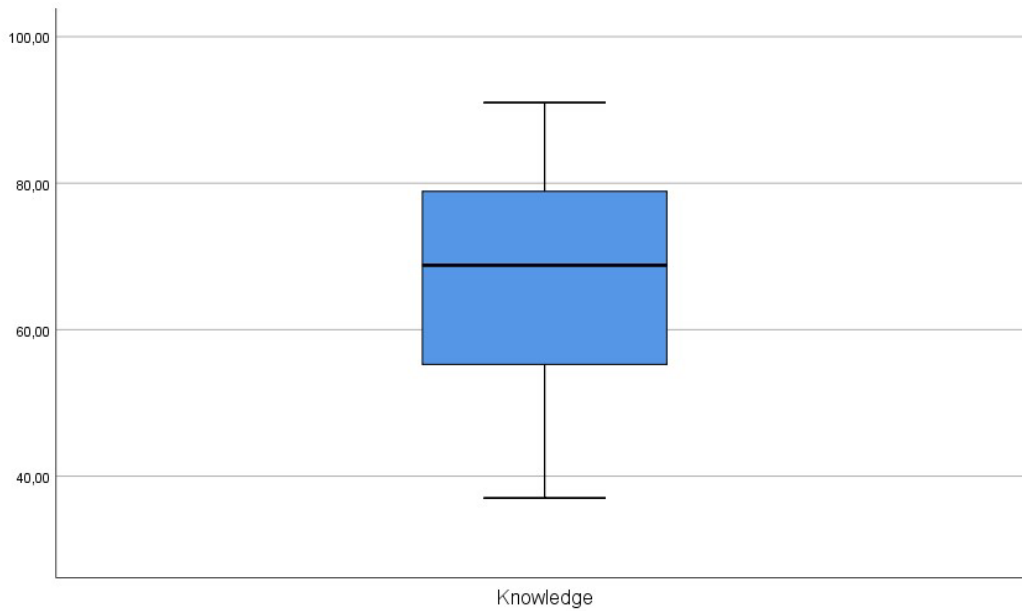
#### *Descriptives*

		Statistic	Std. Error
Knowledge	Mean	67.31130645	1.799844703
		1612910	123456
	95% Confidence Interval for Mean	Lower Bound 63.71229453	
		Upper Bound 70.91031836	
	5% Trimmed Mean	67.41802150	
		5376340	
	Median	68.79250000	
		0000000	
	Variance	200,845	
	Std. Deviation	14.17199136	
		4392540	
	Minimum	37.01700000	
		0000000	
	Maximum	90.99800000	
		0000000	
	Range	53.98100000	
		0000000	
	Interquartile Range	24.18174999	
		9999994	
	Skewness	-.108	.304
	Kurtosis	-1.025	.599

### B.2.1 Knowledge Histogram

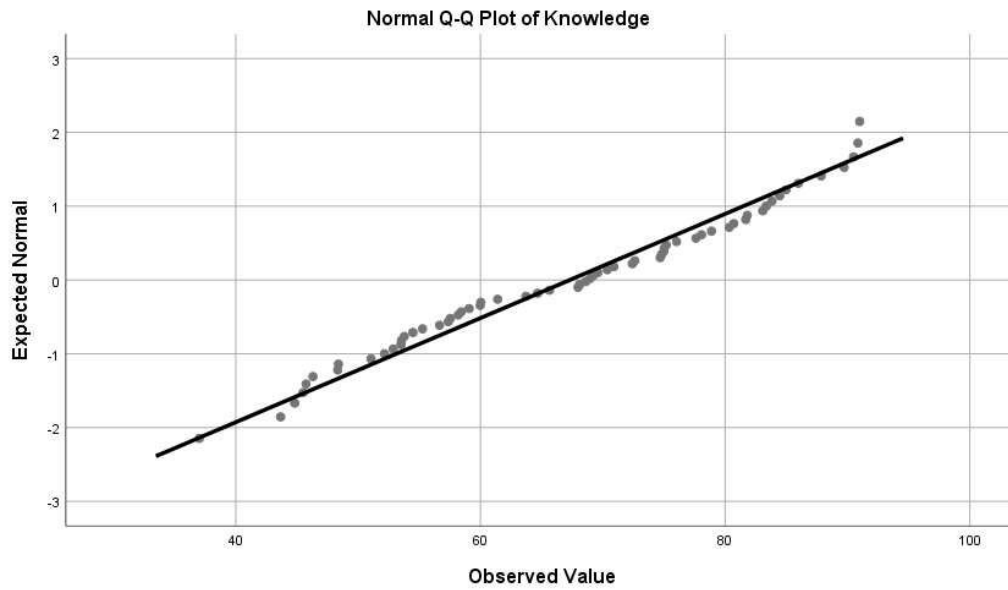


### B.2.2 Knowledge boxplot





### B.2.3 Knowledge Normal Q-Q Plot

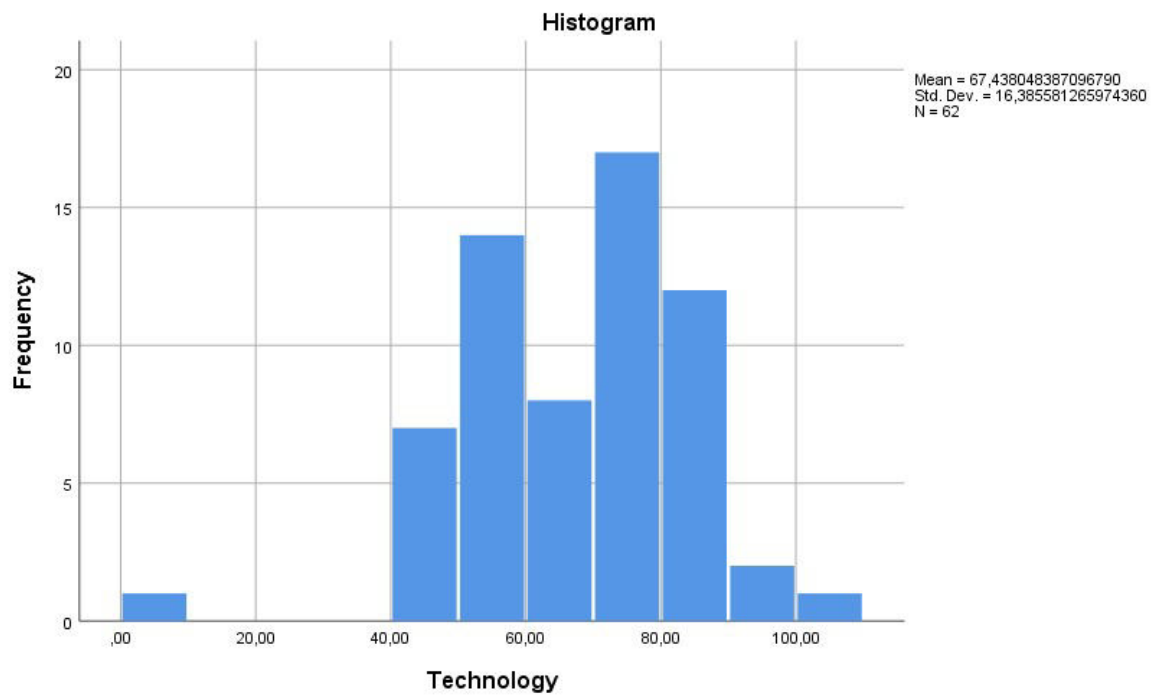


### B.3 Technology descriptive statistics

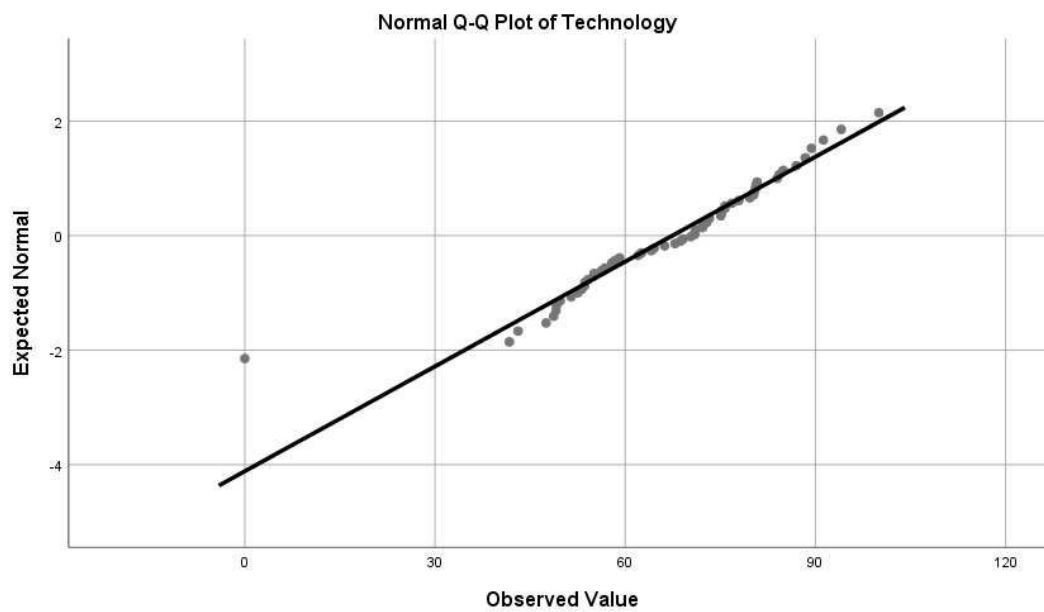
#### *Descriptives*

		Statistic	Std. Error
Technology	Mean	67.43804838	2.080970901
		7096790	750686
	95% Confidence Interval for Mean	Lower Bound	63.27688989
			2268684
		Upper Bound	71.59920688
			1924890
	5% Trimmed Mean	68.05226702	
		5089590	
	Median	70.65250000	
		0000000	
	Variance	268.487	
	Std. Deviation	16.38558126	
		5974360	
	Minimum	.0000000000	
		00000	
	Maximum	100.0000000	
		00000000	
	Range	100.0000000	
		00000000	
	Interquartile Range	24.73650000	
		0000007	
	Skewness	-1.008	.304

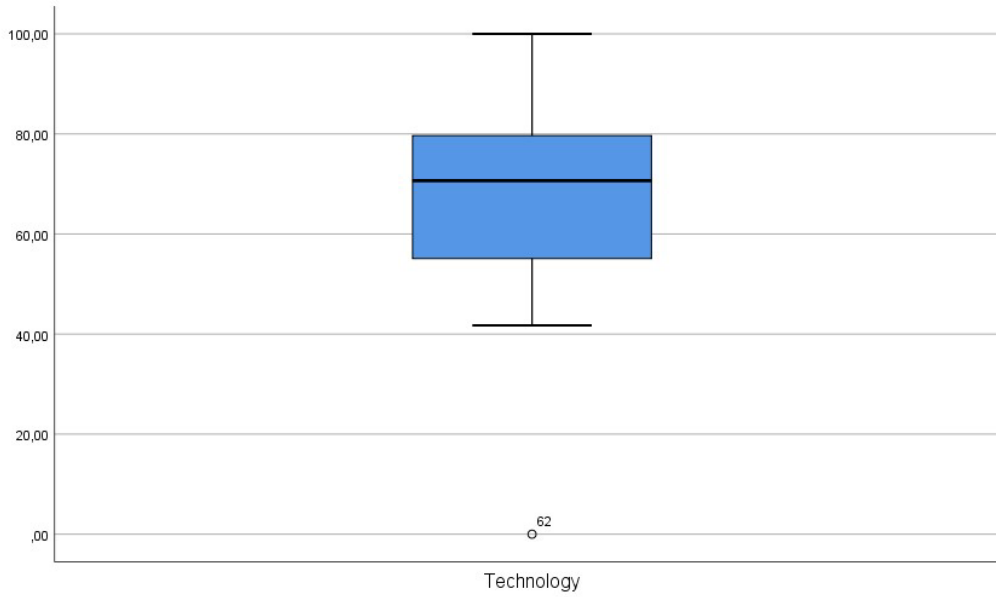
### B.3.1 Technology Histogram



### B.3.2 Technology Q-Q Plot



### B.3.3 Technology Boxplot

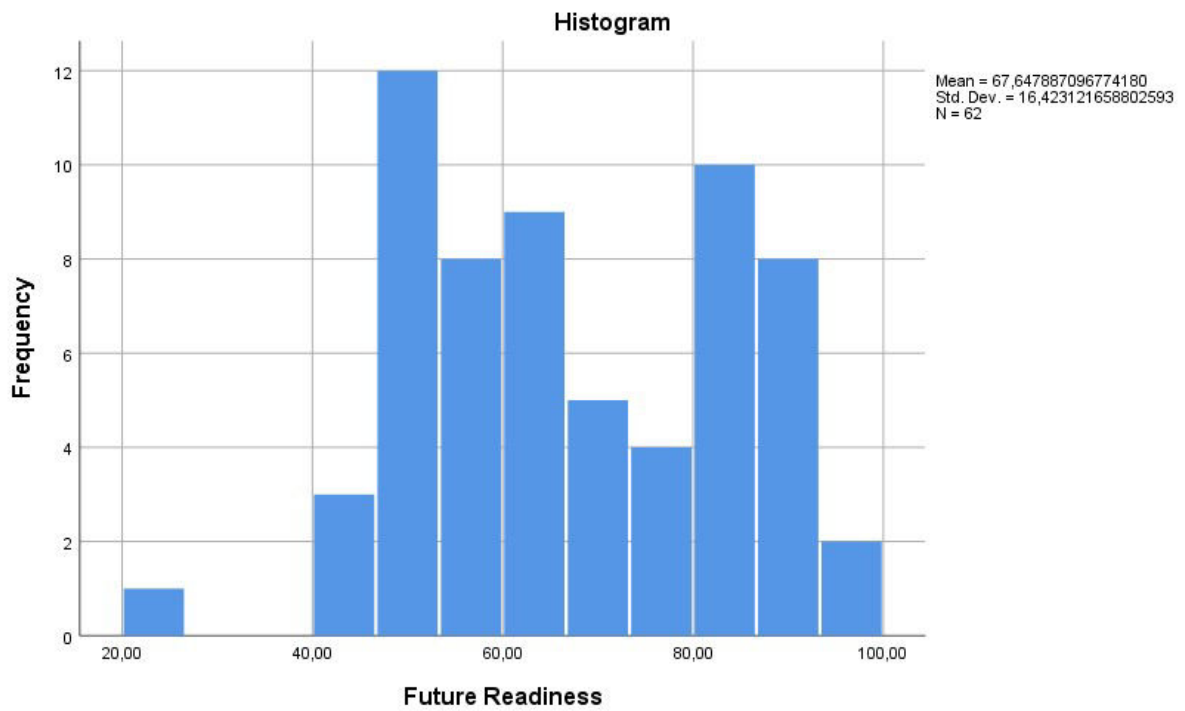


### B.4 Future Readiness descriptive statistics

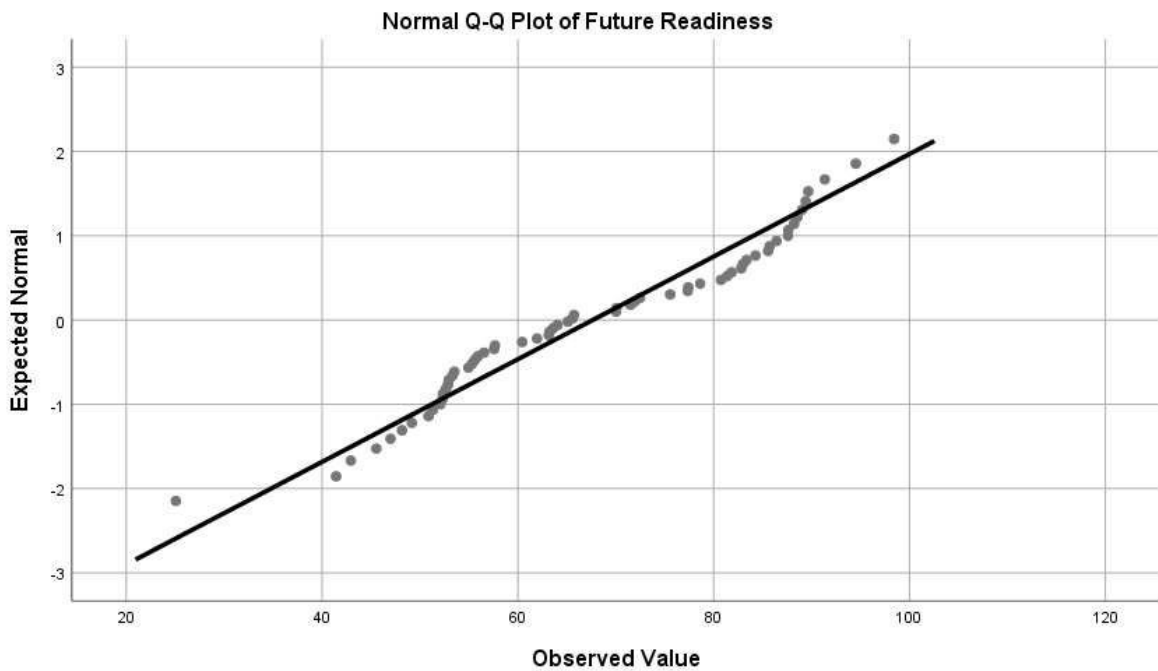
#### *Descriptives*

		<b>Statistic</b>	<b>Std. Error</b>
Future Readiness	Mean	67.64788709	2.0857385
		6774170	36407509
95% Confidence Interval for Mean	Lower Bound	63.47719512	
	Upper Bound	71.81857906	
5% Trimmed Mean		67.86600537	
Median		6344090	
Variance		65.34700000	0000010
Std. Deviation		269.719	
Minimum		16.42312165	8802593
Maximum		25.06100000	0000000
Range		98.42700000	0000000
Interquartile Range		73.36600000	0000010
Skewness		29.86250000	0000010
Kurtosis		-.073	.304
		-.840	.599

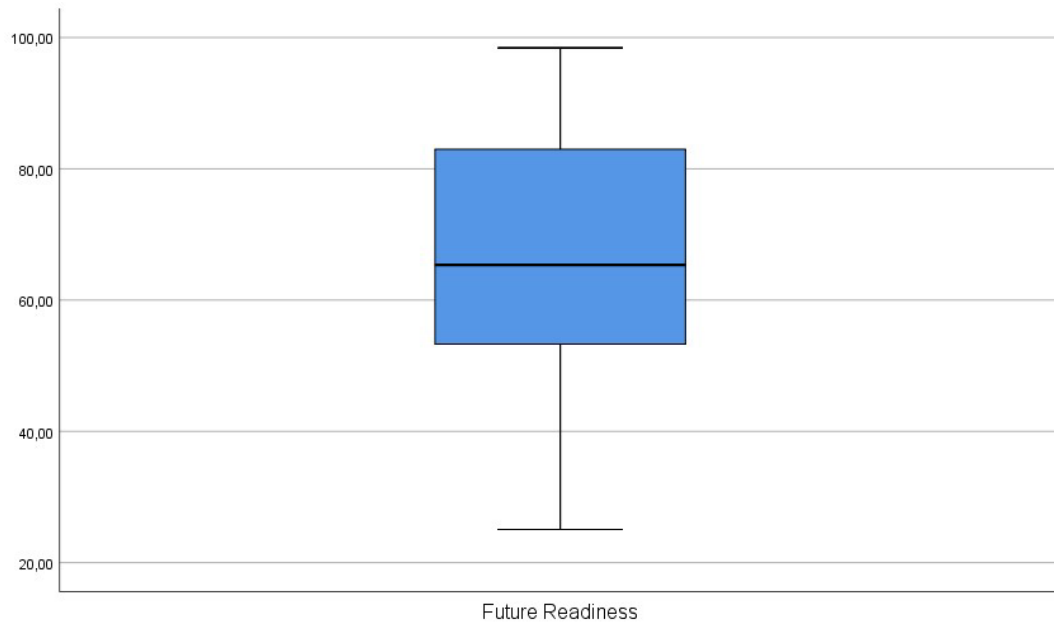
### B.4.1 Future Readiness Histogram



### B.4.2 Future Readiness Q-Q Plot



### B.4.3 Future Readiness Box plot



## Appendix C Final sample data (N=57)

### C.1 Descriptive statistics

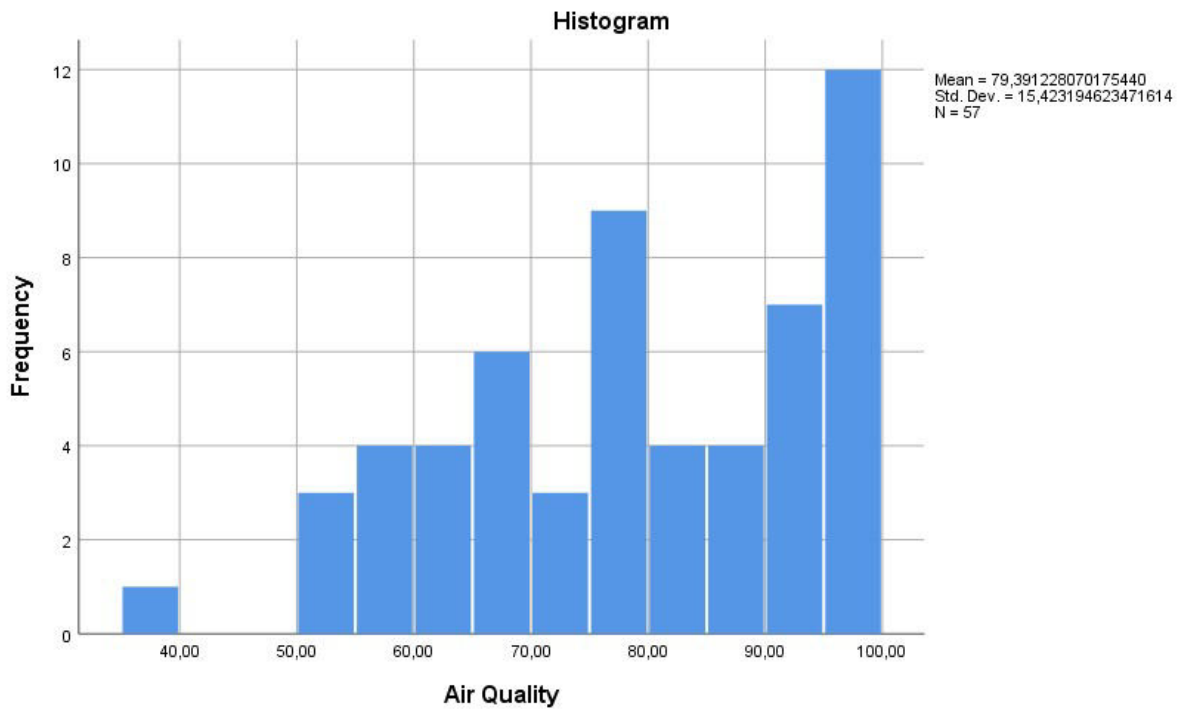
#### *Descriptives*

		Statistic	Std. Error	
Air Quality	Mean	79.39122807 0175440	2.042852032 809977	
	95% Confidence Interval for Mean	Lower Bound	75.29890369 5470090	
		Upper Bound	83.48355244 4880800	
	5% Trimmed Mean	80.07269005 8479510		
	Median	79.91000000 0000000		
	Variance	237.875		
	Std. Deviation	15.42319462 3471616		
	Minimum	37.90000000 0000000		
	Maximum	99.61000000 0000000		
	Range	61.71000000 0000000		
	Interquartile Range	25.39500000 0000010		
	Skewness	-.471	.316	
	Kurtosis	-.577	.623	
	Knowledge	Mean	67.70154385 9649120	1.831658960 864754
95% Confidence Interval for Mean		Lower Bound	64.03229004 6202930	
		Upper Bound	71.37079767 3095310	
5% Trimmed Mean		67.70087719 2982450		
Median		68.97100000 0000000		
Variance		191.234		
Std. Deviation		13.82872189 6408956		

	Minimum		43.66900000	
			0000000	
	Maximum		90.99800000	
			0000000	
	Range		47.32900000	
			0000010	
	Interquartile Range		23.64999999	
			9999990	
	Skewness		-.033	.316
	Kurtosis		-1.119	.623
Technology	Mean		68.77228070	1.873525823
			1754380	614628
	95% Confidence Interval for Mean	Lower Bound	65.01915748	
			4077240	
		Upper Bound	72.52540391	
			9431530	
	5% Trimmed Mean		68.67763352	
			8265100	
	Median		70.97600000	
			0000000	
	Variance		200.076	
	Std. Deviation		14.14480977	
			8494709	
	Minimum		41.72200000	
			0000000	
	Maximum		100.0000000	
			0000000	
	Range		58.27800000	
			0000000	
	Interquartile Range		23.76600000	
			0000005	
	Skewness		.016	.316
	Kurtosis		-.825	.623
Future Readiness	Mean		68.21349122	2.068538551
			8070180	744174
	95% Confidence Interval for Mean	Lower Bound	64.06971057	
			2710390	
		Upper Bound	72.35727188	
			3429970	
	5% Trimmed Mean		68.11876900	
			5847950	

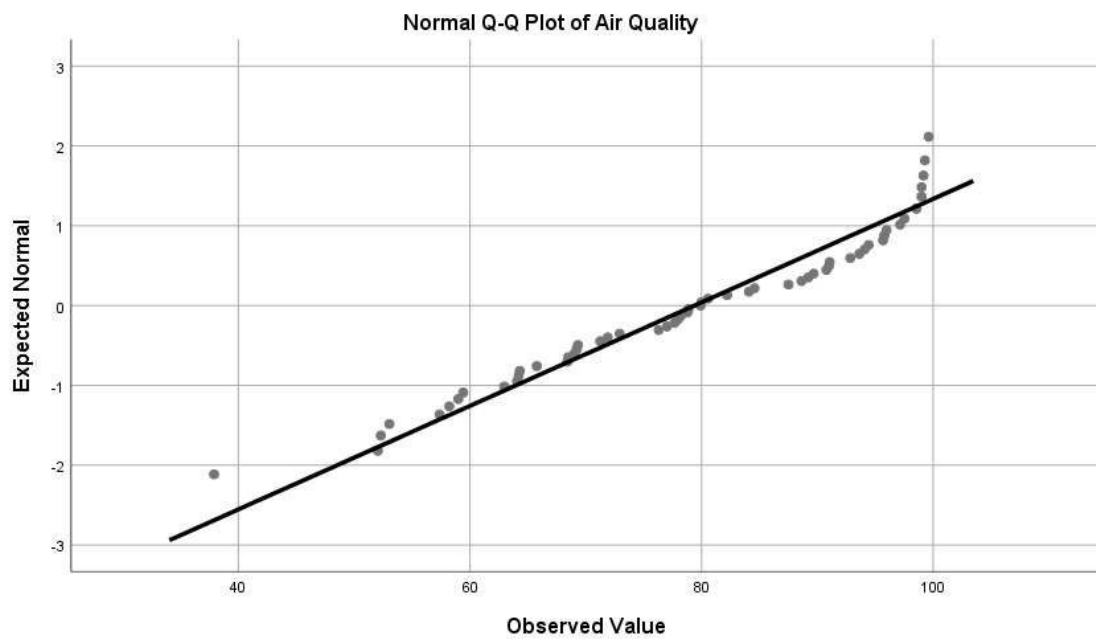
Median	65.59900000	0000000
Variance	243.895	
Std. Deviation	15.61712358	8643250
Minimum	41.43000000	0000000
Maximum	98.42700000	0000000
Range	56.99700000	0000010
Interquartile Range	30.05100000	0000002
Skewness	.126	.316
Kurtosis	-1.291	.623

### C.1.1 Air Quality histogram

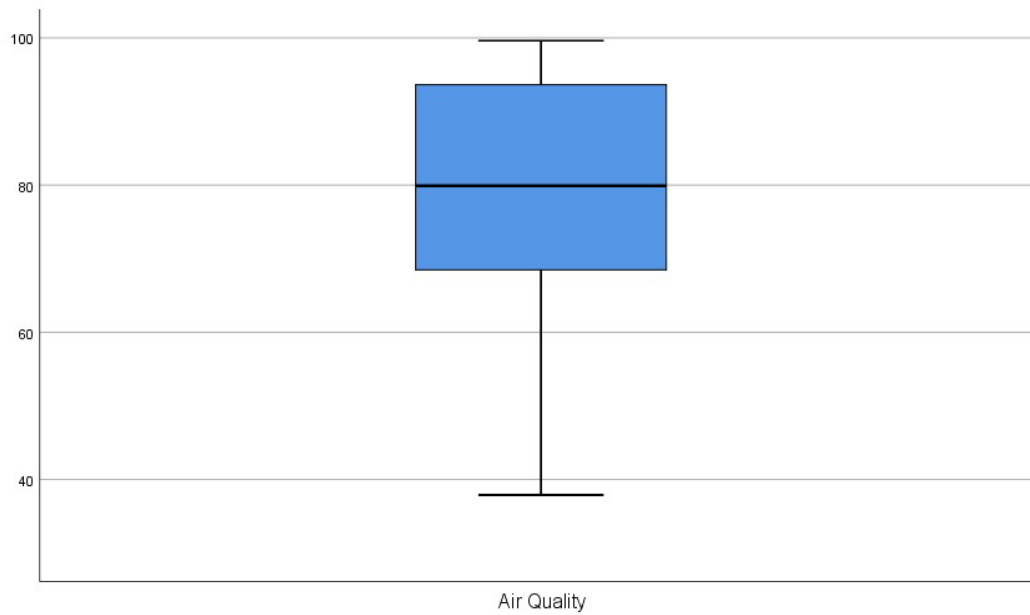




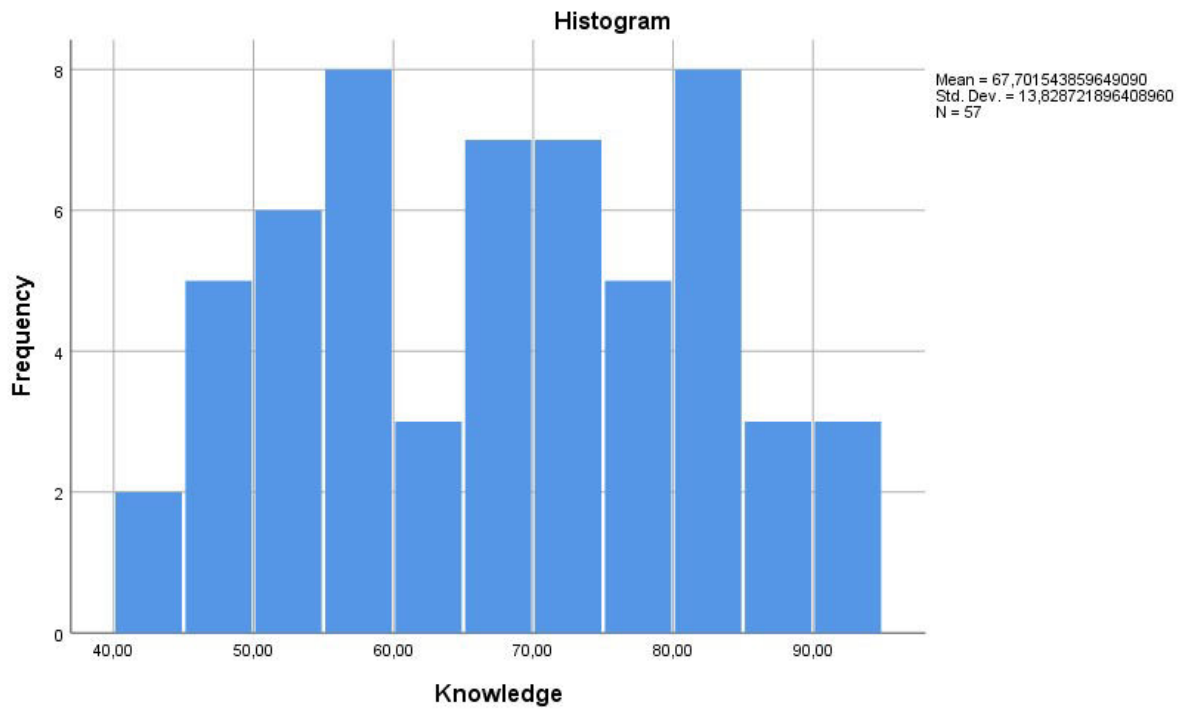
### C.1.2 Air Quality Q-Q Plot



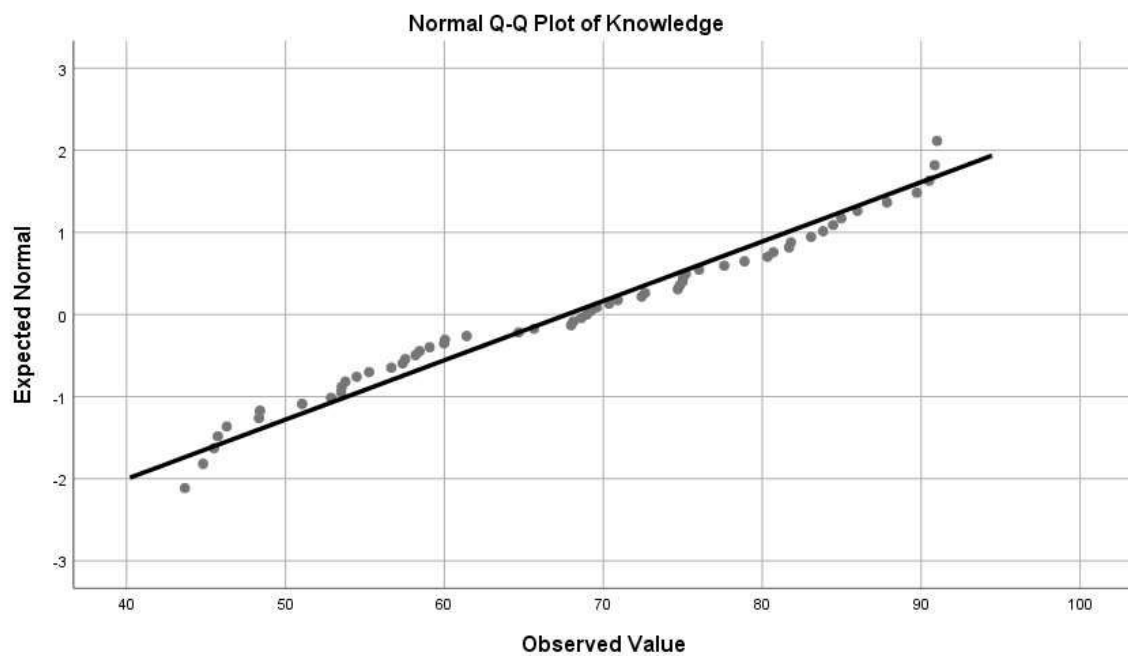
### C.1.3 Air Quality box plot



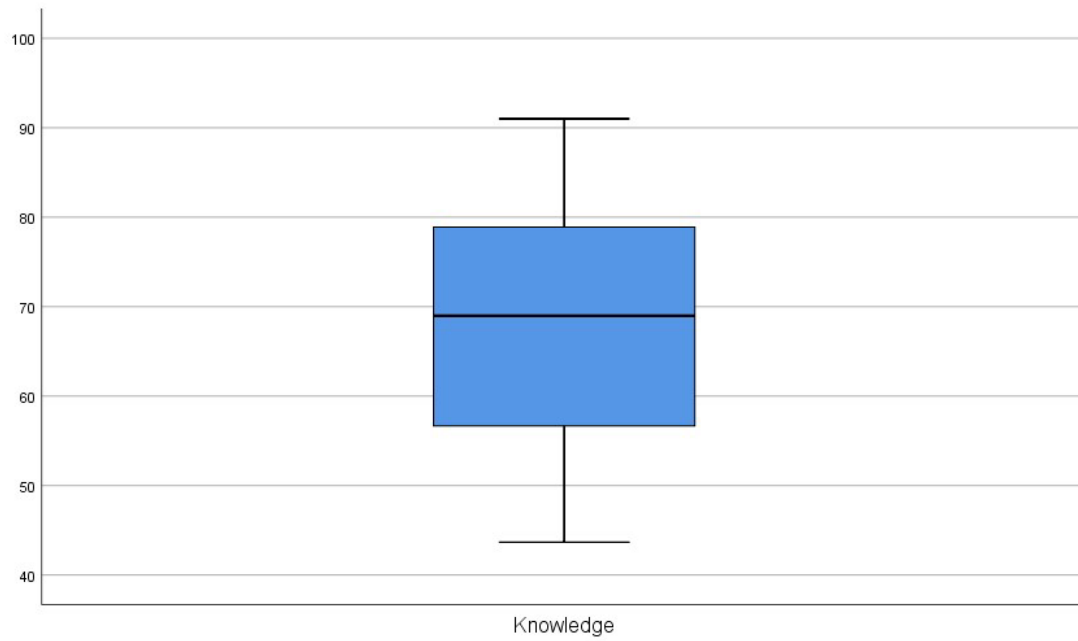
### C.1.4 Knowledge histogram



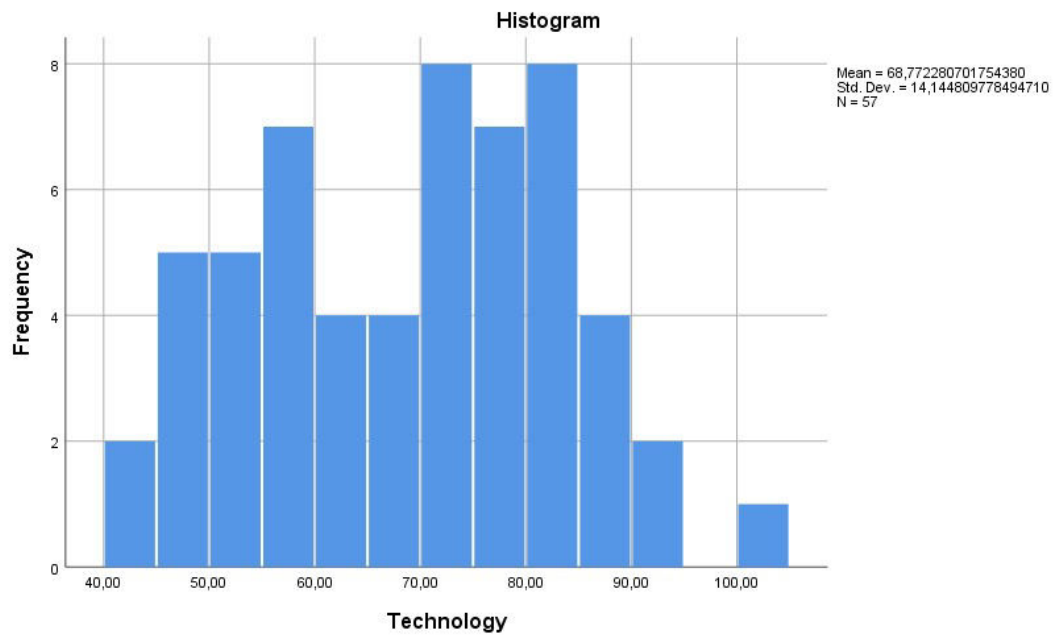
### C.1.5 Knowledge Q-Q Plot



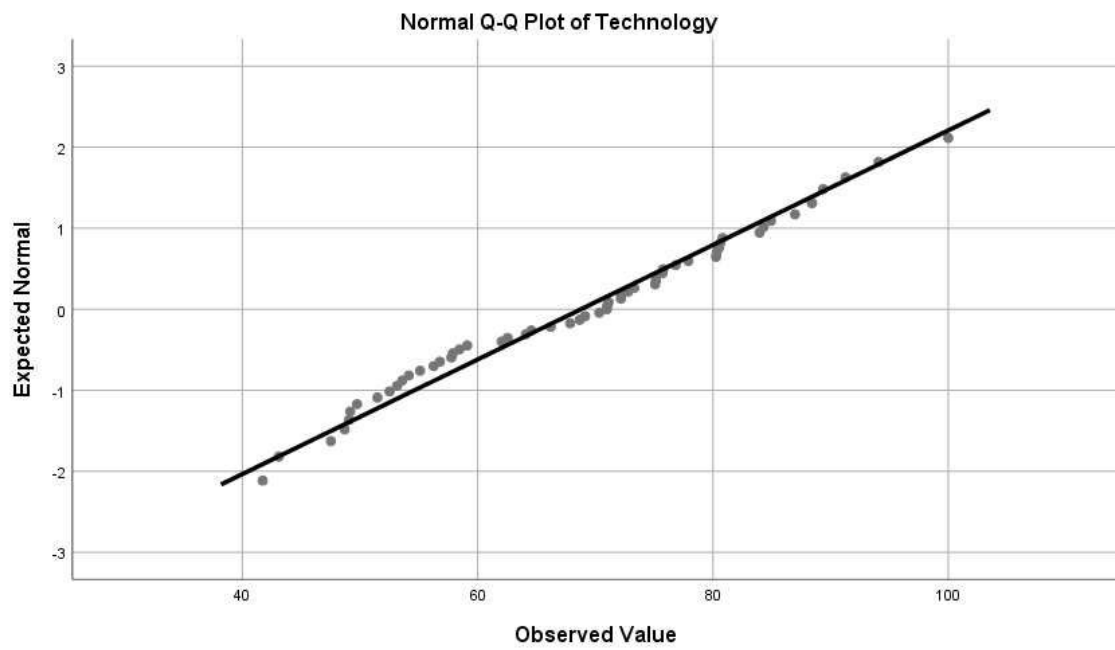
### C.1.6 Knowledge box plot



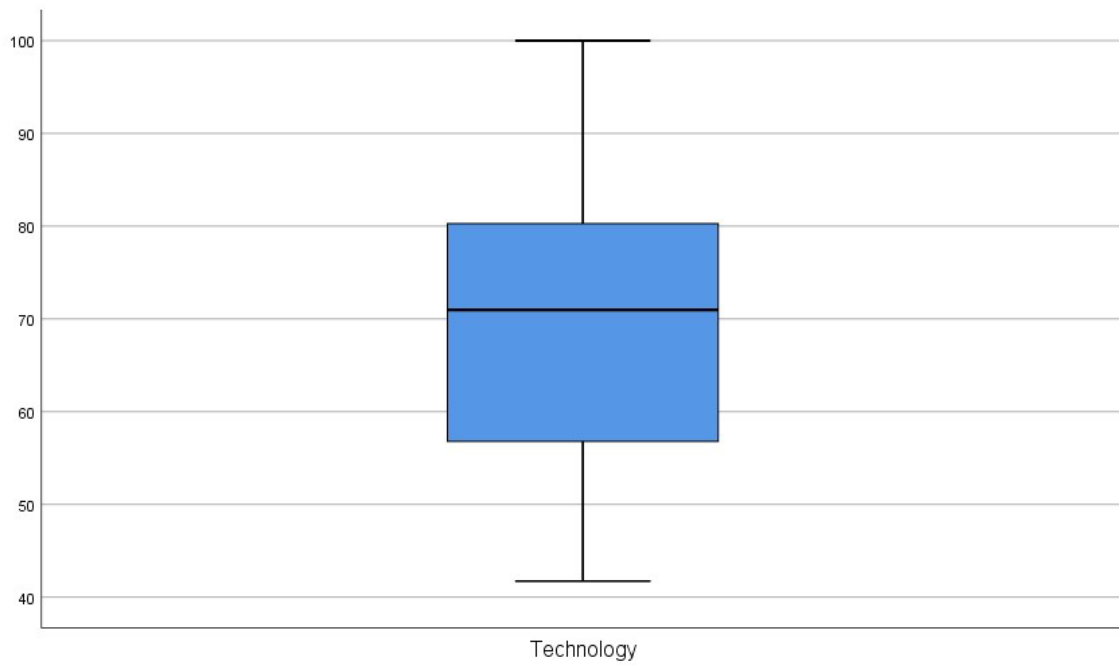
### C.1.7 Technology histogram



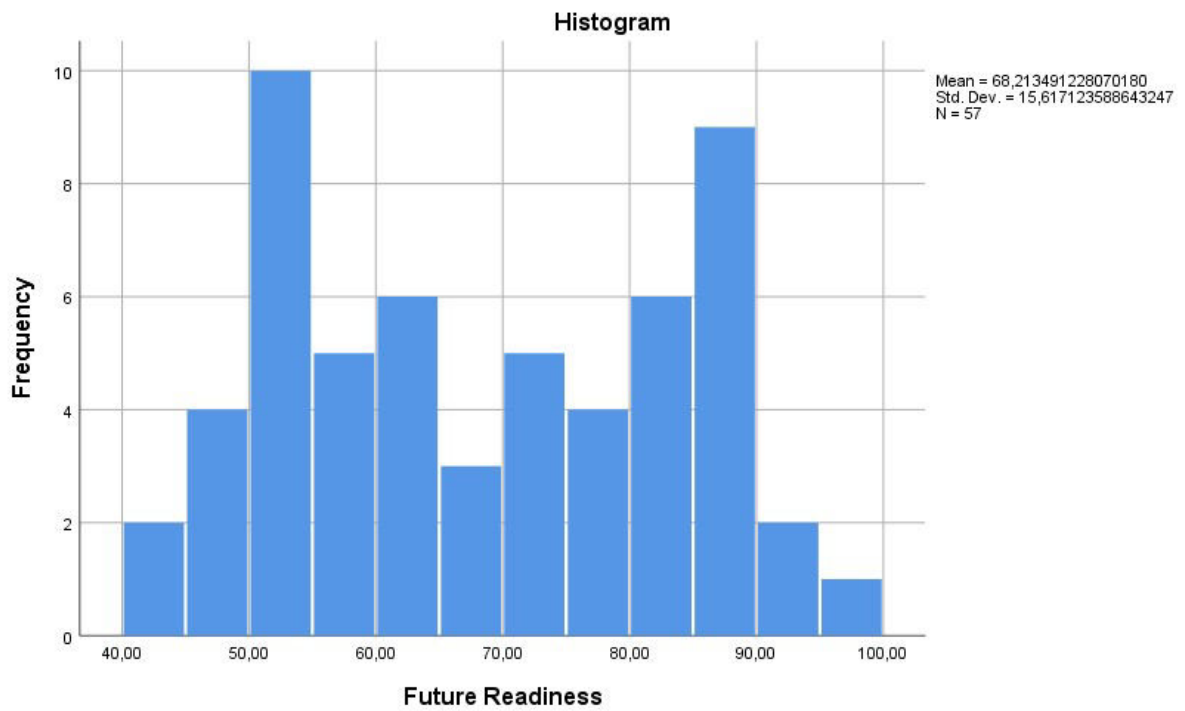
### C.1.8 Technology Q-Q Plot



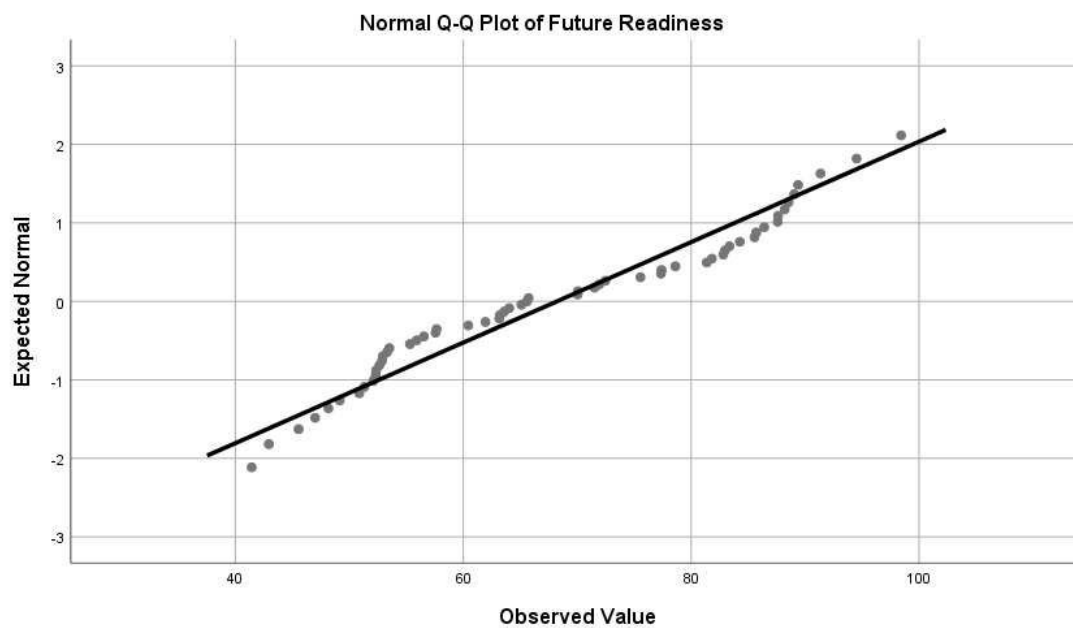
### C.1.9 Technology box plot



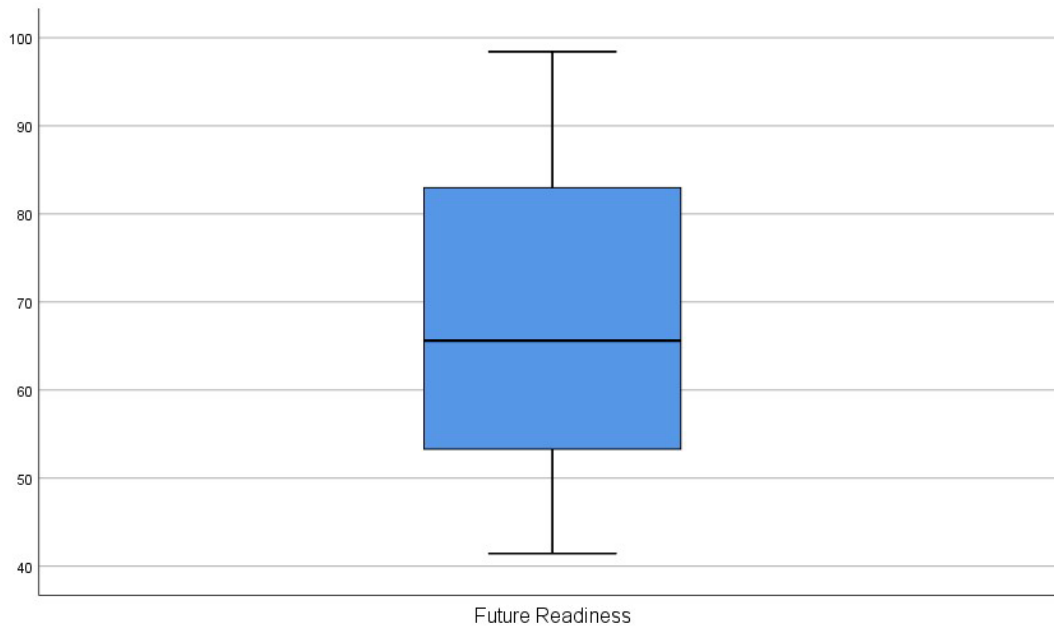
### C.1.10 Future Readiness histogram



### C.1.11 Future Readiness Q-Q Plot



### C.1.12 Future Readiness box plot



### C.2 Anova – Output with all variables

#### *Variables Entered/Removed<sup>a</sup>*

Model	Variables Entered	Variables Removed	Method
1	Future Readiness, Knowledge, Technology <sup>b</sup>	.	Enter

a. Dependent Variable: Air Quality

b. All requested variables entered.

#### *Model Summary<sup>b</sup>*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.708 <sup>a</sup>	.501	.473	11.20043094 8860648	1.961

a. Predictors: (Constant), Future Readiness, Knowledge, Technology

b. Dependent Variable: Air Quality

*ANOVA<sup>a</sup>*

<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	6672.165	3	2224.055	17.729	.000 <sup>b</sup>
	Residual	6648.832	53	125.450		
	Total	13320.996	56			

a. Dependent Variable: Air Quality

b. Predictors: (Constant), Future Readiness, Knowledge, Technology

*Coefficients<sup>a</sup>*

<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>		<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	
1	(Constant)	46.605	7.775		5.994	.000
	Knowledge	.223	.228	.200	.980	.331
	Technology	-.851	.240	-.780	-3.544	.001
	Future Readiness	1.117	.223	1.131	5.003	.000

a. Dependent Variable: Air Quality

*Residuals Statistics<sup>a</sup>*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>N</b>
Predicted Value	56.75660705	101.7242736	79.39122807	10.91539262	57
	5664060	81640620	0175440	2433469	
Residual	-	27.59592437	-	10.89629002	57
	25.25876998	7441406	.0000000000	4206110	
	9013672		00041		
Std. Predicted Value	-2.074	2.046	.000	1.000	57
Std. Residual	-2.255	2.464	.000	.973	57

a. Dependent Variable: Air Quality

### C.3 Anova - Output (Knowledge excluded)

#### *Variables Entered/Removed<sup>a</sup>*

Model	Variables Entered	Variables Removed	Method
1	Future Readiness, Technology <sup>b</sup>	.	Enter

a. Dependent Variable: Air Quality

b. All requested variables entered.

#### *Model Summary<sup>b</sup>*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.701 <sup>a</sup>	.492	.473	11.196365824 067145	1.989

a. Predictors: (Constant), Future Readiness, Technology

b. Dependent Variable: Air Quality

#### *ANOVA<sup>a</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6551.631	2	3275.816	26.132	.000 <sup>b</sup>
	Residual	6769.365	54	125.359		
	Total	13320.996	56			

a. Dependent Variable: Air Quality

b. Predictors: (Constant), Future Readiness, Technology

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

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	48.840	7.430		6.573	.000		
	Technology	-.760	.221	-.697	-3.434	.001	.229	4.372
	Future Readiness	1.214	.200	1.229	6.058	.000	.229	4.372

a. Dependent Variable: Air Quality



*Collinearity Diagnostics<sup>a</sup>*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Technology	Future Readiness
1	1	2.966	1.000	.00	.00	.00
	2	.028	10.223	.93	.03	.09
	3	.005	23.639	.07	.97	.91

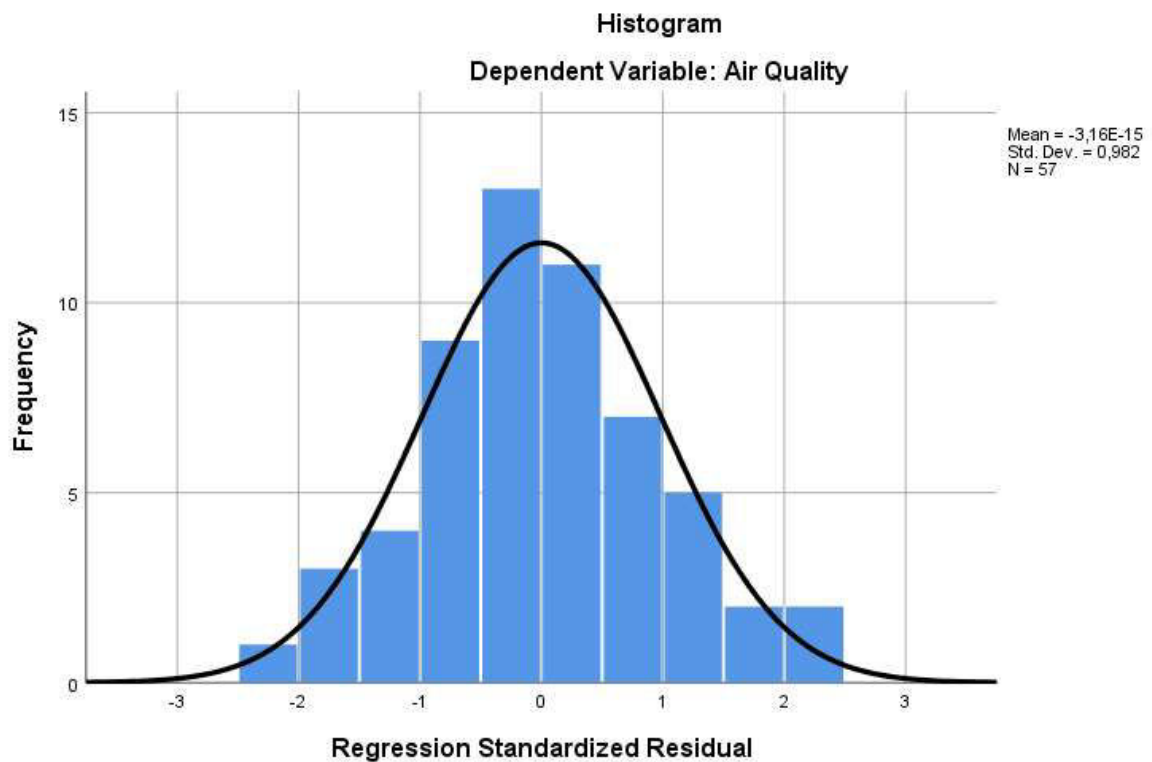
a. Dependent Variable: Air Quality

*Residuals Statistics<sup>a</sup>*

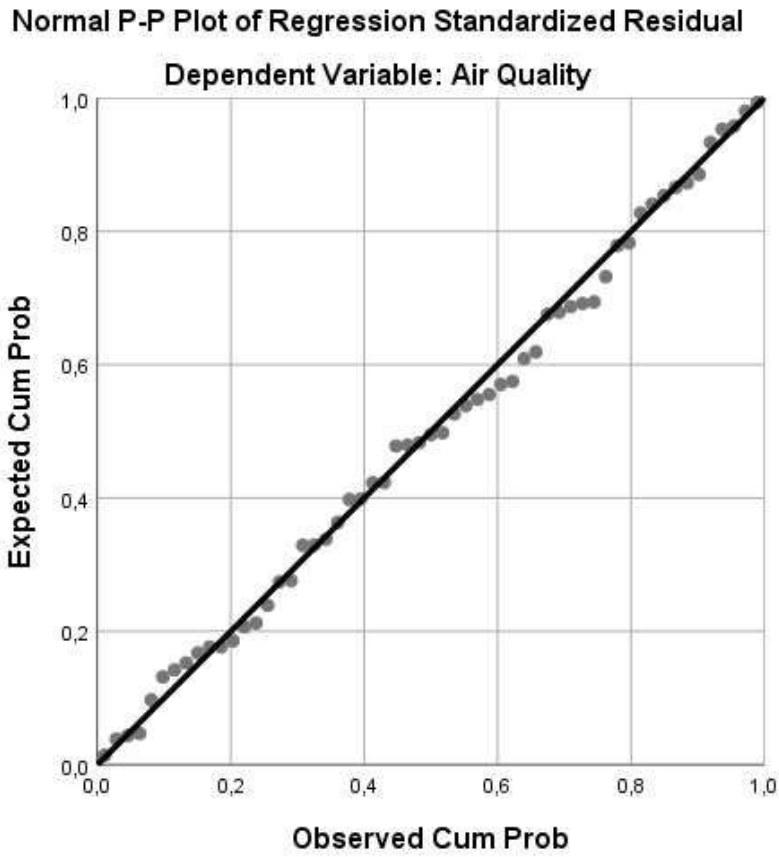
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	56.972637176 513670	102.49525451 6601560	79.39122807 0175460	10.8163495624 95052	57
Residual	- 24.519521713 256836	27.604610443 115234	- .0000000000 00036	10.9946129779 72357	57
Std. Predicted Value	-2.073	2.136	.000	1.000	57
Std. Residual	-2.190	2.465	.000	.982	57

a. Dependent Variable: Air Quality

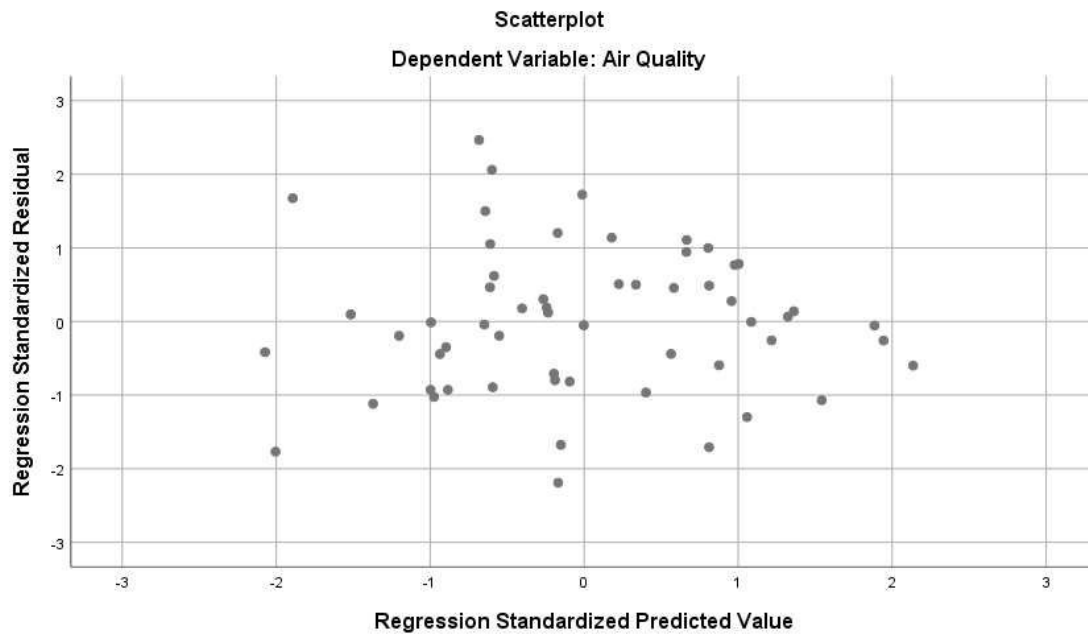
**C.4 Histogram**



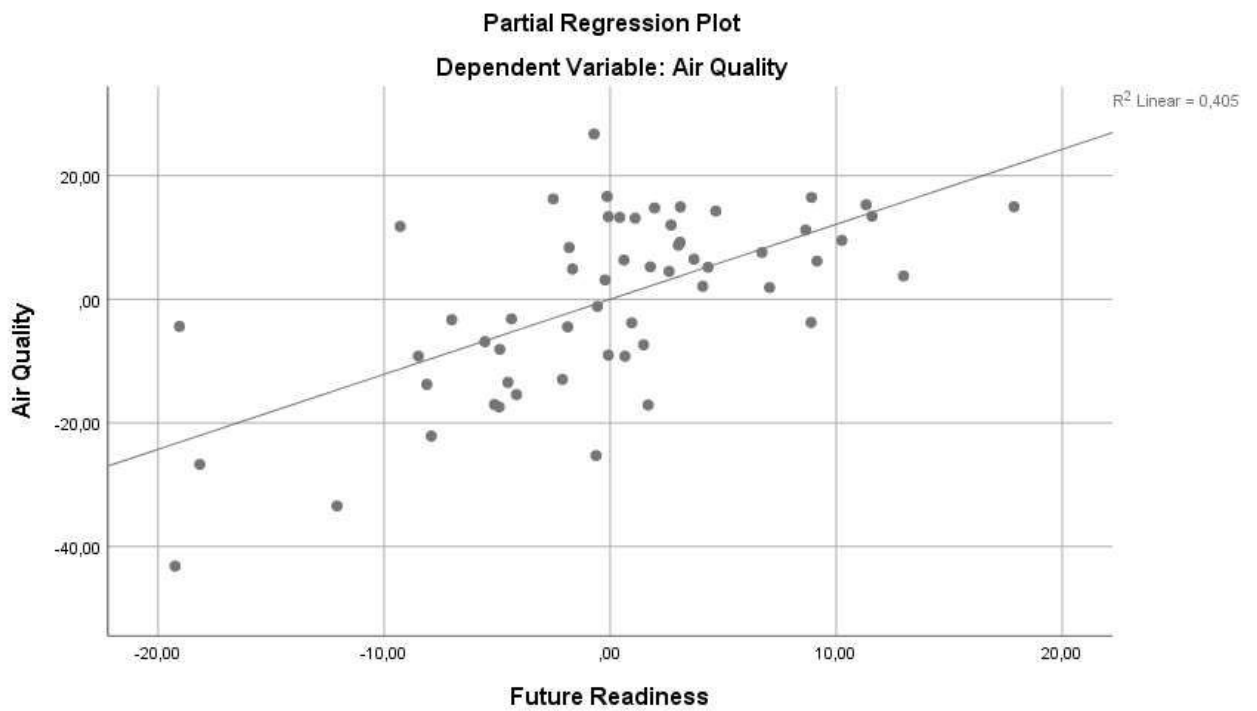
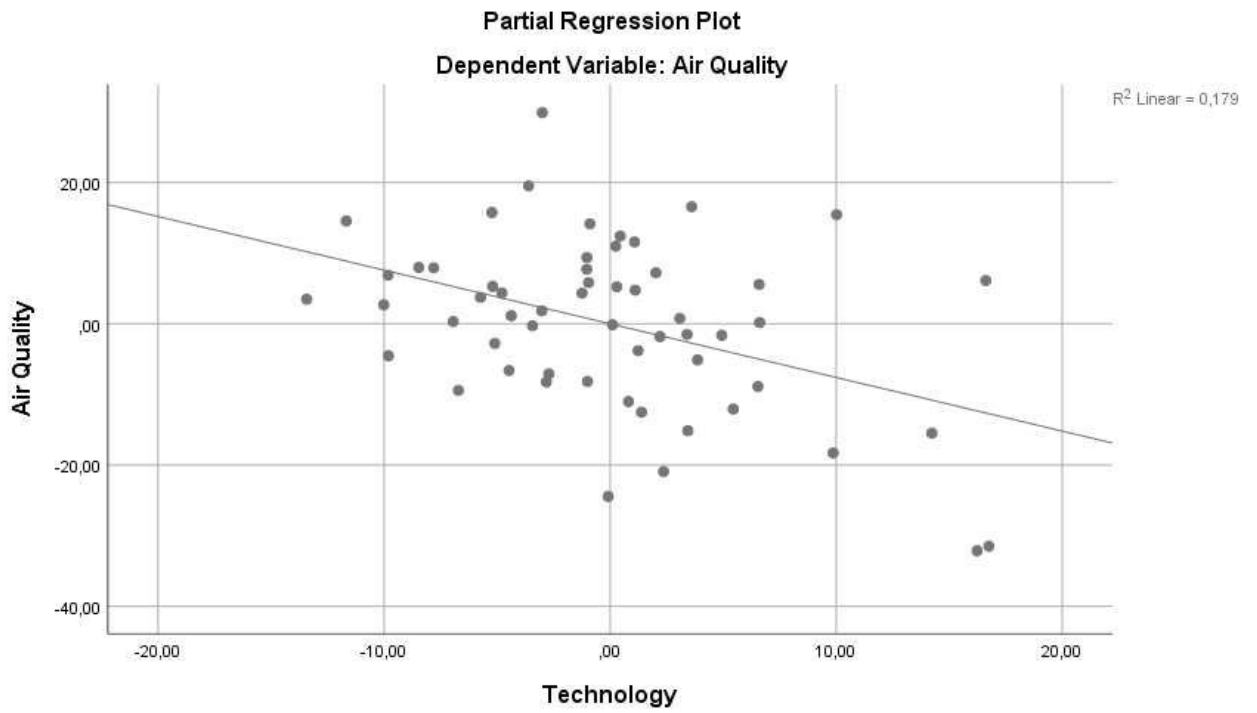
### C.5 P-P Plot of Regression Standardized residuals

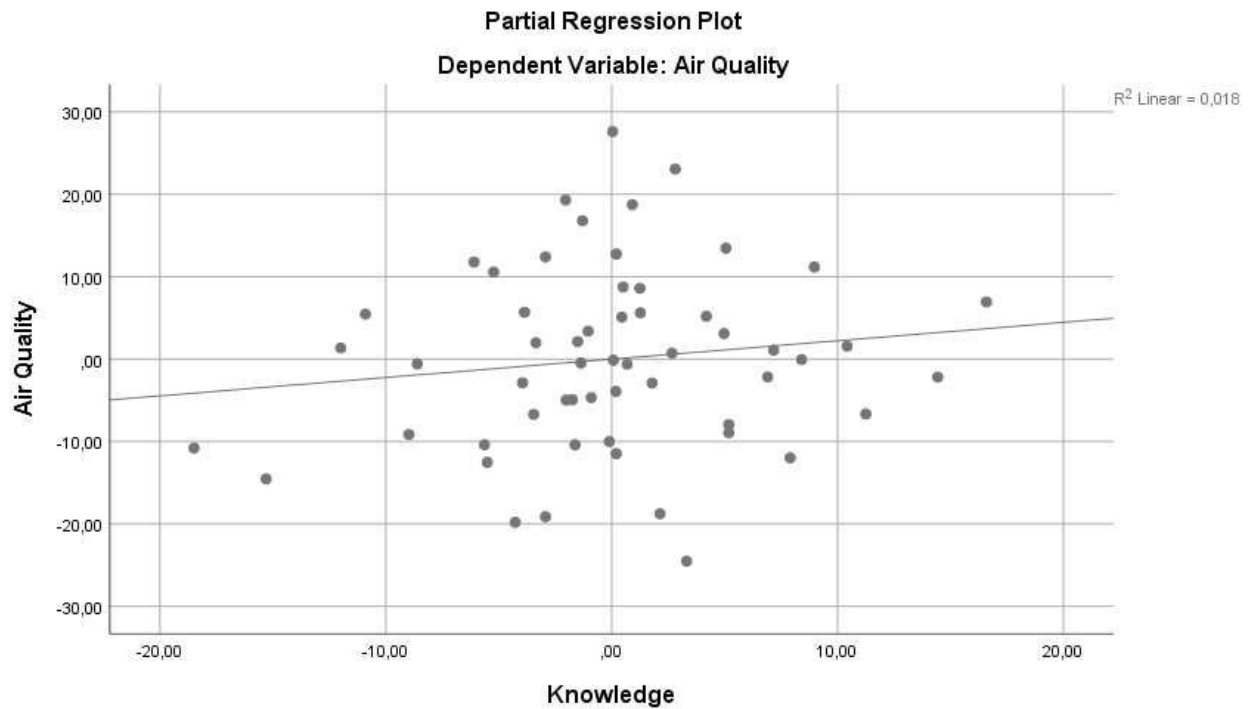


### C.6 Scatterplot



### C.7 Partial Regression Plots





## C.8 Tests of Between-Subjects Effects

*Tests of Between-Subjects Effects*

Dependent Variable: Air Quality

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6551.631 <sup>a</sup>	2	3275.816	26.132	.000
Intercept	5416.098	1	5416.098	43.205	.000
Technology	1478.288	1	1478.288	11.792	.001
FutureReadiness	4601.022	1	4601.022	36.703	.000
Error	6769.365	54	125.359		
Total	372590.121	57			
Corrected Total	13320.996	56			

a. R Squared = .492 (Adjusted R Squared = .473)

## C.9 Breusch-Pagan Test

*Breusch-Pagan Test for Heteroskedasticity<sup>a,b,c</sup>*

Chi-Square	df	Sig.
2.640	1	.104

- a. Dependent variable: Air Quality  
 b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.  
 c. Predicted values from design: Intercept + Technology + FutureReadiness

## C.10 Ramsey reset test

*Coefficients<sup>a</sup>*

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	44.079	8.230		5.356	.000
	Technology	-1.598	.677	-1.465	-2.359	.022
	Future Readiness	2.586	1.068	2.619	2.422	.019
	ram2	-5.919E-5	.000	-.814	-1.308	.196

a. Dependent Variable: Air Quality

*Excluded Variables<sup>a</sup>*

Model		Beta In	t	Sig.	Partial	Collinearity
					Correlation	Statistics
				Tolerance		
1	ram1	.195 <sup>b</sup>	.008	.994	.001	1.662E-5

- a. Dependent Variable: Air Quality  
 b. Predictors in the Model: (Constant), ram2, Technology, Future Readiness

## Appendix D Robustness check (N=46)

### D.1 Descriptive statistics

#### *Descriptive Statistics*

	<b>Mean</b>	<b>Std. Deviation</b>	<b>N</b>
Air Quality	80.882608695 652150	15.826323421 549247	46
Technology	73.155695652 173930	11.983095771 163210	46
Future Readiness	72.161260869 565200	14.712992727 419580	46

### D.2 Anova-Output

#### *Variables Entered/Removed<sup>a</sup>*

<b>Model</b>	<b>Variables Entered</b>	<b>Variables Removed</b>	<b>Method</b>
1	Future Readiness, Technology <sup>b</sup>	.	Enter

a. Dependent Variable: Air Quality

b. All requested variables entered.

#### *Model Summary<sup>b</sup>*

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>	<b>Durbin-Watson</b>
1	.690 <sup>a</sup>	.476	.451	11.723347341 263342	2.008

a. Predictors: (Constant), Future Readiness, Technology

b. Dependent Variable: Air Quality

*ANOVA<sup>a</sup>*

<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	5361.478	2	2680.739	19.505	.000 <sup>b</sup>
	Residual	5909.786	43	137.437		
	Total	11271.263	45			

a. Dependent Variable: Air Quality

b. Predictors: (Constant), Future Readiness, Technology

*Coefficients<sup>a</sup>*

<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>	<b>Collinearity Statistics</b>	
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>			<b>Tolerance</b>	<b>VIF</b>
1	(Constant)	48.916	10.831		4.516	.000		
	Technology	-.700	.268	-.530	-2.609	.012	.296	3.381
	Future Readiness	1.152	.218	1.071	5.275	.000	.296	3.381

a. Dependent Variable: Air Quality

### D.3 Collinearity Diagnostics

*Collinearity Diagnostics<sup>a</sup>*

<b>Model</b>	<b>Dimension</b>	<b>Eigenvalue</b>	<b>Condition Index</b>	<b>Variance Proportions</b>		
				<b>(Constant)</b>	<b>Technology</b>	<b>Future Readiness</b>
1	1	2.974	1.000	.00	.00	.00
	2	.021	11.948	.76	.02	.18
	3	.005	24.973	.23	.98	.82

a. Dependent Variable: Air Quality

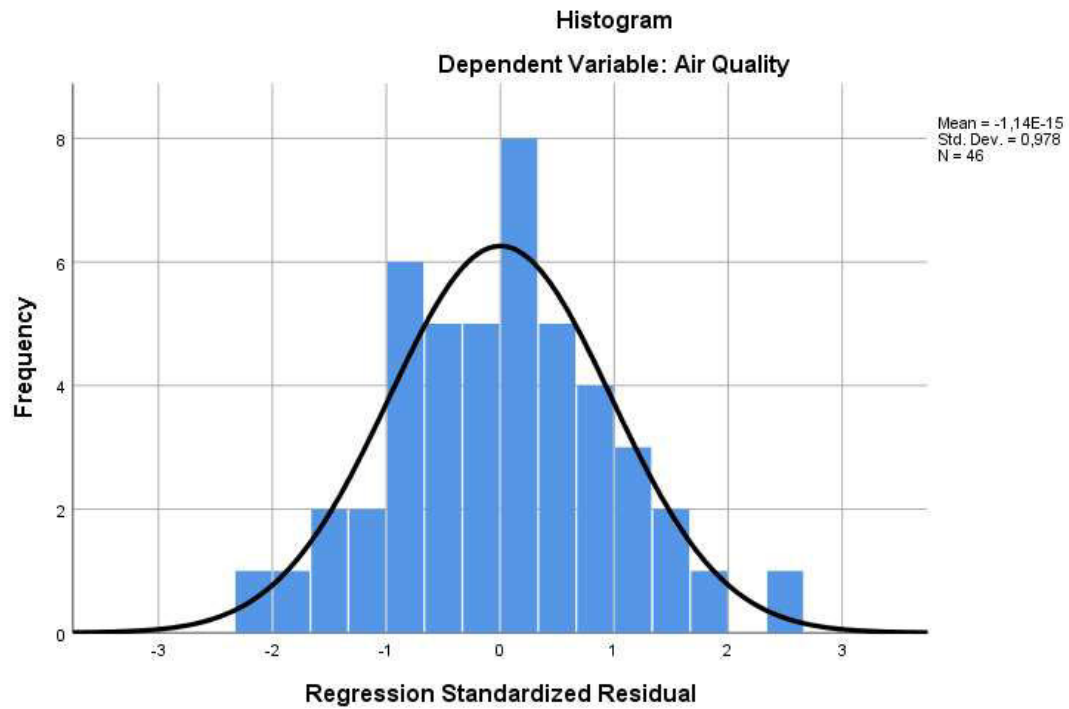
## D.4 Residuals Statistics

### *Residuals Statistics<sup>a</sup>*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	58.0954170 22705080	101.410163879 394530	80.88260869 5652200	10.91530785736 6045	46
Residual	- 24.5661926 26953125	27,5575046539 30664	- .0000000000 00013	11.45986768782 2554	46
Std. Predicted Value	-2.088	1.881	.000	1.000	46
Std. Residual	-2.095	2.351	.000	.978	46

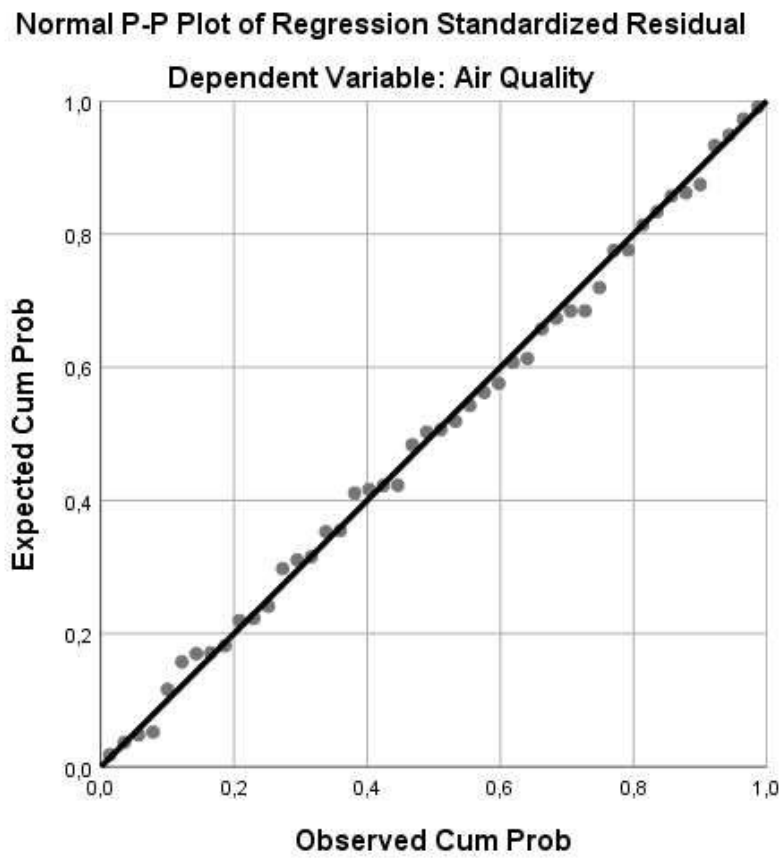
a. Dependent Variable: Air Quality

## D.5 Histogram

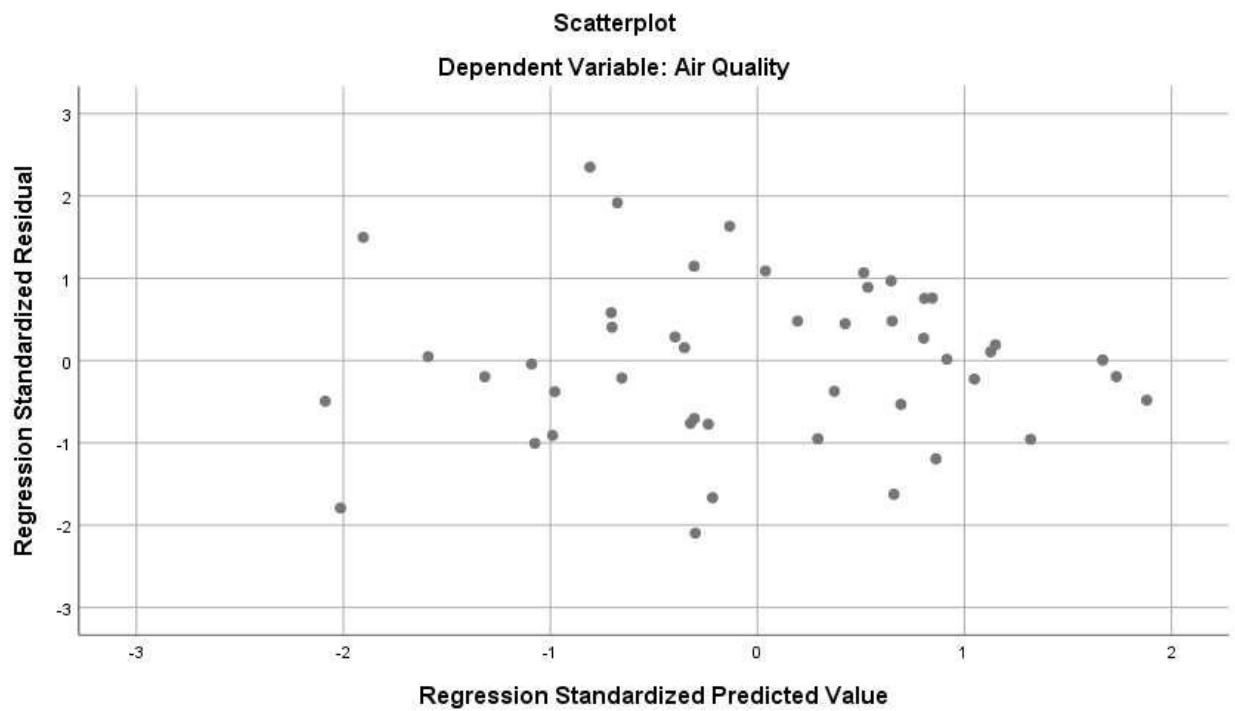




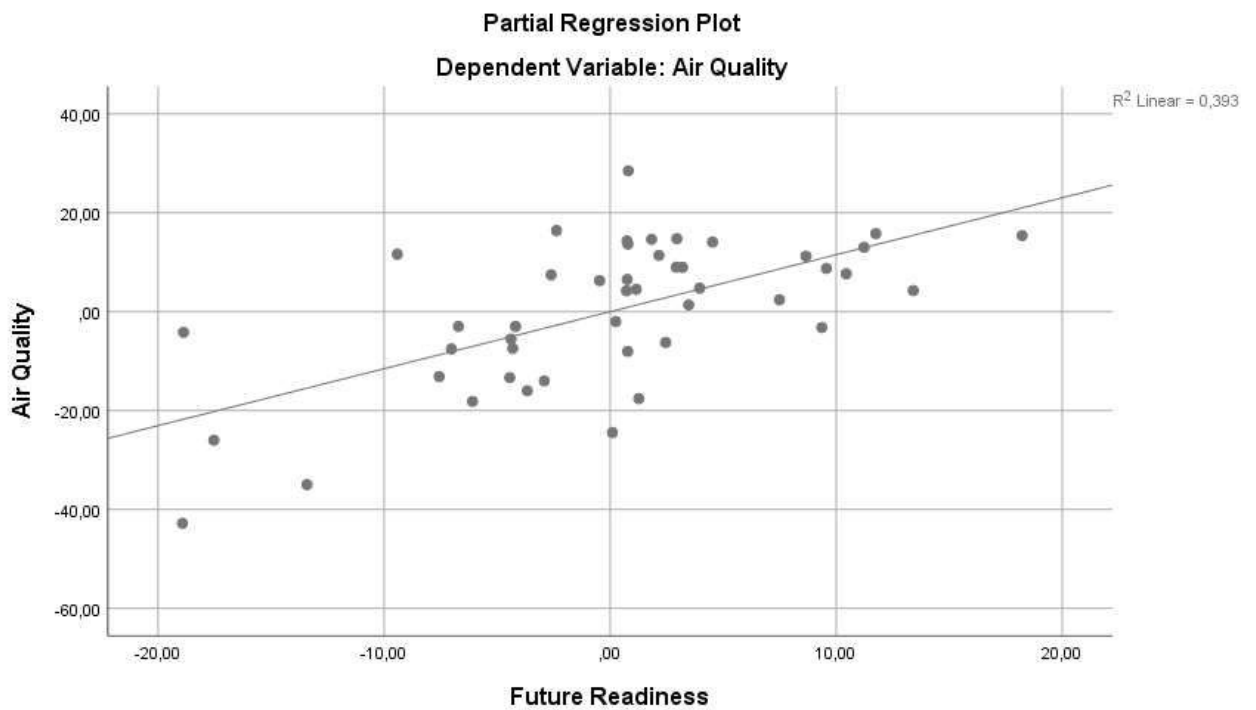
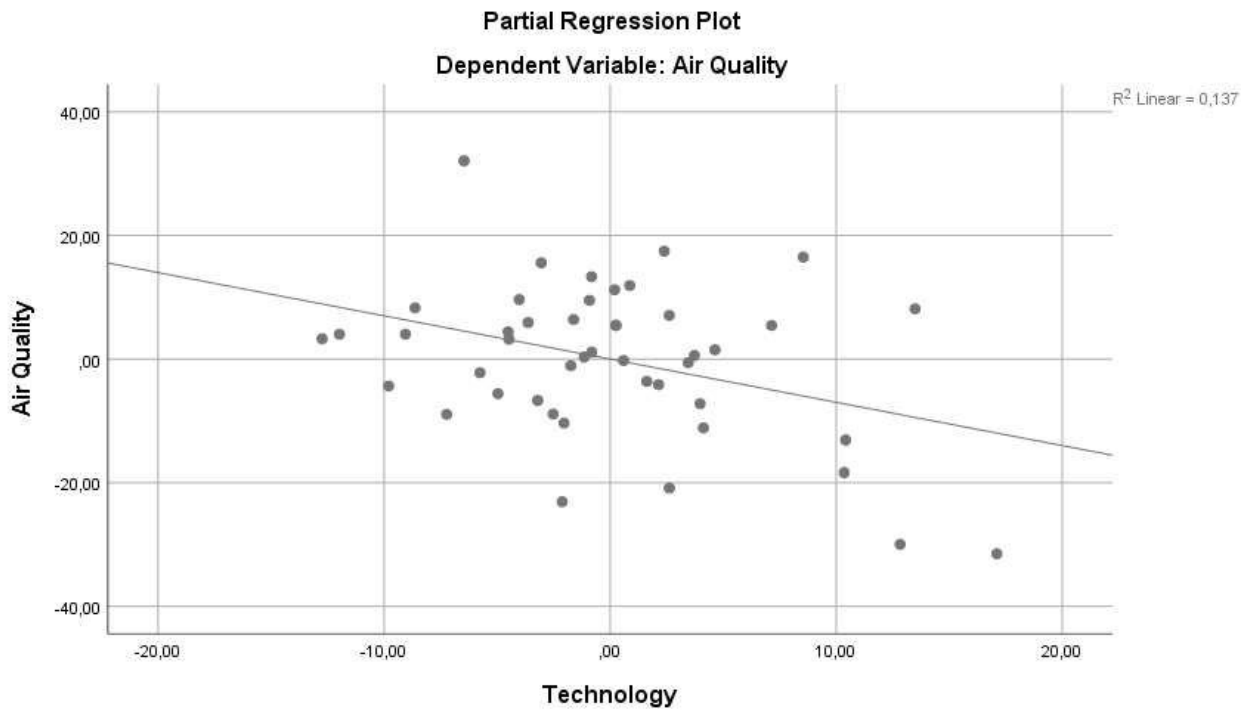
## D.6 Normal P-P Plot



## D.7 Scatterplot



## D.8 Partial Regression Plots



## D.9 Breusch-Pagan Test

*Breusch-Pagan Test for Heteroskedasticity<sup>a,b,c</sup>*

Chi-Square	df	Sig.
3.115	1	.078

- a. Dependent variable: Air Quality  
 b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.  
 c. Predicted values from design: Intercept + Technology + FutureReadiness

## D.10 Tests of Between-Subjects Effects

*Tests of Between-Subjects Effects*

Dependent Variable: Air Quality

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5361.478 <sup>a</sup>	2	2680.739	19.505	.000
Intercept	2803.364	1	2803.364	20.397	.000
Technology	935.422	1	935.422	6.806	.012
FutureReadiness	3824.939	1	3824.939	27.831	.000
Error	5909.786	43	137.437		
Total	312203.097	46			
Corrected Total	11271.263	45			

a. R Squared = .476 (Adjusted R Squared = .451)