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FACTORS AFFECTING THE INTENTION TO ACCEPT CARBON TAX AMONG INDIVIDUAL TAXPAYERS IN PENANG

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Universiti Utara Malaysia

MASTER IN TAXATION

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Abstract

Rising greenhouse gas (GHG) emissions have made climate change a global concern, prompting countries to consider measures like carbon taxes. Although Malaysia has yet to implement such a tax, recent policies and the 12th Malaysia Plan reflect a growing commitment to carbon reduction. However, public acceptance remains key. This study examines whether individual taxpayers in Penang, a major manufacturing sector area, are willing to accept a carbon tax, applying the Theory of Planned Behaviour (TPB) variables: attitude, subjective norms, environmental knowledge, awareness, and environmental concern. A standardized questionnaire was distributed to 250 people in Penang state, and 109 valid responses were obtained. SPSS Version 29.0 was used to analyze the data, and methods such as multiple regression, factor analysis, correlation, and reliability testing were used. The findings showed that just three factors, i.e., subjective norms, environmental knowledge, and awareness, were substantially correlated with the intention to accept the carbon tax. Although the majority of respondents reported moderate to high levels of environmental awareness and concern. Interestingly, awareness and support were negatively correlated, indicating that support may be hindered by greater awareness in the absence of clear policy communication. In the meantime, intention was not statistically significantly predicted by attitude or environmental concern. The results highlight the importance of social influence and knowledge in shaping public support for carbon pricing measures. By adding environmental dimensions, this study expands on TPB and provides theoretical and practical insights for policymakers who want to create carbon tax regimes that are both successful and widely acceptable in Malaysia.

Keywords: carbon tax, attitude, subjective norms, environmental knowledge, environmental awareness, environmental concern

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Abstrak

Peningkatan pelepasan gas rumah hijau (GRH) telah menjadikan perubahan iklim sebagai isu global, mendorong negara untuk mempertimbangkan cukai karbon. Walaupun Malaysia masih belum melaksanakannya, dasar semasa dan Rancangan Malaysia Ke-12 menunjukkan komitmen yang semakin meningkat terhadap pengurangan karbon. Namun begitu, penerimaan awam adalah sangat penting. Kajian ini menilai kesediaan pembayar cukai individu di Pulau Pinang, negeri tumpuan sektor pembuatan untuk menerima pelaksanaan cukai karbon bersandarkan lima pemboleh ubah Teori Tingkahlaku Terancang (TTT): sikap, norma subjektif, pengetahuan alam sekitar, kesedaran, dan keprihatinan alam sekitar. Soal selidik berstruktur telah diedarkan kepada 250 individu dan memperoleh 109 maklum balas yang sah. Data dianalisis menggunakan SPSS Versi 29.0 melalui kaedah regresi berganda, analisis faktor, korelasi, dan ujian kebolehpercayaan. Hasil kajian menunjukkan bahawa hanya tiga faktor iaitu norma subjektif, pengetahuan alam sekitar, dan kesedaran,mempunyai hubungan yang signifikan dengan niat untuk menerima cukai karbon. Menariknya, kesedaran menunjukkan hubungan negatif dengan sokongan, mencadangkan bahawa kesedaran yang tinggi tanpa komunikasi dasar yang jelas mungkin menghalang penerimaan. Sementara itu, sikap dan keprihatinan alam sekitar tidak menunjukkan hubungan signifikan dengan niat. Hasil kajian ini menekankan pentingnya pengaruh sosial dan pengetahuan dalam membentuk sokongan awam terhadap dasar penetapan harga karbon. Dengan menambah dimensi alam sekitar, kajian ini mengembangkan TPB dan memberikan pandangan teori dan praktikal kepada pembuat dasar dalam merangka cukai karbon yang lebih berkesan dan diterima umum di Malaysia.

Kata kunci*: cukai karbon, sikap, norma subjektif, pengetahuan alam sekitar, kesedaran alam sekitar, keprihatinan alam sekitar*

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Universiti Utara Malaysia

TABLE OF CONTENTS

Universiti Utara Malaysia

Universiti Utara Malaysia

Universiti Utara Malaysia

List of Tables

Page

Universiti Utara Malaysia

Universiti Utara Malaysia

List of Figures

Page

Universiti Utara Malaysia

List of Abbreviations

CO_2	Carbon Dioxide
FA	Factor Analysis
GHG	Greenhouse Gas
IQAir	Index Quality Air
KMO	Kaiser-Meyer- Olkin
OECD	Organisation for Economic Co-operation and Development
PBC	Perceived Behavioral Control
SD	Standard Deviation
SPM	Sijil Pelajaran Malaysia
SPSS	Statistical Package for Social Sciences
STPM	Sijil Tinggi Persekolahan Malaysia
TISSA	Tunku Puteri Intan Safinaz School of Accountancy
TPB	Theory of Planned Behavior
UUM	Universiti Utara Malaysia
WHO	World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Climate change is one of the world's most urgent environmental concerns. It is mostly caused by the build-up of greenhouse gases (GHGs), especially carbon dioxide (CO_2), released from human activities through fossil fuels for energy, transportation, and industrial applications. Climate change is caused by increased greenhouse gas releases through human activities, leading to global warming and climatic disruptions (Nadeau et al., 2022). The three main greenhouse gases are carbon dioxide, methane, and nitrous oxide, which trap heat in the air and lead to global warming and other climatic imbalances (Filonchyk et al., 2024). These imbalances include extreme weather, a rise in sea level, intense droughts, and recurrent flooding (Gahlawat & Lakra, 2020). The impacts of climate change are extensive and go beyond the physical world to affect other vital determinants of human existence, such as health, the food industry, and economic stability. Climate change threatens public health in the form of higher temperatures, exacerbated air pollution, higher occurrences of extreme weather events, and enhanced spread of infectious diseases (Kim et al., 2014). Moreover, climate change induces socio-economic insecurity through its interference with agricultural production, breakdown of vital infrastructure, health burden on healthcare facilities, and discriminating financial vulnerability, especially among low-income and vulnerable individuals (Mondal, 2024).

Around the globe, countries and regions release GHGs to different extents. Data show that developed and industrialized regions continue to be the largest emitters due to their high energy consumption, industrialization, and transport requirements. The International Energy Agency

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APPENDIX A

Reliability Analysis

Scale: Intention

Case Processing Summary

		N	%
Cases	Valid	109	100.0
	Excluded[a]	0	.0
	Total	109	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.973	.973	5

Item Statistics

	Mean	Std. Deviation	N
DV_Q1	3.17	1.527	109
DV_Q2	3.18	1.529	109
DV_Q3	3.27	1.482	109
DV_Q4	3.17	1.490	109
DV_Q5	3.43	1.449	109

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Reliability Analysis (continue)

Inter-Item Correlation Matrix

	DV_Q1	DV_Q2	DV_Q3	DV_Q4	DV_Q5
DV_Q1	1.000	.863	.880	.915	.828
DV_Q2	.863	1.000	.841	.884	.808
DV_Q3	.880	.841	1.000	.935	.899
DV_Q4	.915	.884	.935	1.000	.917
DV_Q5	.828	.808	.899	.917	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
DV_Q1	13.06	32.219	.914	.856	.967
DV_Q2	13.05	32.600	.885	.800	.972
DV_Q3	12.96	32.406	.935	.889	.964
DV_Q4	13.06	31.886	.967	.938	.959
DV_Q5	12.80	33.218	.902	.857	.969

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.23	50.382	7.098	5

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Reliability Analysis (continue)

Scale: Attitude

Case Processing Summary

		N	%
Cases	Valid	109	100.0
	Excluded[a]	0	.0
	Total	109	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.895	.897	6

Item Statistics

	Mean	Std. Deviation	N
IV_Q1	3.81	1.190	109
IV_Q2	4.29	.975	109
IV_Q3	4.33	.903	109
IV_Q4	3.92	1.073	109
IV_Q5	3.80	1.161	109
IV_Q6	3.93	1.128	109

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Reliability Analysis (continue)

Inter-Item Correlation Matrix

	IV_Q1	IV_Q2	IV_Q3	IV_Q4	IV_Q5	IV_Q6
IV_Q1	1.000	.600	.499	.539	.662	.652
IV_Q2	.600	1.000	.657	.510	.462	.534
IV_Q3	.499	.657	1.000	.764	.497	.578
IV_Q4	.539	.510	.764	1.000	.589	.638
IV_Q5	.662	.462	.497	.589	1.000	.703
IV_Q6	.652	.534	.578	.638	.703	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV_Q1	20.27	18.530	.724	.578	.877
IV_Q2	19.78	20.581	.660	.539	.885
IV_Q3	19.74	20.619	.723	.684	.878
IV_Q4	20.16	19.281	.736	.663	.874
IV_Q5	20.28	18.794	.718	.584	.877
IV_Q6	20.15	18.608	.769	.615	.868

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.07	27.365	5.231	6

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Reliability Analysis (continue)

Scale: Subjective Norms

Case Processing Summary

		N	%
Cases	Valid	109	100.0
	Excluded[a]	0	.0
	Total	109	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.975	.975	5

Item Statistics

	Mean	Std. Deviation	N
IV2_Q1	3.42	1.300	109
IV2_Q2	3.47	1.302	109
IV2_Q3	3.34	1.293	109
IV2_Q4	3.39	1.305	109
IV2_Q5	3.48	1.309	109

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Reliability Analysis (continue)

Inter-Item Correlation Matrix

	IV2_Q1	IV2_Q2	IV2_Q3	IV2_Q4	IV2_Q5
IV2_Q1	1.000	.894	.900	.899	.898
IV2_Q2	.894	1.000	.796	.876	.872
IV2_Q3	.900	.796	1.000	.891	.872
IV2_Q4	.899	.876	.891	1.000	.967
IV2_Q5	.898	.872	.872	.967	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV2_Q1	13.68	24.683	.941	.901	.967
IV2_Q2	13.63	25.179	.892	.838	.974
IV2_Q3	13.76	25.202	.899	.854	.973
IV2_Q4	13.71	24.487	.956	.947	.965
IV2_Q5	13.62	24.533	.947	.939	.966

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
17.10	38.536	6.208	5

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Reliability Analysis (continue)

Scale: Environmental Knowledge

Case Processing Summary

		N	%
Cases	Valid	109	100.0
	Excluded[a]	0	.0
	Total	109	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.901	.907	5

Item Statistics

	Mean	Std. Deviation	N
IV3_Q1	4.15	.870	109
IV3_Q2	4.07	1.007	109
IV3_Q3	3.73	1.237	109
IV3_Q4	4.20	.900	109
IV3_Q5	3.68	1.254	109

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Realiability Analysis (continue)

Inter-Item Correlation Matrix

	IV3_Q1	IV3_Q2	IV3_Q3	IV3_Q4	IV3_Q5
IV3_Q1	1.000	.792	.605	.624	.613
IV3_Q2	.792	1.000	.603	.586	.606
IV3_Q3	.605	.603	1.000	.655	.852
IV3_Q4	.624	.586	.655	1.000	.665
IV3_Q5	.613	.606	.852	.665	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV3_Q1	15.69	14.624	.752	.673	.884
IV3_Q2	15.76	13.887	.730	.656	.885
IV3_Q3	16.10	11.943	.808	.746	.870
IV3_Q4	15.63	14.568	.728	.534	.887
IV3_Q5	16.16	11.800	.814	.752	.869

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
19.83	20.380	4.514	5

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Reliability Analysis (continue)

Scale: Awareness

Case Processing Summary

		N	%
Cases	Valid	109	100.0
	Excluded[a]	0	.0
	Total	109	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.928	.930	5

Item Statistics

	Mean	Std. Deviation	N
IV4_Q1	4.30	.887	109
IV4_Q2	4.39	.794	109
IV4_Q3	4.34	.830	109
IV4_Q4	4.28	.953	109
IV4_Q5	4.32	.881	109

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Reliability Analysis (continue)

Inter-Item Correlation Matrix

	IV4_Q1	IV4_Q2	IV4_Q3	IV4_Q4	IV4_Q5
IV4_Q1	1.000	.644	.639	.696	.633
IV4_Q2	.644	1.000	.807	.731	.797
IV4_Q3	.639	.807	1.000	.766	.812
IV4_Q4	.696	.731	.766	1.000	.728
IV4_Q5	.633	.797	.812	.728	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV4_Q1	17.34	9.911	.719	.533	.929
IV4_Q2	17.25	9.892	.840	.728	.907
IV4_Q3	17.30	9.620	.855	.758	.903
IV4_Q4	17.36	9.084	.821	.680	.910
IV4_Q5	17.32	9.424	.835	.730	.907

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
21.64	14.713	3.836	5

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Reliability Analysis (continue)

Scale: Environmental Concern

Case Processing Summary

		N	%
Cases	Valid	109	100.0
	Excluded[a]	0	.0
	Total	109	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.859	.866	6

Item Statistics

	Mean	Std. Deviation	N
IV5_Q1	4.43	.809	109
IV5_Q2	3.97	1.158	109
IV5_Q3	4.18	.884	109
IV5_Q4	3.68	1.201	109
IV5_Q5	3.34	1.356	109
IV5_Q6	3.99	1.159	109

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Reliability Analysis (continue)

Inter-Item Correlation Matrix

	IV5_Q1	IV5_Q2	IV5_Q3	IV5_Q4	IV5_Q5	IV5_Q6
IV5_Q1	1.000	.576	.704	.496	.346	.360
IV5_Q2	.576	1.000	.683	.599	.596	.455
IV5_Q3	.704	.683	1.000	.440	.419	.445
IV5_Q4	.496	.599	.440	1.000	.784	.404
IV5_Q5	.346	.596	.419	.784	1.000	.480
IV5_Q6	.360	.455	.445	.404	.480	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IV5_Q1	19.17	20.935	.606	.565	.847
IV5_Q2	19.62	17.496	.747	.605	.817
IV5_Q3	19.41	20.041	.664	.627	.837
IV5_Q4	19.92	17.391	.723	.681	.822
IV5_Q5	20.26	16.545	.698	.679	.830
IV5_Q6	19.61	19.297	.534	.308	.858

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
23.60	26.076	5.106	6

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Factor Analysis

Scale: Intention

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.902
Bartlett's Test of Sphericity	Approx. Chi-Square	788.139
	df	10
	Sig.	<.001

Communalities

	Initial	Extraction
1. DV_Q1	1.000	.893
2. DV_Q2	1.000	.856
3. DV_Q3	1.000	.921
4. DV_Q4	1.000	.961
5. DV_Q5	1.000	.880

Extraction Method: Principal Component Analysis.

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Factor Analysis (continue)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.510	90.194	90.194	4.510	90.194	90.194
2	.216	4.326	94.520			
3	.138	2.755	97.274			
4	.088	1.765	99.039			
5	.048	.961	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
1. DV_Q1	.945
2. DV_Q2	.925
3. DV_Q3	.960
4. DV_Q4	.980
5. DV_Q5	.938

Extraction Method: Principal Component Analysis.[a]

a. 1 components extracted.

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Factor Analysis (continue)

Scale: Attitude

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	388.070
	df	15
	Sig.	<.001

Communalities

	Initial	Extraction
1. IV_Q1	1.000	.655
2. IV_Q2	1.000	.587
3. IV_Q3	1.000	.672
4. IV_Q4	1.000	.692
5. IV_Q5	1.000	.645
6. IV_Q6	1.000	.714

Extraction Method: Principal Component Analysis.

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Factor Analysis (continue)

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.964	66.070	66.070	3.964	66.070	66.070
2	.703	11.714	77.784			
3	.558	9.307	87.092			
4	.308	5.139	92.230			
5	.281	4.681	96.911			
6	.185	3.089	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
1. IV_Q1	.809
2. IV_Q2	.766
3. IV_Q3	.820
4. IV_Q4	.832
5. IV_Q5	.803
6. IV_Q6	.845

Extraction Method: Principal Component Analysis.[a]

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Factor Analysis (continue)

Scale: Subjective Norms

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.851
Bartlett's Test of Sphericity	Approx. Chi-Square	858.348
	df	10
	Sig.	<.001

Communalities

	Initial	Extraction
1. IV2_Q1	1.000	.927
2. IV2_Q2	1.000	.866
3. IV2_Q3	1.000	.874
4. IV2_Q4	1.000	.945
5. IV2_Q5	1.000	.935

Extraction Method: Principal Component Analysis.

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Factor Analysis (continue)

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.548	90.953	90.953	4.548	90.953	90.953
2	.205	4.093	95.046			
3	.149	2.972	98.018			
4	.068	1.359	99.377			
5	.031	.623	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
1. IV2_Q1	.963
2. IV2_Q2	.930
3. IV2_Q3	.935
4. IV2_Q4	.972
5. IV2_Q5	.967

Extraction Method: Principal Component Analysis.[a]

a. 1 components extracted.

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Factor Analysis (continue)

Scale: Environmental Knowledge

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.815
Bartlett's Test of Sphericity	Approx. Chi-Square	382.824
	df	10
	Sig.	<.001

Communalities

	Initial	Extraction
1. IV3_Q1	1.000	.722
2. IV3_Q2	1.000	.703
3. IV3_Q3	1.000	.764
4. IV3_Q4	1.000	.680
5. IV3_Q5	1.000	.772

Extraction Method: Principal Component Analysis.

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Factor Analysis (continue)

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.642	72.844	72.844	3.642	72.844	72.844
2	.614	12.276	85.120			
3	.390	7.810	92.929			
4	.206	4.112	97.041			
5	.148	2.959	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
1. IV3_Q1	.850
2. IV3_Q2	.839
3. IV3_Q3	.874
4. IV3_Q4	.825
5. IV3_Q5	.879

Extraction Method: Principal Component Analysis.[a]

a. 1 components extracted.

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Factor Analysis (continue)

Scale: Awareness

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.892
Bartlett's Test of Sphericity	Approx. Chi-Square	431.188
	df	10
	Sig.	<.001

Communalities

	Initial	Extraction
1. IV4_Q1	1.000	.656
2. IV4_Q2	1.000	.816
3. IV4_Q3	1.000	.835
4. IV4_Q4	1.000	.788
5. IV4_Q5	1.000	.813

Extraction Method: Principal Component Analysis.

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Factor Analysis (continue)

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.908	78.153	78.153	3.908	78.153	78.153
2	.444	8.878	87.031			
3	.267	5.335	92.366			
4	.203	4.054	96.421			
5	.179	3.579	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
1. IV4_Q1	.810
2. IV4_Q2	.903
3. IV4_Q3	.914
4. IV4_Q4	.888
5. IV4_Q5	.902

Extraction Method: Principal Component Analysis.[a]

a. 1 components extracted.

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Factor Analysis (continue)

Scale: Environmental Concern

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.776
Bartlett's Test of Sphericity	Approx. Chi-Square	346.740
	df	15
	Sig.	<.001

Communalities

	Initial	Extraction
1. IV5_Q1	1.000	.561
2. IV5_Q2	1.000	.724
3. IV5_Q3	1.000	.635
4. IV5_Q4	1.000	.652
5. IV5_Q5	1.000	.613
6. IV5_Q6	1.000	.429

Extraction Method: Principal Component Analysis.

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Factor Analysis (continue)

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.615	60.243	60.243	3.615	60.243	60.243
2	.907	15.120	75.363			
3	.660	11.008	86.371			
4	.393	6.555	92.926			
5	.252	4.206	97.132			
6	.172	2.868	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
1. IV5_Q1	.749
2. IV5_Q2	.851
3. IV5_Q3	.797
4. IV5_Q4	.807
5. IV5_Q5	.783
6. IV5_Q6	.655

Extraction Method: Principal Component Analysis.[a]

a. 1 components extracted.

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Normality Analysis

Descriptive Statistics

	N	Minimum	Maximum	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Intention	109	1.00	5.00	1.41961	-.335	.231	-1.291	.459
Attitude	109	1.00	5.00	.87186	-1.196	.231	2.246	.459
Subjectivenorm	109	1.00	5.00	1.24155	-.469	.231	-.640	.459
Knowledge	109	1.00	5.00	.90288	-.743	.231	.096	.459
Awareness	109	1.00	5.00	.76716	-1.363	.231	2.527	.459
Concern	109	1.00	5.00	.85108	-.544	.231	.003	.459
Valid N (listwise)	109							

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Normality Analysis (continue)

Correlations

		Intention	Attitude	Subjectivenorm	Knowledge	Awareness	Concern
Intention	Pearson Correlation	1	.699**	.819**	.742**	.468**	.669**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001
	N	109	109	109	109	109	109
Attitude	Pearson Correlation	.699**	1	.753**	.819**	.721**	.765**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001
	N	109	109	109	109	109	109
Subjectivenorm	Pearson Correlation	.819**	.753**	1	.762**	.542**	.745**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001
	N	109	109	109	109	109	109
Knowledge	Pearson Correlation	.742**	.819**	.762**	1	.776**	.849**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001
	N	109	109	109	109	109	109
Awareness	Pearson Correlation	.468**	.721**	.542**	.776**	1	.736**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		<.001
	N	109	109	109	109	109	109
Concern	Pearson Correlation	.669**	.765**	.745**	.849**	.736**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	
	N	109	109	109	109	109	109

**. Correlation is significant at the 0.01 level (2-tailed).

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Multiple Regression Analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851[a]	.724	.711	.76334

a. Predictors: (Constant), Concern, Awareness, Subjectivenorm, Attitude, Knowledge

b. Dependent Variable: Intention

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.360	.439		-.822	.413
	Attitude	.209	.164	.128	1.269	.207
	Subjectivenorm	.622	.104	.544	5.971	<.001
	Knowledge	.656	.193	.417	3.393	<.001
	Awareness	-.422	.166	-.228	-2.547	.012
	Concern	-.034	.178	-.021	-.192	.848

a. Dependent Variable: Intention

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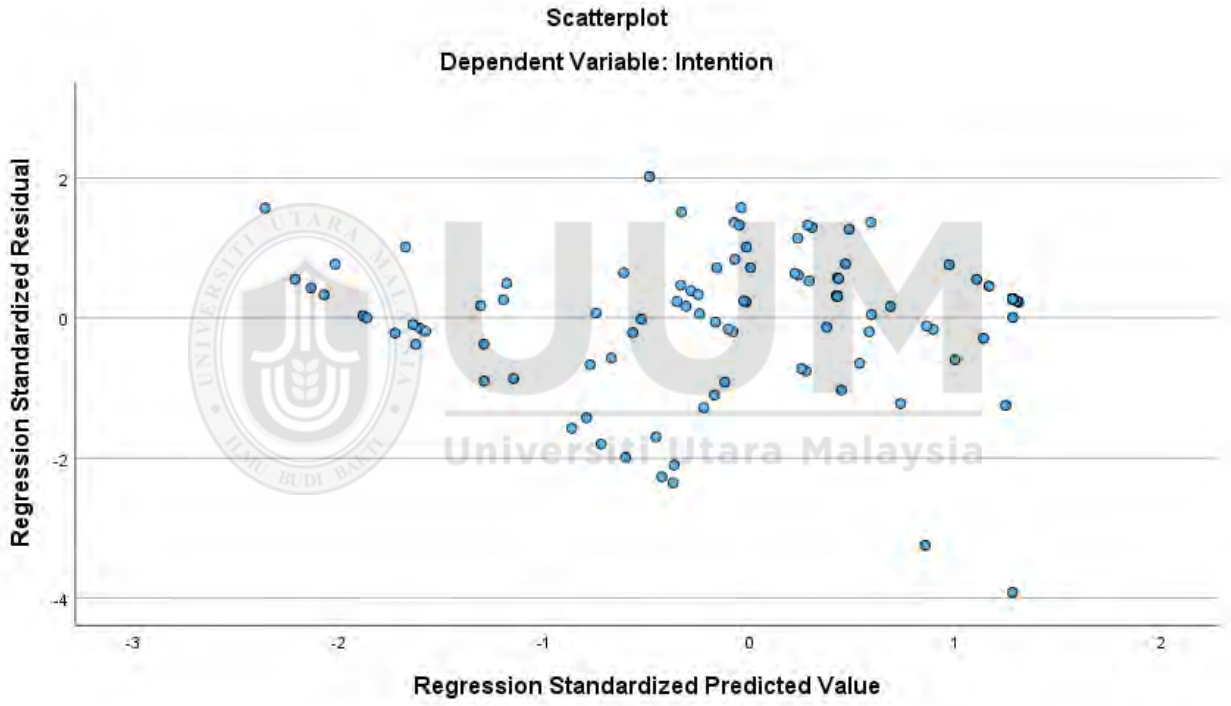
Multiple Regression Analysis (continue)

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.4000	4.8262	3.2459	1.20813	109
Residual	-2.99202	1.54121	.00000	.74546	109
Std. Predicted Value	-2.356	1.308	.000	1.000	109
Std. Residual	-3.920	2.019	.000	.977	109

a. Dependent Variable: Intention



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APPENDIX B

Questionnaire

SECTION A: DEMOGRAPHIC INFORMATION

BAHAGIAN A: MAKLUMAT DEMOGRAFI

Please answer all the questions below honestly and accurately. All information provided is strictly for research purposes and will be kept confidential.

Sila jawab semua soalan di bawah dengan jujur dan tepat. Semua maklumat yang diberikan adalah untuk tujuan kajian sahaja dan akan dirahsiakan sepenuhnya.

Tick (✓) the most appropriate answer or fill in the required information where applicable.

Tandakan (✓) pada pilihan jawapan yang paling sesuai atau isikan maklumat yang diperlukan.

1. Age / Umur

	Answer Options
	Below 25 / Bawah 25
	25 - 34
	35 - 44
	45 and above / 45 dan keatas

2. Gender / Jantina

	Answer Options
	Male / Lelaki
	Female / Perempuan

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3. Highest Level of Education / Tahap Pendidikan Tertinggi

	Answer Options
	Secondary School (SPM or equivalent) / Sekolah Menengah (SPM atau setaraf)
	Diploma / STPM / Matriculation / Diploma / STPM / Matrikulasi
	Bachelor's Degree / Ijazah Sarjana Muda
	Postgraduate / Professional Qualification / Kelayakan Lepasan Ijazah / Profesional

4. Monthly Household Income Category / Kategori Pendapatan Isi Rumah Bulanan

	Answer Options
	Below RM3,000 / Bawah RM3,000
	RM3,001 – RM5,000
	RM5,001 – RM7,000
	RM7,001 and above / RM7,001 dan keatas

5. Type of Electric Vehicle (EV) you own

Answer Options
(Open-ended response — e.g., "None" / "Tiada")

6. Do you have a solar power system installed in your house?

	Answer Options
	YES / YA
	NO / TIDAK

7. Do you use solar-powered lights in your house?

	Answer Options
	YES / YA
	NO / TIDAK

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SECTION B: INTENTION TO ACCEPT CARBON TAX

BAHAGIAN B: NIAT MENERIOMA CUKAI KARBON

Instruction: Please indicate the extent to which you agree with the following statements.

(1 = Strongly Disagree, 2 = Disagree, 3 = About to Agree, 4 = Agree, 5 = Strongly Agree)

Arahan: Sila nyatakan sejauh mana anda bersetuju dengan kenyataan berikut.

(1 = Sangat Tidak Setuju, 2 = Tidak Setuju, 3 = Hampir Setuju, 4 = Setuju, 5 = Sangat Setuju)

No.	Questions	Strongly Disagree / Sangat Tidak Setuju	Disagree / Tidak Setuju	About to Agree / Hampir Setuju	Agree / Setuju	Strongly Agree / Sangat Setuju
1.	I am willing to accept the carbon tax if it is implemented in Malaysia. *Saya bersedia menerima cukai karbon sekiranya ia dilaksanakan di Malaysia.*	1	2	3	4	5
2.	I will pay the carbon tax if it is implemented in Malaysia. *Saya akan membayar cukai karbon sekiranya ia dilaksanakan di Malaysia.*	1	2	3	4	5

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3.	I support the proposed implementation of the carbon tax in Malaysia. *Saya menyokong cadangan pelaksanaan cukai karbon di Malaysia.*	1	2	3	4	5
4.	I support the government's plan to implement the carbon tax. *Saya menyokong rancangan kerajaan untuk melaksanakan cukai karbon.*	1	2	3	4	5
5.	I have a positive feeling that the introduction of a carbon tax could solve the environmental issues. *Saya mempunyai perasaan positif bahawa pengenalan cukai karbon boleh menyelesaikan isu alam sekitar.*	1	2	3	4	5

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SECTION C: ATTITUDE

BAHAGIAN C: SIKAP

Instruction: Please indicate the extent to which you agree with the following statements.

(1 = Strongly Disagree, 2 = Disagree, 3 = About to Agree, 4 = Agree, 5 = Strongly Agree)

Arahan: Sila nyatakan sejauh mana anda bersetuju dengan kenyataan berikut.

(1 = Sangat Tidak Setuju, 2 = Tidak Setuju, 3 = Hampir Setuju, 4 = Setuju, 5 = Sangat Setuju)

No.	Questions	Strongly Disagree / Sangat Tidak Setuju	Disagree / Tidak Setuju	About to Agree / Hampir Setuju	Agree / Setuju	Strongly Agree / Sangat Setuju
1.	The proposed carbon tax would protect our environment. *Cukai karbon yang dicadangkan akan melindungi alam sekitar kita.*	1	2	3	4	5
2.	Climate change has severely impacted the environment. *Perubahan iklim telah memberi kesan yang teruk kepada alam sekitar.*	1	2	3	4	5
3.	My life would be at risk if the environment were not protected.	1	2	3	4	5

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	Hidup saya akan terancam sekiranya alam sekitar tidak dilindungi.					
4.	My job would be at risk if the environment is not protected. *Pekerjaan saya akan berisiko jika alam sekitar tidak dilindungi.*	1	2	3	4	5
5.	The carbon tax will effectively reduce carbon emissions from industries in Malaysia. *Cukai karbon akan mengurangkan pelepasan karbon daripada industri di Malaysia dengan berkesan.*	1	2	3	4	5
6.	The carbon tax can influence human behavior toward protecting the environment. *Cukai karbon boleh mempengaruhi tingkah laku manusia ke arah melindungi alam sekitar.*	1	2	3	4	5

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SECTION D: SUBJECTIVE NORMS

BAHAGIAN D: NORMA SUBJEKTIF

Instruction: Please indicate the extent to which you agree with the following statements.

(1 = Strongly Disagree, 2 = Disagree, 3 = About to Agree, 4 = Agree, 5 = Strongly Agree)

Arahan: Sila nyatakan sejauh mana anda bersetuju dengan kenyataan berikut.

(1 = Sangat Tidak Setuju, 2 = Tidak Setuju, 3 = Hampir Setuju, 4 = Setuju, 5 = Sangat Setuju)

No.	Questions	Strongly Disagree / Sangat Tidak Setuju	Disagree / Tidak Setuju	About to Agree / Hampir Setuju	Agree / Setuju	Strongly Agree / Sangat Setuju
1.	My friends believe I have a responsibility to accept the carbon tax for environmental protection. *Rakan-rakan saya percaya saya mempunyai tanggungjawab untuk menerima cukai karbon untuk perlindungan alam sekitar.*	1	2	3	4	5
2.	My family believes I have a responsibility to accept the carbon tax for environmental protection. *Keluarga saya percaya saya mempunyai tanggungjawab untuk*	1	2	3	4	5

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	menerima cukai karbon untuk perlindungan alam sekitar.					
3.	My friends support me in accepting the proposed carbon tax in Malaysia. *Rakan-rakan saya menyokong saya dalam menerima cadangan cukai karbon di Malaysia.*	1	2	3	4	5
4.	My family supports me in accepting the proposed carbon tax in Malaysia. *Keluarga saya menyokong saya dalam menerima cadangan cukai karbon di Malaysia.*	1	2	3	4	5
5.	My parents support me in accepting the proposed carbon tax in Malaysia. *Ibu bapa saya menyokong saya untuk menerima cadangan cukai karbon di Malaysia.*	1	2	3	4	5

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SECTION E: ENVIRONMENTAL KNOWLEDGE

BAHAGIAN E: PENGETAHUAN ALAM SEKITAR

Instruction: Please indicate the extent to which you agree with the following statements. *(1 = Strongly Disagree, 2 = Disagree, 3 = About to Agree, 4 = Agree, 5 = Strongly Agree)*

Arahan: Sila nyatakan sejauh mana anda bersetuju dengan kenyataan berikut. *(1 = Sangat Tidak Setuju, 2 = Tidak Setuju, 3 = Hampir Setuju, 4 = Setuju, 5 = Sangat Setuju)*

No.	Questions	Strongly Disagree / Sangat Tidak Setuju	Disagree / Tidak Setuju	About to Agree / Hampir Setuju	Agree / Setuju	Strongly Agree / Sangat Setuju
1.	I have knowledge about environmental issues. *Saya mempunyai pengetahuan tentang isu alam sekitar.*	1	2	3	4	5
2.	I understand the government's efforts to protect the environment. *Saya memahami usaha kerajaan dalam melindungi alam sekitar.*	1	2	3	4	5
3.	With my environmental knowledge, I will support the implementation of the carbon tax.	1	2	3	4	5

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	Dengan pengetahuan alam sekitar saya, saya akan menyokong pelaksanaan cukai karbon.					
4.	I realize that there are penalties imposed on environmental polluters. *Saya sedar bahawa terdapat penalti yang dikenakan ke atas pencemar alam sekitar.*	1	2	3	4	5
5.	Since I have a good understanding of environmental knowledge, I will cooperate with the implementation of the carbon tax in Malaysia. *Memandangkan saya mempunyai pemahaman yang baik tentang pengetahuan alam sekitar, saya akan bekerjasama dengan pelaksanaan cukai karbon di Malaysia.*	1	2	3	4	5

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SECTION F: AWARENESS

BAHAGIAN F: KESEDARAN

Instruction: Please indicate the extent to which you agree with the following statements.

(1 = Strongly Disagree, 2 = Disagree, 3 = About to Agree, 4 = Agree, 5 = Strongly Agree)

Arahan: Sila nyatakan sejauh mana anda bersetuju dengan kenyataan berikut.

(1 = Sangat Tidak Setuju, 2 = Tidak Setuju, 3 = Hampir Setuju, 4 = Setuju, 5 = Sangat Setuju)

No.	Questions	Strongly Disagree / Sangat Tidak Setuju	Disagree / Tidak Setuju	About to Agree / Hampir Setuju	Agree / Setuju	Strongly Agree / Sangat Setuju
1.	I am aware that if harmful environmental practices such as pollution of carbon emissions continue, there will be a more serious experience of environmental damage. *Saya sedar bahawa jika amalan alam sekitar yang berbahaya seperti pencemaran pelepasan karbon berterusan, akan ada pengalaman kerosakan alam sekitar yang lebih serius.*	1	2	3	4	5

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2.	I am aware that the effects of global climate change are getting worse over time. *Saya sedar bahawa kesan perubahan iklim global semakin teruk dari semasa ke semasa.*	1	2	3	4	5
3.	I am aware that human activities like burning fossil fuels are causing global warming. *Saya sedar bahawa aktiviti manusia seperti membakar bahan api fosil menyebabkan pemanasan global.*	1	2	3	4	5
4.	I am aware that greenhouse gases come from sources such as vehicles, industries, and deforestation. *Saya sedar bahawa gas rumah hijau datang daripada sumber seperti kenderaan, industri, dan penebangan hutan.*	1	2	3	4	5
5.	I am aware that climate change will result in rising sea levels and more frequent flooding.	1	2	3	4	5

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	Saya sedar bahawa perubahan iklim akan mengakibatkan peningkatan paras laut dan banjir yang lebih kerap.					

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SECTION G: ENVIRONMENTAL CONCERN

BAHAGIAN G: KEPRIHATINAN ALAM SEKITAR

Instruction: Please indicate the extent to which you agree with the following statements. *(1 = Strongly Disagree, 2 = Disagree, 3 = About to Agree, 4 = Agree, 5 = Strongly Agree)*

Arahan: Sila nyatakan sejauh mana anda bersetuju dengan kenyataan berikut. *(1 = Sangat Tidak Setuju, 2 = Tidak Setuju, 3 = Hampir Setuju, 4 = Setuju, 5 = Sangat Setuju)*

No.	Questions	Strongly Disagree / Sangat Tidak Setuju	Disagree / Tidak Setuju	About to Agree / Hampir Setuju	Agree / Setuju	Strongly Agree / Sangat Setuju
1.	I believe it is my responsibility to protect the environment. *Saya percaya adalah tanggungjawab saya untuk melindungi alam sekitar.*	1	2	3	4	5
2.	I would avoid driving my car to protect the environment if public transportation is efficient. *Saya akan mengelak memandu kereta saya untuk melindungi alam sekitar jika pengangkutan awam adalah cekap.*	1	2	3	4	5

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3.	I try to conserve natural resources whenever possible. *Saya cuba memulihara sumber semula jadi apabila boleh.*	1	2	3	4	5
4.	I would give part of my income if I were certain the money would be used to prevent environmental pollution. *Saya akan memberikan sebahagian daripada pendapatan saya jika saya pasti wang itu akan digunakan untuk mengelakkan pencemaran alam sekitar.*	1	2	3	4	5
5.	I would be willing to pay much higher taxes to protect the environment. *Saya sanggup membayar cukai yang lebih tinggi untuk melindungi alam sekitar.*	1	2	3	4	5
6.	I would like to see more government spending to address global climate change, regardless of increased taxes.	1	2	3	4	5

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	Saya ingin melihat lebih banyak perbelanjaan kerajaan untuk menangani perubahan iklim global, tanpa mengira cukai yang meningkat.					

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