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THE IMPACT OF POLITICAL ORIENTATION ON THE SUSTAINABILITY PERCEPTION AND POLITICAL WOM OF CONSUMERS

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THE IMPACT OF POLITICAL ORIENTATION ON THE SUSTAINABILITY PERCEPTION AND POLITICAL WOM OF CONSUMERS

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APPROVAL

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Canan Öztürk Turan

_____

Date (26/12/2022)

To My Dearest Family...

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THE IMPACT OF POLITICAL ORIENTATION ON THE SUSTAINABILITY PERCEPTION AND POLITICAL WOM OF CONSUMERS

ABSTRACT

Although globalization and international trade provide consumers the opportunity to purchase a wide range of products and services supplied across the globe, producers or companies have frequently been criticized because of unsustainable practices. Some examples include the abuse of employees or animals in the production processes and the elimination of low income community from social life because of the over-priced products and services. To be able to deal with these critiques and materialize their sustainability efforts, most companies have recently launched sustainability management programs. However, the success of these initiatives strongly depends on the consumers' perception and behaviors regarding sustainability, and the impact of political orientation, word of mouth (WOM) and social media on this perception is largely ignored in the literature. Addressing such a gap, the present research aims to determine the general perception of consumers about sustainability materiality, and how it is affected by their political orientations, political message sharing tendencies, and use intensities of social networking sites. With this aim, first, an online consumer survey is conducted with the participation of 133 consumers in Turkey. Then, the data collected is analyzed with the help of both parametric and non-parametric tests. The findings obtained from the analysis indicate that it is possible to design more effective sustainability marketing strategies by addressing political orientation and social media use intensities of consumers combined with their socio-demographic characteristics such as age, education, marital status, and income.

Keywords: Corporate Sustainability**,** Sustainable Marketing, Electronic Word of Mouth, Political Word of Mouth, Social Media, Political Consumers, Political Message

TÜKETİCİLERİN SİYASİ EĞİLİMLERİNİN ONLARIN SÜRDÜRÜLEBİLİRLİK ALGISI VE SİYASİ SÖYLEMLERİ ÜZERİNDEKİ ETKİSİ

ÖZET

Küreselleşme ve uluslararası ticaret, tüketicilere dünyanın dört bir yanında sunulan çok çeşitli ürün ve hizmetleri satın alma fırsatı sunsa da üreticiler veya şirketler sürdürülemez uygulamalar nedeniyle sıklıkla eleştirilmektedir. Üretim süreçlerinde çalışanların veya hayvanların istismar edilmesi, ürün ve hizmetlerin aşırı pahalı olması nedeniyle düşük gelirli topluluğun sosyal hayattan dışlanması buna verilen en somut örneklerdendir. Bu eleştirilerle başa çıkabilmek ve sürdürülebilirlik çabalarını hayata geçirebilmek için çoğu şirket son zamanlarda sürdürülebilirlik yönetimi programları başlatmıştır. Ancak bu girişimlerin başarısı büyük ölçüde tüketicilerin sürdürülebilirliğe ilişkin algı ve davranışlarına bağlıdır. Literatürde siyasi yönelim, ağızdan ağıza iletişim (WOM) ve sosyal medyanın bu algı üzerindeki etkisi büyük ölçüde göz ardı edilmektedir. Böyle bir boşluğu ele alan bu araştırma, tüketicilerin sürdürülebilirlik önceliğine ilişkin genel algılarını ve bunun onların siyasi yönelimlerinden, siyasi mesaj paylaşma eğilimlerinden ve sosyal paylaşım sitelerinin kullanım yoğunluklarından nasıl etkilendiğini belirlemeyi amaçlamaktadır. Bu amaçla öncelikle Türkiye'den 133 tüketicinin katılımıyla online anket yapılmıştır. Daha sonra toplanan veriler hem parametrik hem de parametrik olmayan testler yardımıyla analiz edilmiştir. Analizden elde edilen bulgular, tüketicilerin siyasi yönelimleri ve sosyal medya kullanım yoğunlukları ile yaş, eğitim, medeni durum, gelir gibi sosyo-demografik özellikleri bir arada ele alınarak daha etkili sürdürülebilir pazarlama stratejileri tasarlanabileceğini göstermektedir.

Anahtar Sözcükler: Kurumsal Sürdürülebilirlik, Sürdürülebilir Pazarlama, Elektronik Ağızdan Ağıza İletişim, Siyasi Ağızdan Ağıza İletişim, Sosyal Medya, Siyasi Tüketiciler, Siyasi Mesaj

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LIST OF ACRONYMS AND ABBREVIATIONS

Electronic Word of Mouth (E-WOM)

Political Ideology (PI)

Political Message Sharing Tendency (PMST)

Political Orientation (PO)

Social Networking Sites (SNS)

Sustainability Materiality Index (SMI)

Word of Mouth (WOM)

1. INTRODUCTION

Sustainability was first defined in 1980s as meeting the needs of present generation without compromising the ability of future generations to meet their own needs by the United Nations World Commission on Environment and Development (Brundtland 1987). After this initial definition, continuous increase in environmental and social problems including greenhouse gas emissions and climate change, deprivation of natural resources and inequalities in food access has increased the awareness about major sustainability related issues. In most cases, multinational corporations are intensely criticized and faced with protests by the non-governmental organizations (NGOs) such as Greenpeace because of their operations which are harmful for the natural environment and public health (Gronholt-Pedersen and Hudson 2022). To address these critiques and protests, many corporations deploy environmental and social responsibility projects. However, most of the time, these projects are not effective in solving the real problem or have a limited temporary impact on the issue at hand as the solution requires a collaborative effort by all related stakeholder groups such as consumers. Thus, in this research, it is considered that consumers can be a significant part of the solution process as they are also the contributors of unsustainable systems set by corporations with their behaviors, preferences, political views, and consumptions habits. By creating a synergy among stakeholder groups, particularly between the corporations and consumers, it might be possible to create environmentally and socially friendly systems without losing economic feasibility which requires creative thinking and innovation.

Recent political developments start to be important day by day. Kyoto Protocol signed in 1997 can be a good example for the combination of political developments on sustainability (Würth 2022). As an agreement among 192 countries to reduce or limit the greenhouse gas emissions, Kyoto Protocol brings a new set of regulations and rules according to the UN's initiative for climate change. However, the target levels of emissions have not been reached in all countries as presented in Figure 1.1. For instance, while the blue color represents the successful counties in achieving the target emission

levels, the red color shows the failures, meaning that the effectiveness of protocol is limited (Clark 2012).

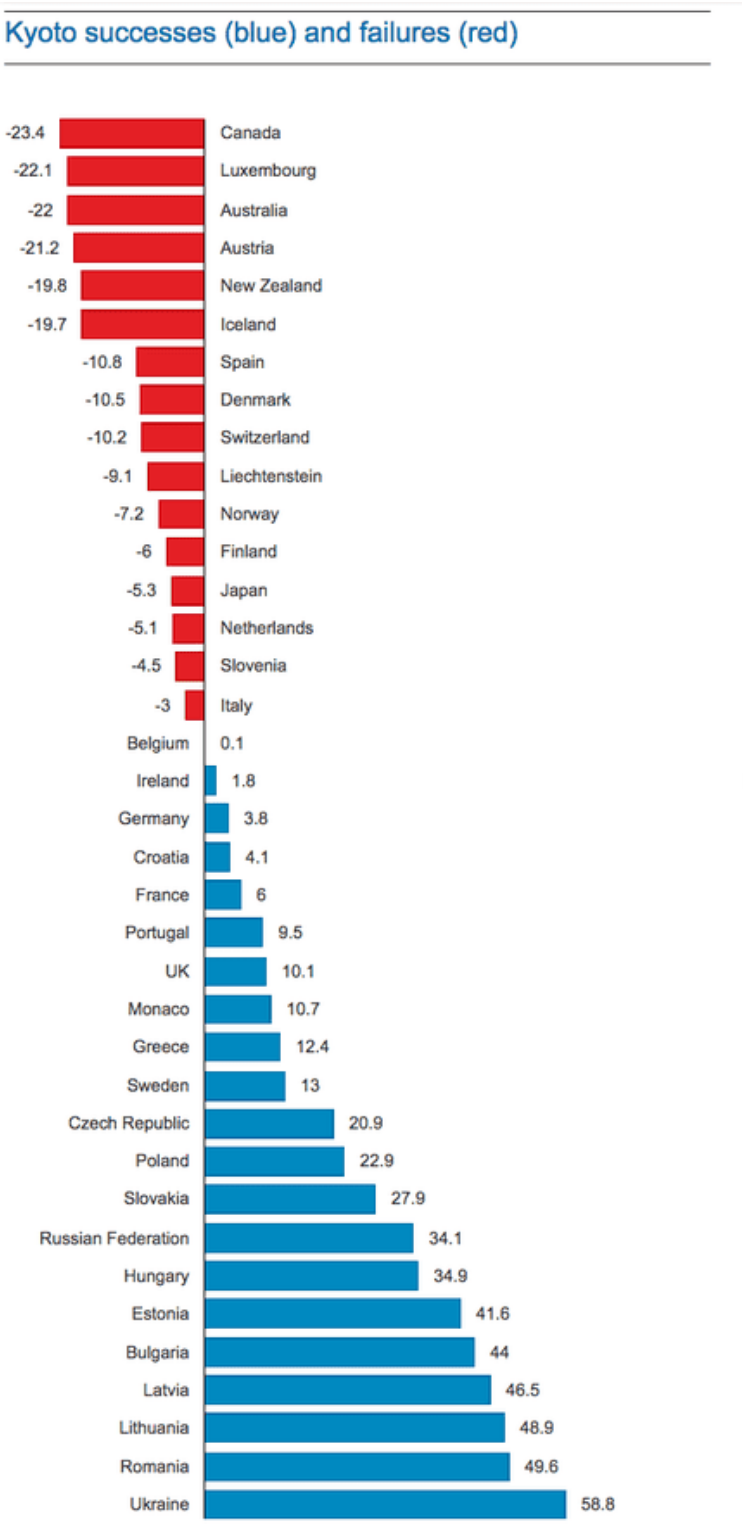

Figure 1.1 Progress of countries in emission reductions according to Kyoto Protocol (Clark 2012)

In this context, this thesis study aims to determine the relationships among word of mouth (WOM), political orientation, and sustainability materiality of consumers. With this aim, a survey data is collected from consumers in Turkey to analyze how the political orientations of consumers influence their sustainability materiality and political WOM.

2. LITERATURE REVIEW

2.1 Political Orientation

2.1.1 Definition of political orientations

Political orientation can be defined as an expression of an opinion in terms of political, cultural, and social issues. Wetherell, Brandt, and Reyna (2013) indicate that political orientation has a discourse which is always related to unfair treatment from 2 different parts of the society as conservatives and liberals. Caldwell et al. (2020) mention that people are mostly affected by politicians to be elected again with the help of campaigns. First, to understand the definition of political orientation, it is necessary to focus on the concepts of local politics, politicians and public good. These authors associate the definition of political orientation with similarities and differences in how consumers perceive their responsibilities and protect their rights in the sharing economy.

2.1.2 Types of political tendencies

In the literature, there are many authors indicating the effect of political ideology on consumer behavior by diving into the groups such as liberals and conservatives. For instance, Wetherell, Brandt, and Reyna (2013) indicate that there are two different parts as liberals and conservatives. The liberal part is much more open to tolerance while the conservative side has much more discrimination and prejudice. As well as Wetherell, Brandt, and Reyna (2013), Gries (2016) indicates that there are different groups diving as liberals and conservatives in Latin America. Gries (2016) also divides the groups as economic liberals and economic conservatives. On the other hand, there are cultural conservatives and cultural liberals in terms of social, political, and economic issues. As we understand from the article, there are high polarized public opinions in Latin America. Latin America can be a good case to understand the effect of division of opinions of different groups and in one society, and then it can be reached to a good conclusion to see how polarization of groups can affect the future of one county.

At the same time, Caldwell et al. (2020) indicate that there is an important link between the consumption and political opinions of people. They try to understand the impacts of political ideology on consumer perceptions. As well as other authors, there are different groups such as liberals and conservatives in the society. These groups create different ideologies such as liberalism, conservatism and libertarianism. These authors mostly focus on the rights and responsibilities of people while deciding an issue. According to the findings, they indicate that liberals are more interested to protect the rights and responsibilities of people compared to conservative ones.

2.2 Sustainability

2.2.1 Definition of sustainability

Increased environmental and social problems such as climate change, air pollution, reduction in water resources, food security, and slum or squatter settlements have recently raised the awareness on sustainable development. As a result of this fact, corporations are frequently criticized by being insensitive to the sustainability related problems and focusing solely on their economic development. To address these challenges and deal with the criticisms, they typically launch environmental and social responsibility projects, and make sustainability as one of the core elements of their businesses. These efforts are also used as a marketing campaign to improve the image of the company and curate a positive reputation on the eyes of consumers, especially the ones who are highly sensitive to the sustainability related issues. Sustainability is defined by the Center for Sustainable Enterprise (2010) as to gain profit from a business in the right ways. Similarly, while Elkington and Hailes (1988) define sustainability as an equilibrium between economic, social and environment concerns, Peattie and Crane (2005) highlight the ethical dimension of sustainability.

The literature provides several studies covering the basic principles of sustainable marketing and spanning the related practices in various markets. For instance, according to Dyck and Manchanda (2021), there are certain challenges that humankind faces and will face in the future regarding sustainable development. They point that if companies do not promote sustainability by investing in sustainable marketing activities,

unsustainable practices and consumption habits may significantly harm environment, and prepare the end of humanity on the planet. Thus, for the promotion of sustainability, they develop a marketing approach called Social and Ecological Thought (SET) marketing. Their approach is derived from virtue ethics with the aim of creating a balance between social and ecological well-being, and financial viability. Stating that in the past years, many companies primarily focused on financial well-being and forgot about ethical concerns, they explain the specific impacts of SET marketing on each of the traditional 4Ps of marketing, namely product, price, place and promotion. They also indicate that in today's business world, ethics has started to be a more important concept as the high reputational costs of unethical practices are realized.

On the other hand, in the literature, some countries such as Germany is analyzed in terms of political-economical perspective and sustainability. Democracy can be a factor which influences the perception of people in sustainability concept (Haas, Herberg, and Löw-Beer 2022). The authors who analyze Germany in terms of politics and sustainability divided the society into 2 groups such as left-wing and right-wing. There are also some political parties like democratic party, liberals and the greens giving much more importance to sustainability compared to other ones (Haas, Herberg, and Löw-Beer 2022). They also mention that people's perception of sustainability is about energy-policies of government and environmental issues. According to Brauwer (2022), Germany is trying to create a sustainable market. The role of policy-driven market is based on sustainability and environment. Sustainability means to protect environment and renewable energy sources (Brauwer 2022). For Brauwer (2022), Germany is pioneer to protect environment, energy sources which create the concept of sustainability.

Oross, Mátyás, and Gherghina (2021) analyze some concepts to understand the relationship between sustainability and politics. In other words, citizens' assemblies have a huge impact on sustainability. People can create assemblies on climate change. For example, Citizens' Assembly in Budapest (Hungary) can be a good example how to protect environment. At the same time, this assembly is like a political organization. These citizens who create this assembly are randomly selected without looking any demographic qualifications (Oross, Mátyás, and Gherghina 2021). These authors divide

citizens into groups. For instance, promoters are the ones who try to create a broader economic interest for society and to ensure sustainability.

On the other hand, Allen and Spialek (2018) mention about sustainability materiality index. This index is created to ask young millennials whether they give importance to sustainability issues while buying new products. In other words, some people can say that they are sustainable, but it is important to make it action. It is important whether they buy sustainable organic foods or not. Hence, sustainability materiality index is a factor that influences their purchasing behaviors (Allen and Spialek 2018). Sustainability materiality index has different dimensions such as environment, government and community. SMI-environment means that how people take care of environmental issues while they purchase foods. For instance, it is important that a company should give importance to social or environmental impacts of its agricultural activities. It is significant here that people should buy foods from companies that give importance to environmental issues such as reducing energy and greenhouse gas, reducing waste, using of water, products' packaging, etc. (Allen and Spialek 2018). SMI-community tells about the relationship between community and sustainability issues. People should buy foods from companies that provide access to produces and services. Also, these companies should invest in community. SMI-community is a good sign which reveals the importance that companies gives to society. Because if there is no access to products and services, there can be hunger so this is a very bad situation for the future of the society (Allen and Spialek 2018). At the same time, SMI-governance tells about the relationship between governmental and sustainability issues. While people buy products, they give importance to the higher quality and safe so companies should take care of these factors. On the other hand, lobbying activities of a company are important too while making a decision on buying foods from a company. If we want to look that issue from a big or governmental perspective, we can conclude that companies should not dial with illegal activities. If they have some illegal activities, they can lose their potential customers and this situation can harm whole society at all (Allen and Spialek 2018).

At the same time, it is important to mention about greenwashing and brownwashing issues together with sustainability materiality index. Greenwashing means that a firm or a

company did something about sustainability, but it did not do anything and it misleads consumers that the company sells organic foods. It is like playing with the sustainable emotions or believes of consumers in a wrong way. Greenwashing has negative effects on the people's feeling and society as a whole. Consumers think that these companies are environment friendly and sell organic foods, but in real they are not and they don't sell such foods. It is a way of misleading people in environmental issues (Delmas and Burbano 2011). The companies mislead people by using different ways. Executional greenwashing is a type of these ways. This type of greenwashing using nature in its products. For instance, companies choose natural colors like blue and green and use sounds like sea and birds. They use natural areas like mountains and forests to make the situation as more real (de Freitas Netto et al. 2020). On the other hand, brownwashing means that companies mislead the shareholders. In other words, brownwashing occurs while companies undermine their corporate social responsibility achievements such as their charitable contributions. It is a way of showing less costs on corporate social responsibility issues to shareholders, so shareholders have difficulty to make the distinguish between the true and false information. In other words, firms mislead shareholders in brownwashing (Vervoort 2021). As we can say that greenwashing is about misleading consumers while brownwashing is about misleading shareholders. In brownwashing, companies issue some communications which understate its environmental achievements. In other words, the companies show the costs of environmental activities less more that it is. The companies can also understate their expenditures on employee benefits (Kim, Lyon, and Ross 2014).

2.3 Word of Mouth

There are some authors indicating the effect of word of mouth communications. WOM leads people to understand the importance sustainability and political orientation. In other words, word of communication can be about sustainability as well as politics. Allen and Spialek (2018) indicate that WOM recommendations are important to protect the green consumption in the society. People who purchase products consistent with sustainability are more likely to provide green WOM recommendations. This sustainability, WOM and social media issues start to be significant concerns for some companies. For instance, for

some food companies, people start to have a strategic business plan according to WOM recommendations and sustainability issues.

2.3.1 E-WOM

Azer and Ranaweera (2022) indicate that E-WOM include the recommendations and sharing of people regarding the very topics such as politics, economics, and sustainability in online social networks. In other words, it is a way to influence people in every area of life positively or negatively. These negative or positive comments can be about a product or a company. If the negative recommendations are much more than the positive ones, the sales of the company will decrease and then the company can go to bankrupt. Social ties and network ties are the two important factors that determine the way of communication in social networks. The effective communication increases its power together with the strong ties. Zohora, Choudhury, and Sakib (2017) indicate that communication spreads over the world with the help of social media. People move their opinions to social networks in different forums. Internet-based information spreading from person to person can be short definition of electronic word of mouth (E-WOM).

On the other hand, E-WOM is a good way to generate or increase purchase intentions. Social media is important for many people. People spend most of time there to buy new things and to share their ideas, so E-WOM is a good way to express these ideas in social media by using different apps (Eka Putri Innayah et al. 2022).

At the same time, Choi et al. (2019) indicate that there is positive relationship of using social media in some platforms and corporate sustainability. In other words, people using social media support the sustainability practices by increasing positive E-WOM on some platforms. These platforms should have some qualifications such as true information, good web design, security, and customer service to attract the attention of people. A well-designed web site means that people can spend much more time on that site to buy new products. It increased the level of interaction between the customers and brands. On the other side, there is positive relationship between corporate sustainability and E-WOM. People are more likely to share their ideas about sustainability practices of companies in social media and discuss these ideas with other people. If this social platform gives

accurate and useful information to people, they are more likely to spend time on this platform to learn more and more (Choi et al. 2019).

E-WOM has also different types. We can see E-WOM in many different areas such as journals, talks, internet communities and some hate pages. Some web-based sites like (online forums) are mostly famous E-WOM communication types. In these online forums and reviews, people can share their ideas and experiences (Sundram et al. 2022). We can also mention about many types of E-WOM such as individual e-mails, e-mail lists, chat rooms, messenger services, comments, web pages and discussion platforms. In individual e-mails, people send e-mail to each other in any topic. In e-mail lists, there are some news sending to members of a group. In chat rooms, people talk about some issues about one topic from internet. In messenger applications, people who know each other talk about some topics. In comments, people talk about a product and give decision on buying of this product. In posts, people who used a product mention about this product in a bad or good way from internet. In discussion platforms, online groups can have communications in a specific topic and forums can be opened to everybody (Başkaya 2010). Blogs are important platforms that can be a good type of E-WOM. Blogs are notebooks that people talk about their lives and experiences in their daily lives. In other words, blog writers are experienced peoples. There can also be some comments about a product from a writer's point of view. On the other hand, there are some websites of E-WOM in which people can give rate to a product so after these rates, people can decide whether to buy this product or not. They give only rate to this product and there is no communication between people in such types of websites (Başkaya 2010).

2.3.2 Political E-WOM

In the study of Akın and Özbezek (2017), we can give a good example of importance of social media usage in terms of politics. Political message tendency starts to increase day by day without making any discrimination among people. To illustrate the point that, there are many young, old, rich and poor people share their political opinions on social media websites. There are also different parts occurred in the society such as active-aggressive, passive-sensitive, and relative-neutral. In every day, social media comes with us and becomes and integrated part of us. There occurs a combination of marketing and

political message tendency on social media. These authors call this combination as political WOM over social media. Also, there are some factors affecting on which social media tools people are using. For instance, Twitter is the one which is mostly used by people to share their social, cultural, and political opinions compared to other social media tools. Political organizations start to increase day by day with the increase of sharing political opinions of people in social media. With the increase of political organizations, we can witness that there are different political parties which defense different opinions. The important point here is that in some countries, some internet applications might be blocked by governments, so it is necessary to give the right political message in social media without making any discrimination among groups (Akın and Özbezek 2017).

Elaborating the sustainability materiality and political WOM of consumers, and analyzing how they are influenced by their political orientations, the present research makes a novel contribution to the literature and sets a vision of collaboration for sustainability by considering consumers not as passive agents; but, as the co-producers of sustainable systems.

Also, in the study of Johnson Jorgensen and Sorensen (2021), it is analyzed that people create political organizations by sharing their political ideas in social media. These political ideas can affect other people positively or negatively. These authors mostly focus on the negative sides of sharing political ideas on social media. They explain this issue by giving an example of a famous brand. Negative ideas of people can damage the positive image of this brand and this situation leads the decrease of profitability of the company (Johnson Jorgensen and Sorensen 2021). On the other hand, according to author, 83% of consumers prefer to buy products from companies who give importance to ethics and sustainability compared to other firms. But political opinions in social media can some create negative situations for some businesses. In other words, if a business does not agree on the ethical ideas which are popular in social media, this business can lose its power and go to bankrupt (Johnson Jorgensen and Sorensen 2021).

At the same time, Iyer, Yazdanparast, and Strutton (2017) find that political WOM is changing according to some demographic qualifications such as age. Old people are more

likely receptive to complex messages in social media compared to young people who like short and brief messages. Political messages also create a relationship community intentions and message believability. Old people and young people have different modes of communication regarding to political messages in social media (Iyer, Yazdanparast, and Strutton 2017). According to authors Chowdhury and Naheed (2020), there is a huge gap regarding word of mouth communication in political marketing. These authors analyze this gap by looking at some factors such as social media, internet and technology on word of mouth communication. They also indicate that political voters are negatively or positively affected by social media while giving a decision on political issues. For instance, when there is an election in politics, the intensity of using technology and the Internet can affect the result of this election positively or negatively. On the other hand, some social media tools such as Facebook and Twitter are very popular among young voters. These young voters can use social media for political promotion (Chowdhury and Naheed 2020). According to these authors, women are the ones who much more talk about political parties and elections in social media and mention about their political views compared to men. In other words, women do more WOM sharing compared to men. On the other hand, political message sharing tendency of society can increase by using celebrities and influencers which give directions to people about politics in social media.

3. RESEARCH QUESTIONS AND HYPOTHESES

The main objective of this thesis is to determine the general perception of consumers about corporate sustainability, and how it is affected by their political orientations, political message sharing tendencies, and use intensities of social networking sites. Due to the investigative nature of this research, the guiding research questions can be listed as the following (but not limited to):

- What is the perception level of consumers about corporate sustainability and how important is it for them?
- Is there any difference between political orientations in terms of sustainability materiality index?
- Is there any difference between political ideology in terms of sustainability materiality index?
- How do political orientation, political message sharing tendency, and use intensity of social networking sites influence sustainability materiality index?
- What is the social media use intensity among consumers?
- How are income, education, and gender related with sustainability materiality index?
- How are income, education, and gender related with sustainability?

Marketing literature provides just a few studies investigating the relationship between political orientation and sustainable consumption (Jung and Mittal 2020). For instance, Watkins, Aitken, and Mather (2014) find that liberal orientation has positive influences on consumers' sustainable behaviors and political activities about sustainability issues. Supporting their findings, Gregersen et al. (2020) observe that liberals worry more about the negative impacts of climate change, and Gromet, Kunreuther, and Larrick (2013) discover that conservatives are less willing to invest in energy efficiency products. On the other hand, Cakanlar, Cavanaugh, and White (2021) note that when conservatives feel hopeful, they are more likely to engage in sustainable consumption. Finally, Kidwell, Farmer, and Hardesty (2013) identify that liberals' intention to recycle is higher under individualizing conditions while conservatives' intention to recycle is higher under binding conditions. Thus, under the light of these previous findings, a set of hypotheses, addressing the potential impacts of various factors on SMI, SMI dimensions, and PMST,

are developed for testing, as provided in Tables 3.1-3.5. While H11, H12, H13, H14 and H15 represent the main hypotheses, the others are the sub-hypotheses.

Table 3.1 Hypotheses related to SMI

H11	**SMI ratings of consumers do not differ according to their socio-demographics characteristics.**
H11a	SMI ratings of consumers do not differ according to their gender.
H11b	SMI ratings of consumers do not differ according to their income level.
H11c	SMI ratings of consumers do not differ according to their education level.
H11d	SMI ratings of consumers do not differ according to their marital status.
H12	**SMI ratings of consumers do not differ according to their political ideology.**
H12a	SMI ratings of consumers do not differ according to their economic political ideology.
H12b	SMI ratings of consumers do not differ according to their social political ideology.
H13	**SMI ratings of consumers do not differ according to their political orientation.**
H13a	SMI ratings of consumers do not differ according to their liberalism level.
H13b	SMI ratings of consumers do not differ according to their conservatism level.
H13c	SMI ratings of consumers do not differ according to their libertarianism level.
H14	**SMI ratings of consumers do not differ according to their use intensity of SNSs.**

Table 3.2 Hypotheses related to SMI-ENVIRONMENT

H21	**SMI-ENVIRONMENT ratings of consumers do not differ according to their socio-demographics characteristics.**
H21a	SMI-ENVIRONMENT ratings of consumers do not differ according to their gender.
H21b	SMI-ENVIRONMENT ratings of consumers do not differ according to their income level.
H21c	SMI-ENVIRONMENT ratings of consumers do not differ according to their education level.
H21d	SMI-ENVIRONMENT ratings of consumers do not differ according to their marital status.
H22	**SMI-ENVIRONMENT ratings of consumers do not differ according to their political ideology.**
H22a	SMI-ENVIRONMENT ratings of consumers do not differ according to their economic political ideology.
H22b	SMI-ENVIRONMENT ratings of consumers do not differ according to their social political ideology.
H23	**SMI-ENVIRONMENT ratings of consumers do not differ according to their political orientation.**
H23a	SMI-ENVIRONMENT ratings of consumers do not differ according to their liberalism level.
H23b	SMI-ENVIRONMENT ratings of consumers do not differ according to their conservatism level.
H23c	SMI-ENVIRONMENT ratings of consumers do not differ according to their libertarianism level.
H24	**SMI-ENVIRONMENT ratings of consumers do not differ according to their use intensity of SNSs.**

Table 3.3 Hypotheses related to SMI-COMMUNITY

H31	**SMI-COMMUNITY ratings of consumers do not differ according to their socio-demographics characteristics.**
H31a	SMI-COMMUNITY ratings of consumers do not differ according to their gender.
H31b	SMI-COMMUNITY ratings of consumers do not differ according to their income level.
H31c	SMI-COMMUNITY ratings of consumers do not differ according to their education level.
H31d	SMI-COMMUNITY ratings of consumers do not differ according to their marital status.
H32	**SMI-COMMUNITY ratings of consumers do not differ according to their political ideology.**
H32a	SMI-COMMUNITY ratings of consumers do not differ according to their economic political ideology.
H32b	SMI-COMMUNITY ratings of consumers do not differ according to their social political ideology.
H33	**SMI-COMMUNITY ratings of consumers do not differ according to their political orientation.**
H33a	SMI-COMMUNITY ratings of consumers do not differ according to their liberalism level.
H33b	SMI-COMMUNITY ratings of consumers do not differ according to their conservatism level.
H33c	SMI-COMMUNITY ratings of consumers do not differ according to their libertarianism level.
H34	**SMI-COMMUNITY ratings of consumers do not differ according to their use intensity of SNSs.**

Table 3.4 Hypotheses related to SMI-GOVERNANCE

H41	**SMI-GOVERNANCE ratings of consumers do not differ according to their socio-demographics characteristics.**
H41a	SMI-GOVERNANCE ratings of consumers do not differ according to their gender.
H41b	SMI-GOVERNANCE ratings of consumers do not differ according to their income level.
H41c	SMI-GOVERNANCE ratings of consumers do not differ according to their education level.
H41d	SMI-GOVERNANCE ratings of consumers do not differ according to their marital status.
H42	**SMI-GOVERNANCE ratings of consumers do not differ according to their political ideology.**
H42a	SMI-GOVERNANCE ratings of consumers do not differ according to their economic political ideology.
H42b	SMI-GOVERNANCE ratings of consumers do not differ according to their social political ideology.
H43	**SMI-GOVERNANCE ratings of consumers do not differ according to their political orientation.**
H43a	SMI-GOVERNANCE ratings of consumers do not differ according to their liberalism level.
H43b	SMI-GOVERNANCE ratings of consumers do not differ according to their conservatism level.
H43c	SMI-GOVERNANCE ratings of consumers do not differ according to their libertarianism level.
H44	**SMI-GOVERNANCE ratings of consumers do not differ according to their use intensity of SNSs.**

Table 3.5 Hypotheses related to PMST

H51	**PMST ratings of consumers do not differ according to their socio-demographics characteristics.**
H51a	PMST ratings of consumers do not differ according to their gender.
H51b	PMST ratings of consumers do not differ according to their income level.
H51c	PMST ratings of consumers do not differ according to their education level.
H51d	PMST ratings of consumers do not differ according to their marital status.
H52	**PMST ratings of consumers do not differ according to their political ideology.**
H52a	PMST ratings of consumers do not differ according to their economic political ideology.
H52b	PMST ratings of consumers do not differ according to their social political ideology.
H53	**PMST ratings of consumers do not differ according to their political orientation.**
H53a	PMST ratings of consumers do not differ according to their liberalism level.
H53b	PMST ratings of consumers do not differ according to their conservatism level.
H53c	PMST ratings of consumers do not differ according to their libertarianism level.
H54	**PMST ratings of consumers do not differ according to their use intensity of SNSs.**

4. METHODOLOGY

This chapter presents the methods and techniques used in conducting the analysis. Specifically, the chapter provides the details of research design, justification of method and technique selection, and data collection process.

4.1 Research Design

To analyze how sustainability materiality of consumers are affected by their political orientations and use intensity of social networking sites, a quantitative approach is preferred by conducting an online survey. Surveying technique is considered as an appropriate method as it is widely used to analyze a fact or situation from an empirical perspective (Alan Bryman and Bell 2011). As provided in the literature, surveying methodology is based on several assumptions such as the representativeness of sample and reliability of participants (Mark Saunders, Lewis, and Thornhill 2016).

The survey used in this thesis is designed in a way to collect information based on the literature review and previous studies about political orientation, political message sharing tendency, sustainability, and word of mouth. The data collected also involves the socio-demographic information of participants such as age, gender, education, income level, marital status, and family size. While in rating questions, participants are asked to answer 7-point Likert scale from 1 to 7, in categorical questions, participants are asked to select among several options.

Finally, the responses of participants are visualized on graphs and analyzed using parametric tests such as T-test and Anova or their non-parametric alternatives such as Man Whitney and Kruskal Wallis tests, together with correlation tests (DeGroot and Schervish 2011).

4.1.1 Demographic questions

The survey includes some demographic questions such as the age of the participants, income level, level of education, gender, marital status, the number of family members living with you and country as follows:

- Age (ratio)
- The number of family members living with you
- Marital status (Single, Married, Divorced/Widow)
- Income (Interval) 5 groups: Low, Low to middle, Middle, Middle to high, High
- Education (Interval) 7 groups: Primary school, Middle school, High school, 2-year vocational/technical school, Bachelor's degree, Master's degree, and Ph.D. degree
- Gender (nominal) 2 groups: Male, Female,
- Country (nominal)

4.1.2 Sustainability materiality index (SMI)

To understand the importance of the factors of a company, 14 questions are asked to participants while they decide to buy the products of this company. This scale is adapted from Allen and Spialek (2018).

- The impact of company on climate change. (SMI1)
  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)
- The environmental and social impacts of the company's activities. (SMI2)
  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)
- The environmental impacts of how the company transports its products. (SMI3)
  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)
- The company's commitment to reducing energy and greenhouse gas. (SMI4)
  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)
- The company's efforts to reduce or eliminate waste. (SMI5)

The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The way the company manages its water use (especially in dry, water-stressed areas), and its wastewater management. (SMI6)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The sustainability of a product's packaging. (SMI7)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company's commitment to provide people access to products/services. (SMI8)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company invests in the community. (SMI9)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company has systems in place to identify and analyze potential company risks. (SMI10)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company's openness about its lobbying on public policy issues. (SMI11)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company's honesty in product labeling and marketing. (SMI12)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company's commitment to ensuring high quality and safe products/services. (SMI13)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

- The company's involvement in illegal or illicit behavior. (SMI14)

  The participants are asked to answer 7-point scale from 1 to 7 (whether it is important or not)

4.1.3 Scale for using social networking sites (SNS)

To understand the importance of communication in social media, 7 questions are asked to participants. This scale is adapted from Park, Jun, and Lee (2015).

- Social Networking Sites are part of my everyday activity. (SNS1)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I am proud to tell people I am on Social Networking Sites. (SNS2)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Social Networking Sites have become part of my daily routine. (SNS3)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I feel out of touch when I haven't logged onto a Social Networking Site for a while. (SNS4)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I feel I am part of the SNS community. (SNS5)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I would be sorry if social networking sites shut down. (SNS6)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Which of the following social media sites or applications you actively use? (SNS7)

  The participants are asked to 7 options such as Facebook, Twitter, Instagram, TikTok, Linkedin, Telegram and other.

4.1.4 Scale for political message sharing tendency (PMST)

To understand the political message sharing tendency of people, 7 questions are asked to participants. This scale is adapted from Akın and Özbezek (2017).

- In social media, I make more sharings about politics than other topics. (PMST1)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I can participate in any political debate through social media. (PMST2)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I do not hesitate to share after reading the share of political parties and political party members. (PMST3)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I communicate with different people about politics through social media. (PMST4)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I pay more attention to the sharing of political issues in social media than other issues. (PMST5)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I read the sharings of political parties and political party members. (PMST6)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I clearly react the people whose sharings are biased and unconvincing through social media. (PMST7)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

4.1.5 Scale for political ideology (PI)

To understand the political ideology of people in terms of social and political issues, 2 questions are asked to participants. This scale is adapted from Wetherell, Brandt, and Reyna (2013).

- When it comes to social policy, do you usually consider yourself a liberal, moderate or conservative? (PI1)
- When it comes to economic policy, do you usually consider yourself a liberal, moderate, or conservative? (PI2)

4.1.6 Scale for political orientation (PO)

To understand the impact of political orientations in market and society, 10 questions are asked to participants. This scale is adapted from Caldwell et al. (2020).

- I place great importance on social equality. (PO1)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- We need to dramatically reduce inequality between rich and poor. (PO2)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Corporations have too much power. (PO3)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Social change should be welcomed. (PO4)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I prefer order and stability. (PO5)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Maintaining moral order is very important. (PO6)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- I strongly believe in a free market economy. (PO7)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Government regulation usually does more harm than good. (PO8)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Governments should have less influence over our lives. (PO9)

  The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

- Small government is good. (PO10)

The participants are asked to answer 7-point scale from 1 to 7 (whether they agree or not)

5. ANALYSIS AND FINDINGS

5.1 Results for Demographic Questions

The number of participants in the survey was 133 (47 males and 81 females, and 5 participants preferred not to disclose). The gender distribution of participants is presented in Figure 5.1.

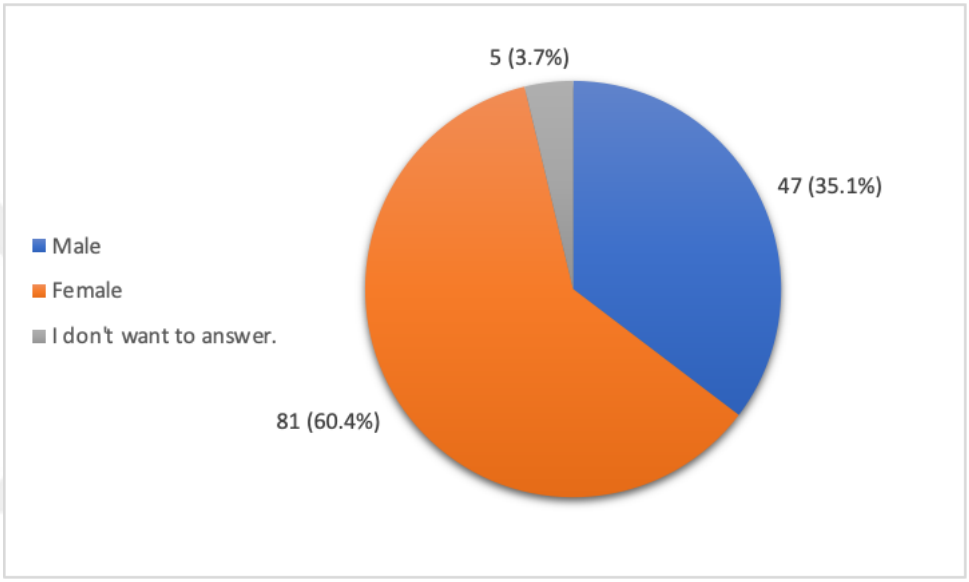

Figure 5.1 Gender distribution of participants

Mean age of participants is 45.85 with a standard deviation of 14.07. Based on the age range of participants, they were divided into seven groups, first group (between 18-20 years old), second group (between 21-30 years old), third group (31-40 years old), forth group (41-50 years old), fifth group (51-60 years old) and seventh group (71-80 years old). As seen in Figure 5.2, age distribution of participants is approximately normal.

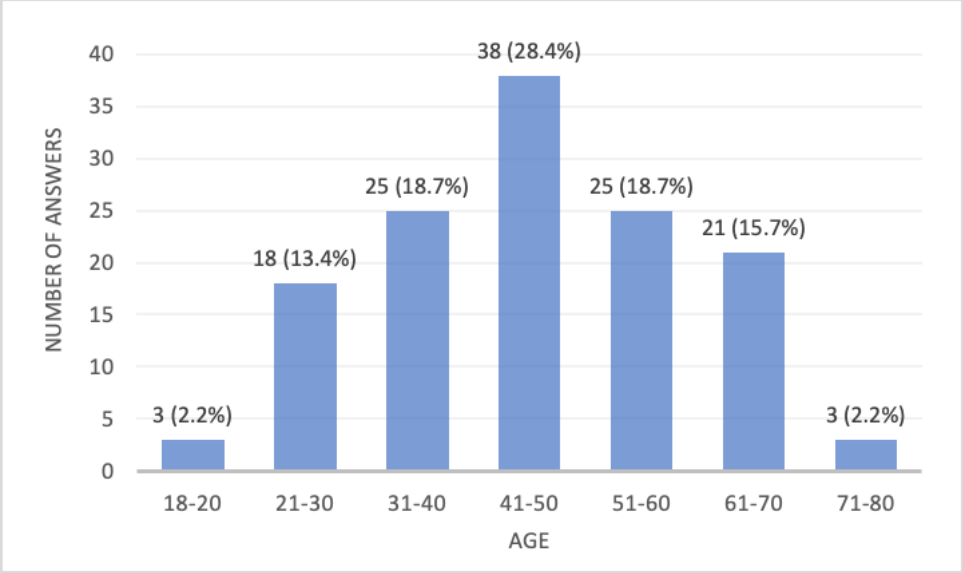

Figure 5.2 Age distribution of participants

As presented in Figure 5.3, 68.7% of participants are married while 23.9% of participants are single. 3.7% of participants indicate that they are divorced. On the other hand, 3% of participants indicate that they don't want to answer this question.

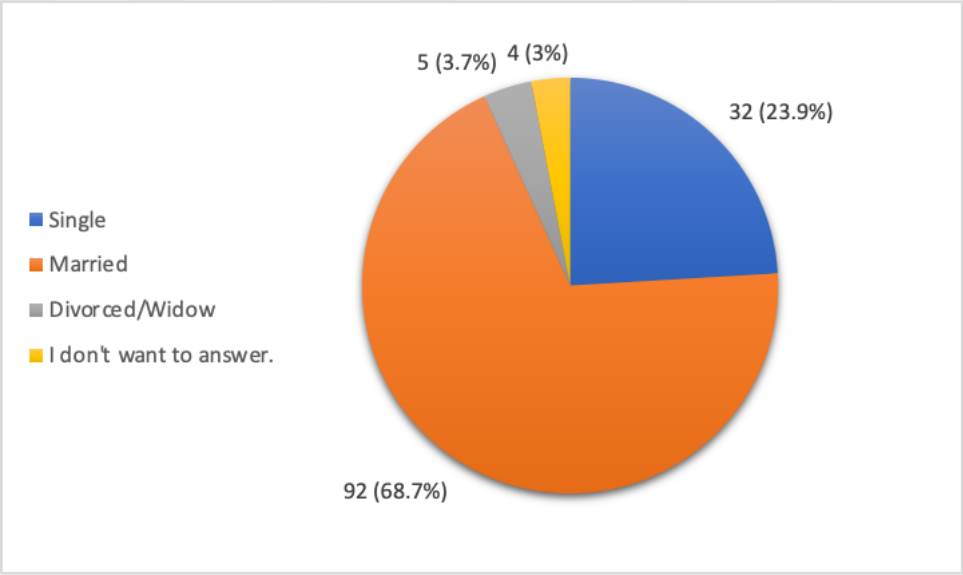

Figure 5.3 Marital status distribution of participants

The average number of participants' family members is 3.00 with a standard deviation of 1.46. Figure 5.4 presents the number of family members distribution of participants. For

example, 29.9% of participants indicate that they have 4 family members while 27.6% of participants claim that they have 2 family members.

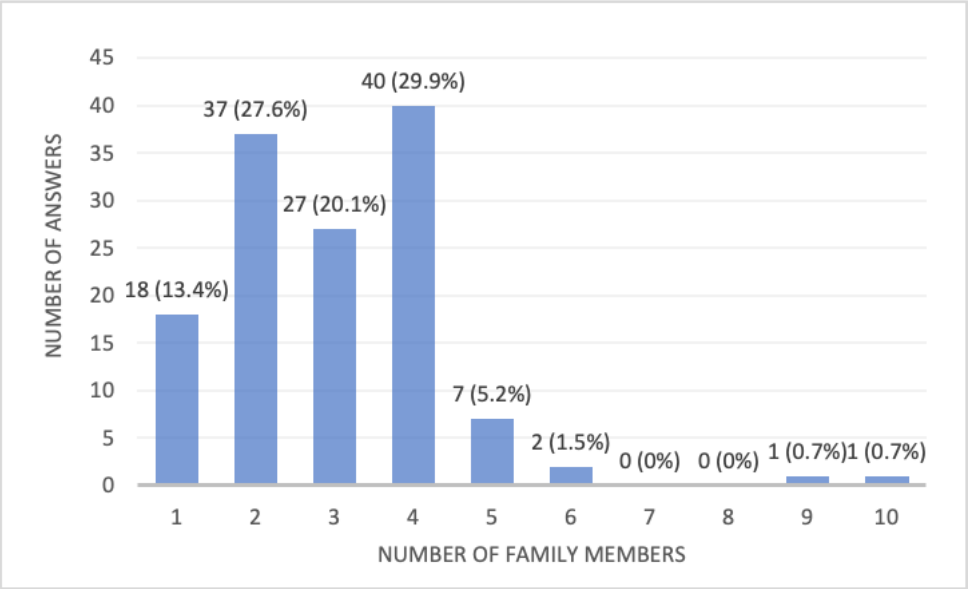

Figure 5.4 The number of family member distribution of participants

Figure 5.5 reveals that education level distribution of participants hold Ph.D. degree with a 6.7%, master's degree with a 14.9%, bachelor's degree with a 58.2%, vocational school degree with a 10.4% and high school degree with a %9.

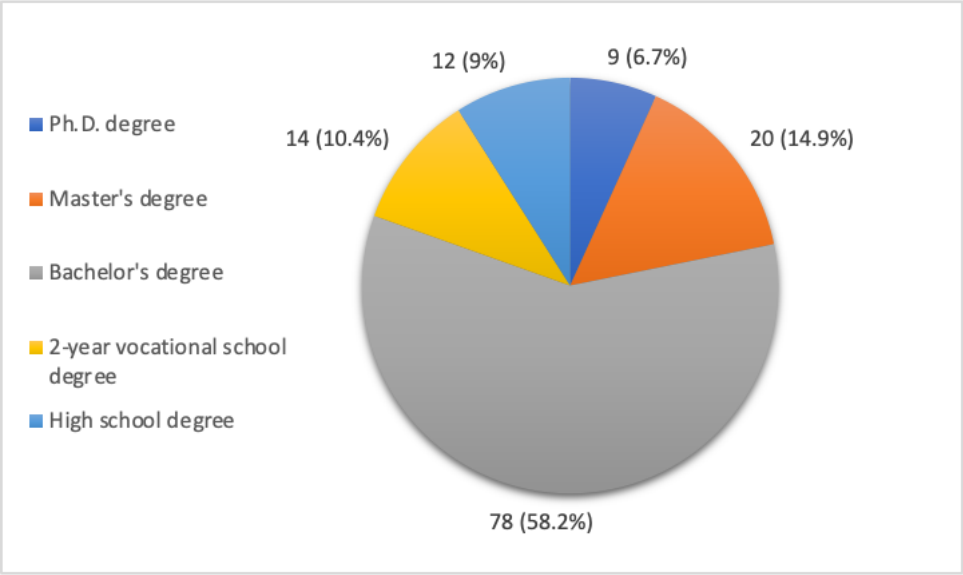

Figure 5.5 Education level distribution of participants

Figure 5.6 shows that the income level distribution of participants. As presented in the figure, 0.7 % of the participants is in high income group. 15.7% of the participants is in middle high-income group. 59% of the participants is in middle income group. 17.2% of the participants is in low-middle income group. Lastly, 6.7% of the participants is in low income group.

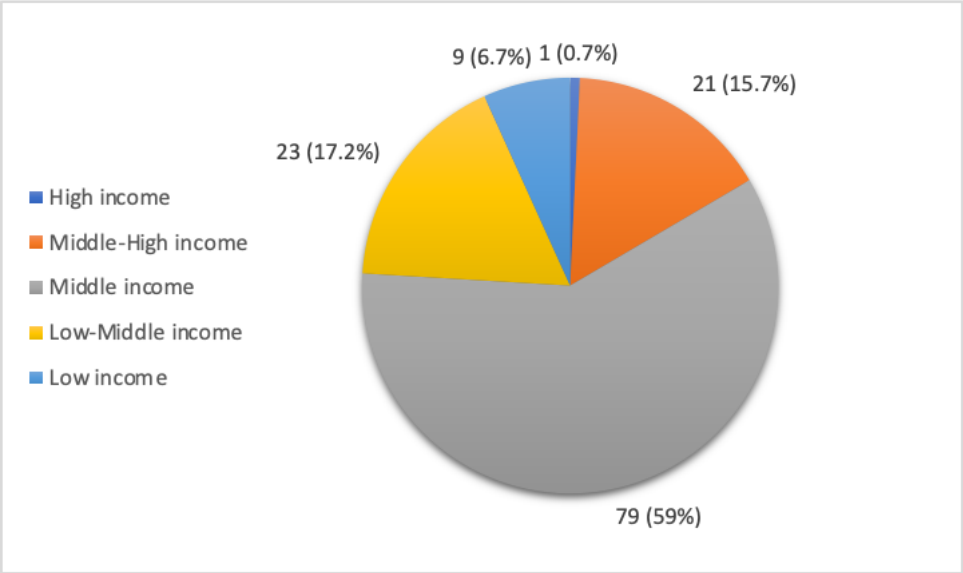

Figure 5.6 Income level distribution of participants

5.2 Results for Scale Questions

5.2.1 Sustainability materiality index (SMI)

As seen in Table 5.1, the perception level of participants regarding SMI is quite high such that it has a mean value of 5.93 with a standard deviation of 1.36 and all indices have a value above 5.00. When individual indices are considered, the highest ratings belong to SMI-ENVIRONMENT2, SMI-ENVIRONMENT3 and SMI-ENVIRONMENT4 under governance category. Then they are followed by SMI8 under community category, and SMI6 and SMI7 are under environment category.

Table 5.1 Participants' perception regarding sustainability materiality index

Scale		Question	Mean	Standart deviation	Minimum	Maximum
SUSTAINABILTY MATERYALITY INDEX	ENVIRONMENT	SMI1	5.65	1.32	1	7
		SMI2	5.83	1.28	1	7
		SMI3	5.52	1.63	1	7
		SMI4	5.70	1.68	1	7
		SMI5	5.96	1.35	1	7
		SMI6	6.16	1.31	1	7
		SMI7	6.03	1.21	1	7
	COMMUNITY	SMI8	6.19	1.07	1	7
		SMI9	5.97	1.25	1	7
	GOVERNANCE	SMI10	5.23	1.51	1	7
		SMI11	5.34	1.34	1	7
		SMI12	6.52	0.97	1	7
		SMI13	6.50	0.96	2	7
		SMI14	6.44	1.16	1	7
		OVERALL	5.93	1.36	1	7

The detailed distribution of participants' responses for each sustainability materiality index are provided in Figures 5.7-5.20.

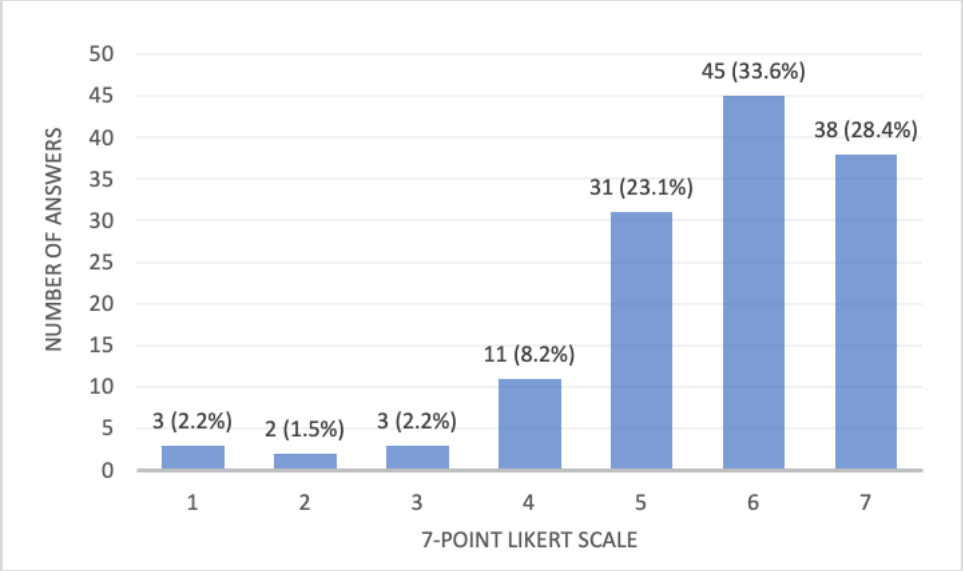

Figure 5.7 The impact of company on climate change (SMI1)

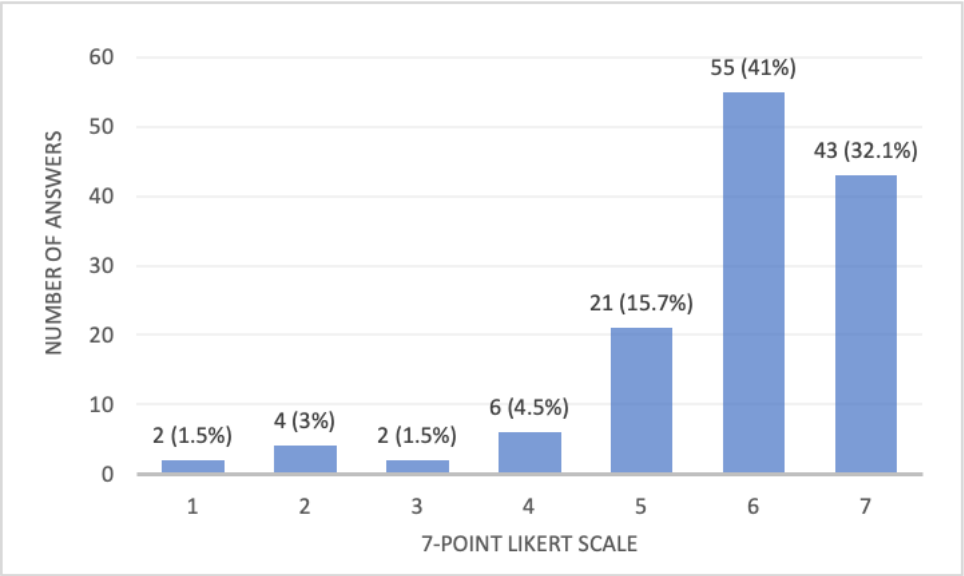

Figure 5.8 The environmental and social impacts of the company's activities (SMI2)

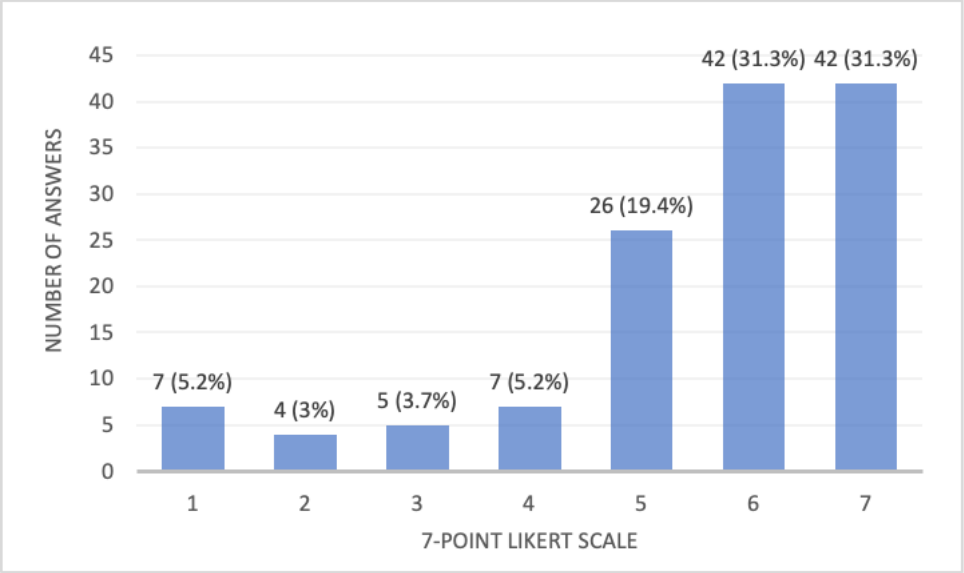

Figure 5.9 The environmental impacts of how the company transports its products (SMI3)

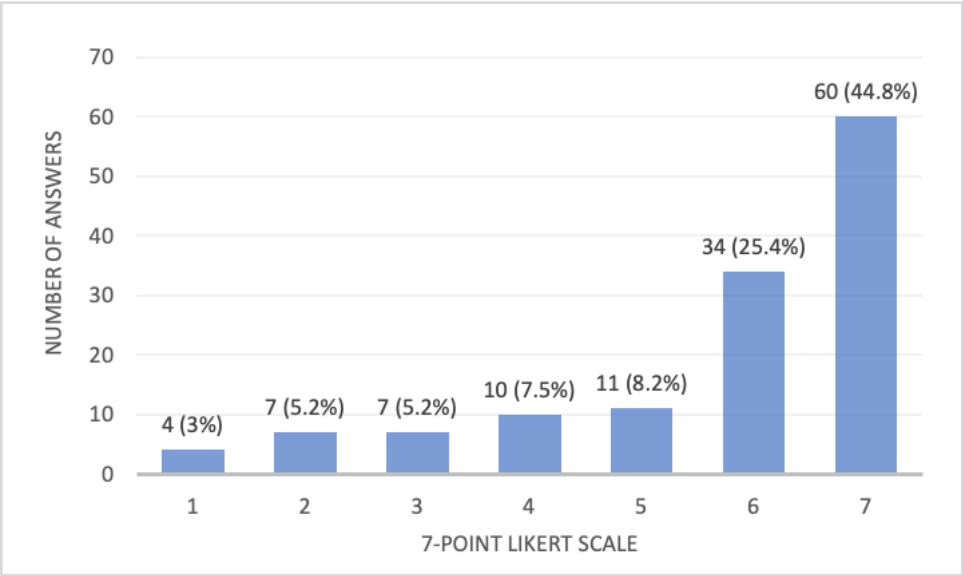

Figure 5.10 The company's commitment to reducing energy and greenhouse gas (SMI4)

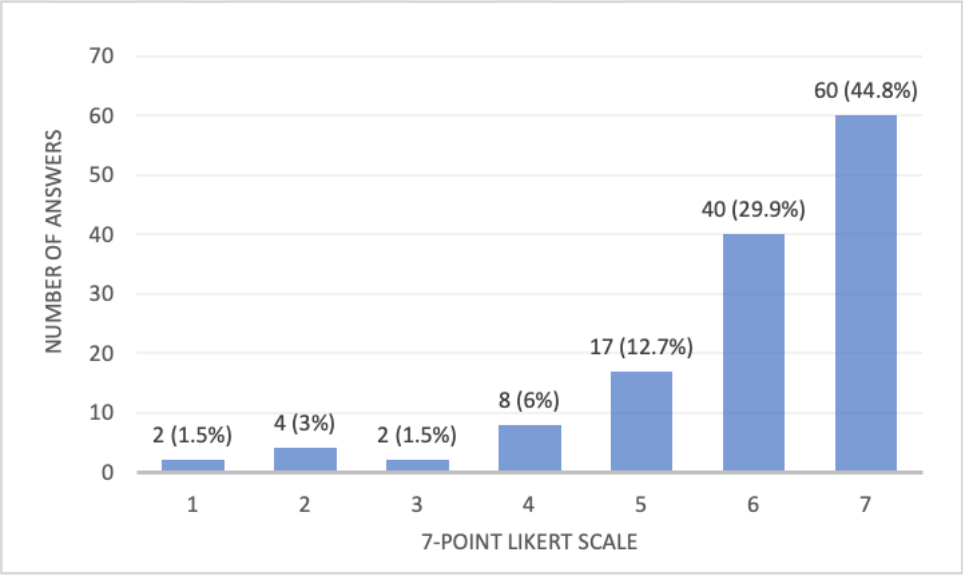

Figure 5.11 The company's efforts to reduce or eliminate waste (SMI5)

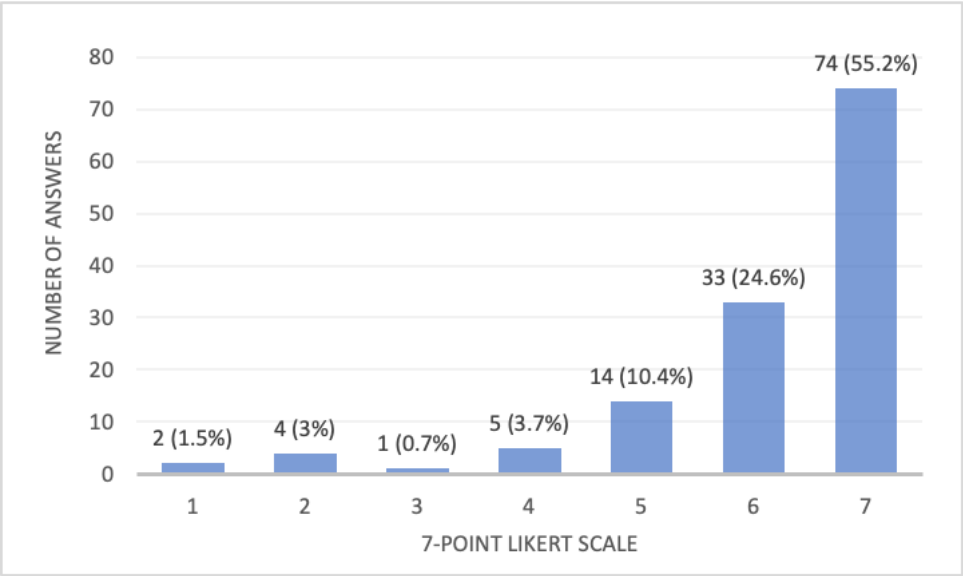

Figure 5.12 The way the company manages its water use (especially in dry, water-stressed areas), and its wastewater management (SMI6)

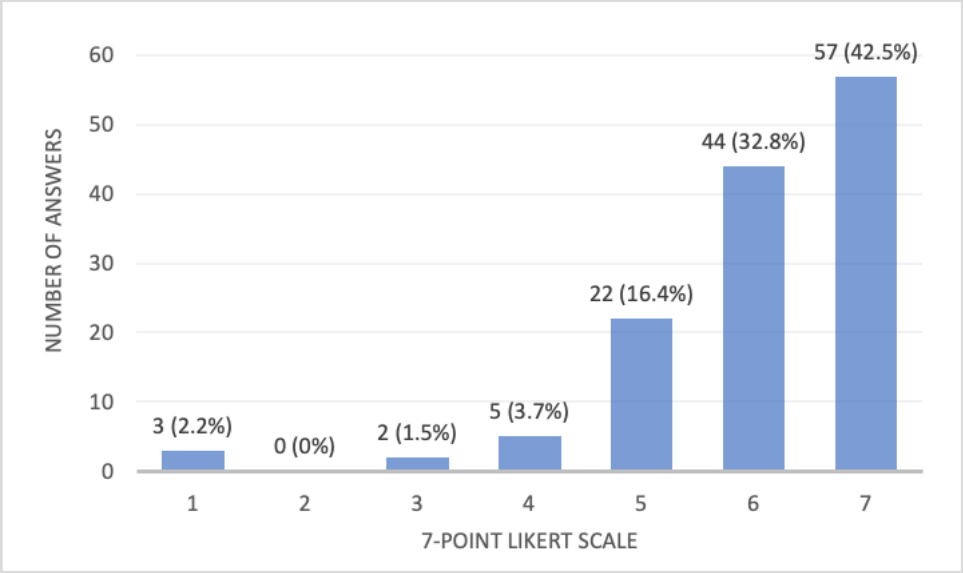

Figure 5.13 The sustainability of a product's packaging (SMI7)

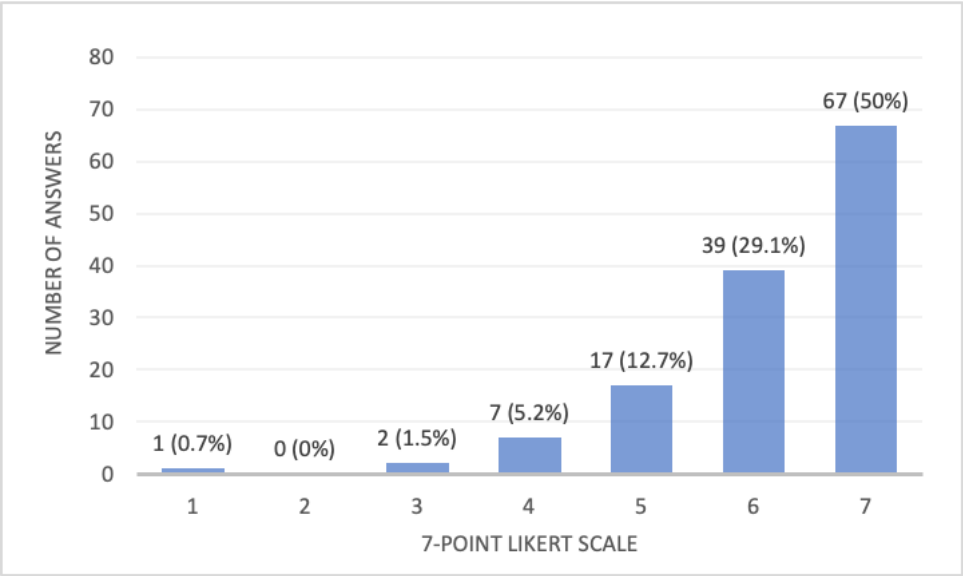

Figure 5.14 The company's commitment to provide people access to products/services (SMI8)

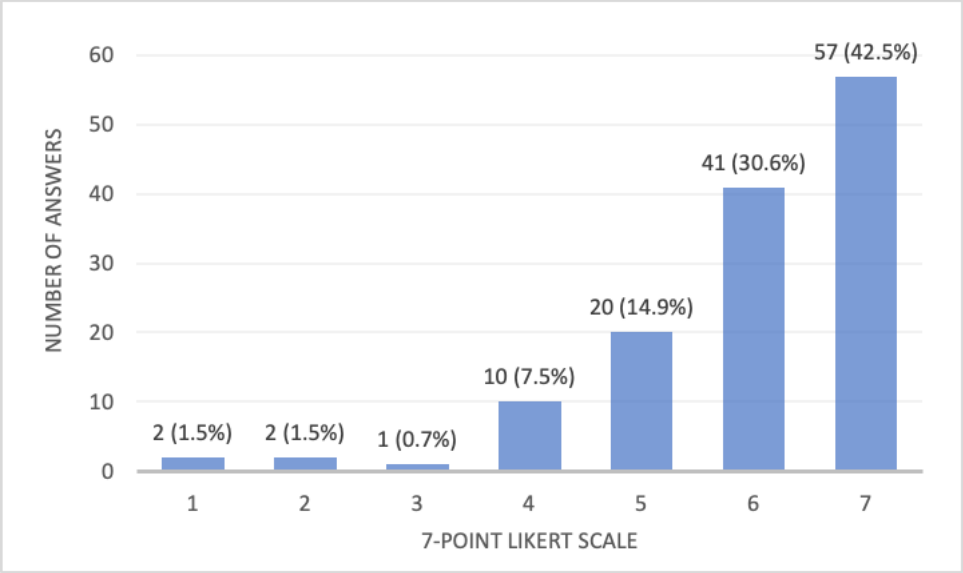

Figure 5.15 The company invests in the community (SMI9)

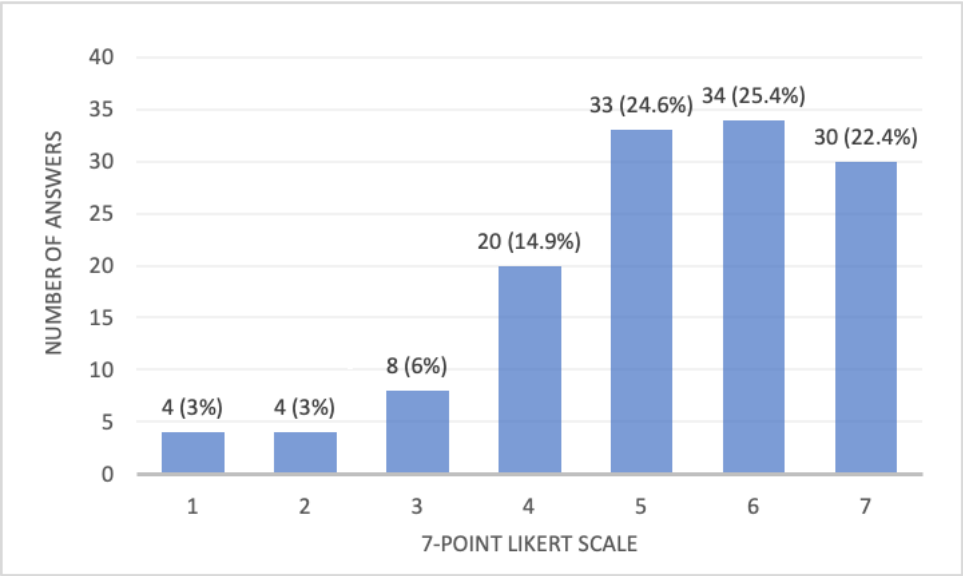

Figure 5.16 The company has systems in place to identify and analyze potential company risks (SMI10)

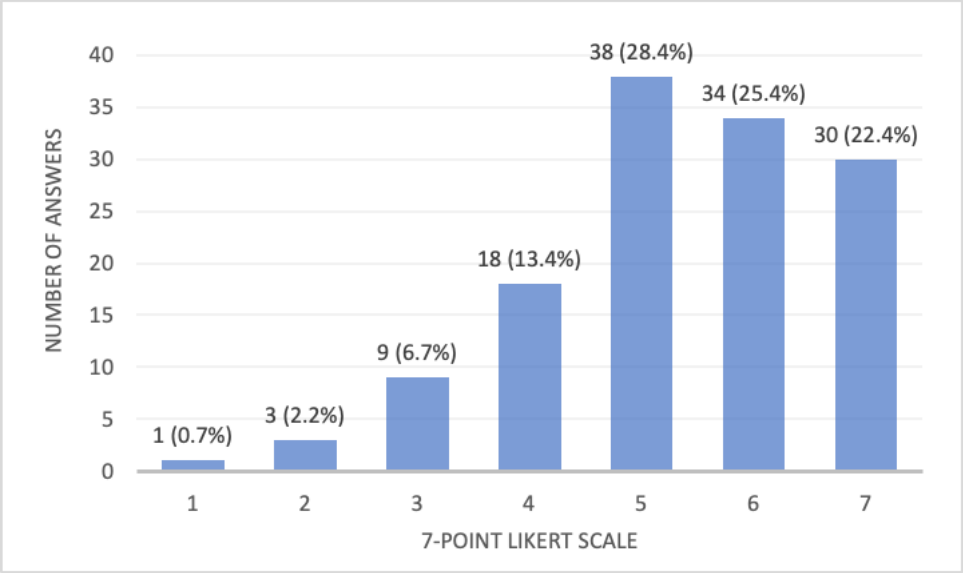

Figure 5.17 The company's openness about its lobbying on public policy issues (SMI11)

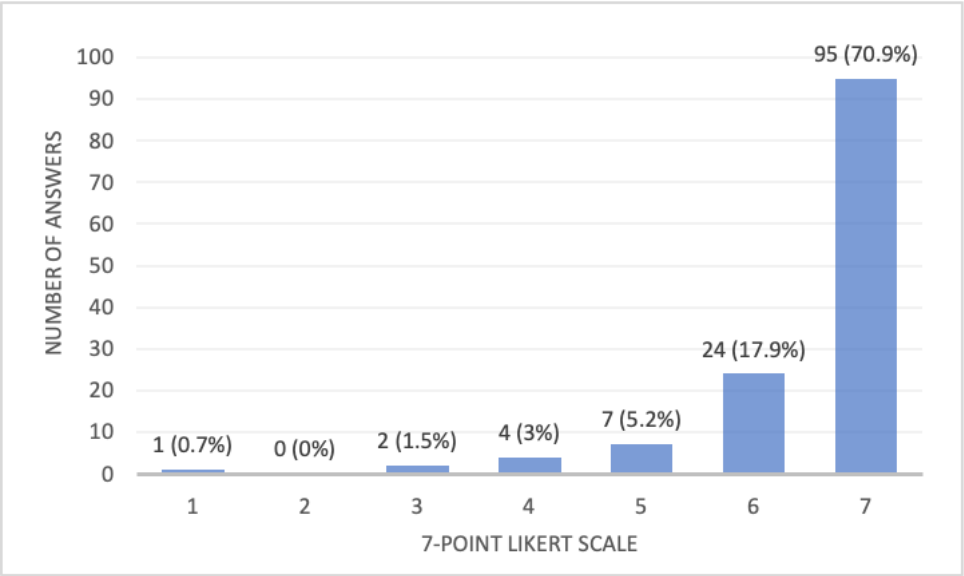

Figure 5.18 The company's honesty in product labeling and marketing (SMI12)

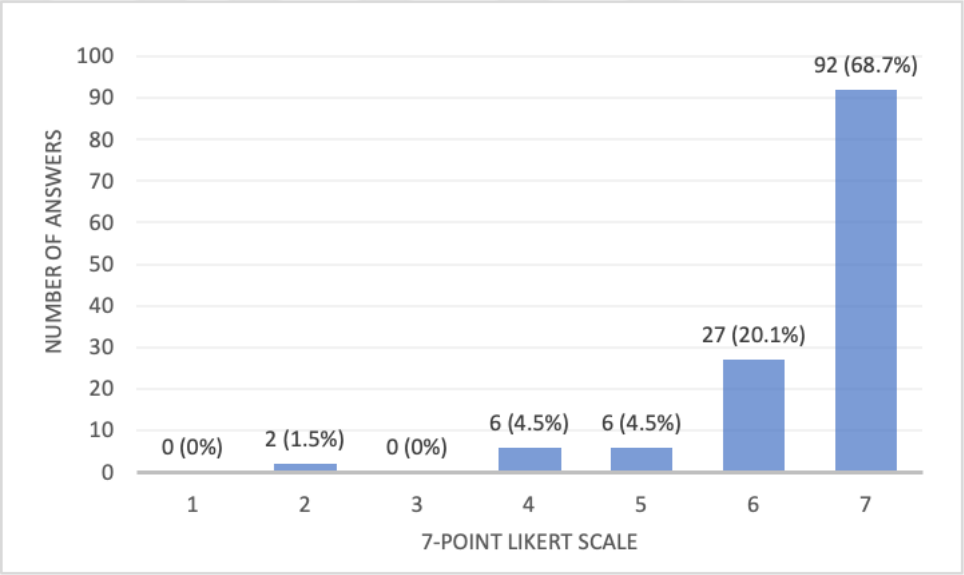

Figure 5.19 The company's commitment to ensuring high quality and safe products/services (SMI13)

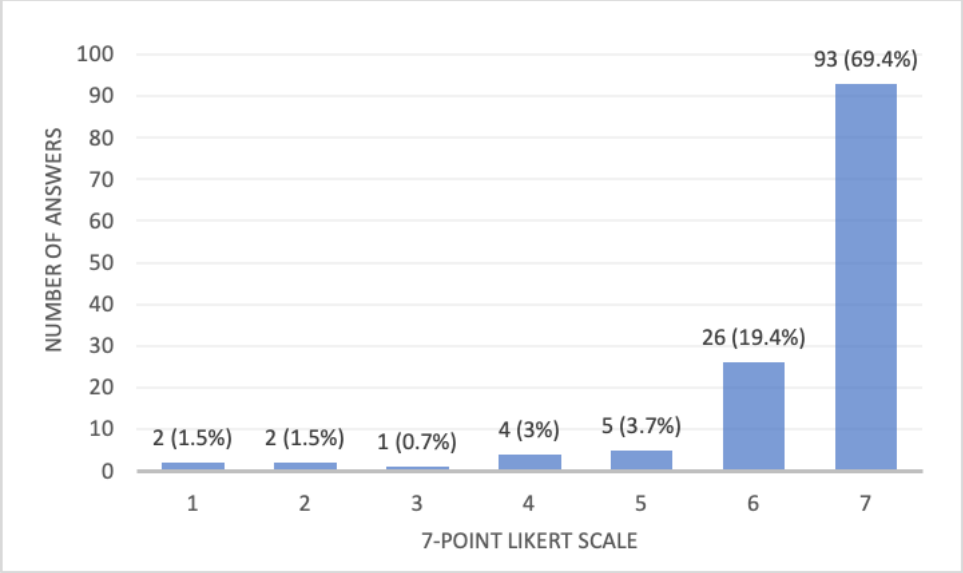

Figure 5.20 The company's involvement in illegal or illicit behavior (SMI14)

5.2.2 Social networking sites (SNS)

As seen in figure 5.21, the most used social networking site by the participants is Instagram such that 92 of 133 participants have a page on Instagram. The second and third most used social networking sites are respectively Facebook and Twitter. On the other hand, TikTok is the least used social networking sites with the use of only 5 participants.

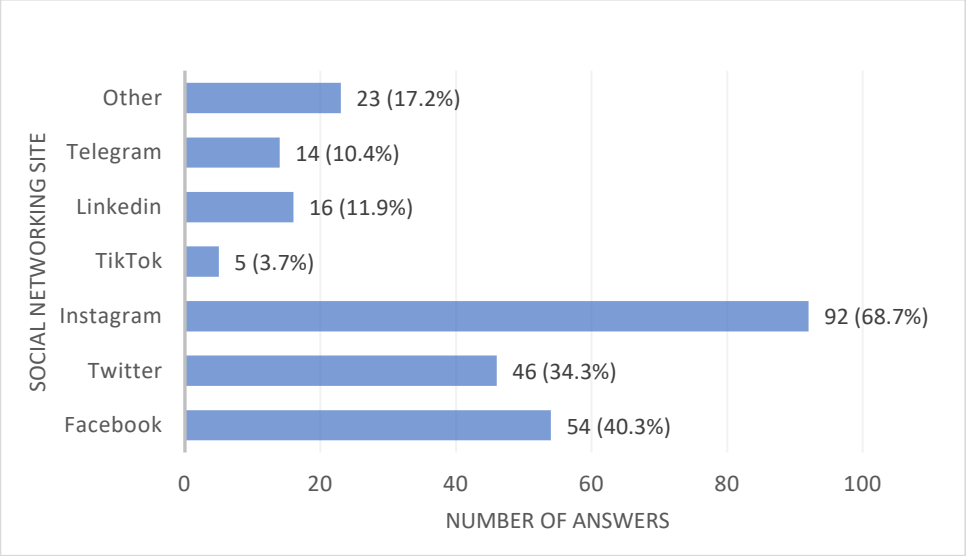

Figure 5.21 Social networking sites used by participants

As provided in Table 5.2, the participant's use intensity of social networking sites is moderate with a mean value of 3.89 and 1.98 standard deviation. Among the indices, SNS1, SNS3 and SNS6 have the highest ratings with greater values than the moderate level of 4.00.

Table 5.2 Participants' use intensity of social networking sites

Scale	Question	Mean	Standart deviation	Minimum	Maximum
SOCIAL NETWORKING SITES SCALE	SNS1	4.94	1.90	1	7
	SNS2	3.15	1.91	1	7
	SNS3	4.38	1.90	1	7
	SNS4	3.35	1.85	1	7
	SNS5	3.41	1.85	1	7
	SNS6	4.13	1.90	1	7
	OVERALL	3.89	1.98	1	7

The detailed distribution of participants' responses for each social networking site scale item are provided in Figures 5.22-5.27.

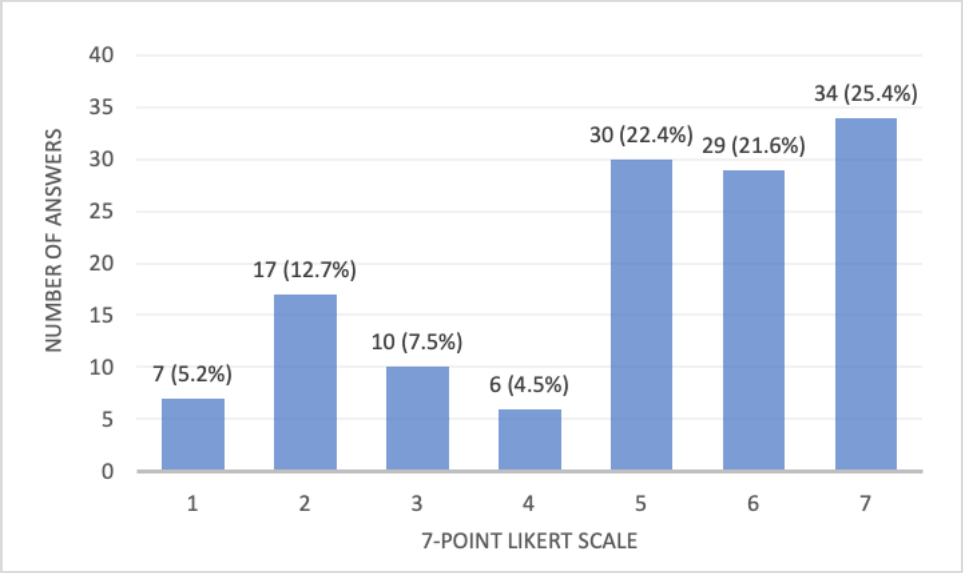

Figure 5.22 Social Networking Sites are part of my everyday activity (SNS1)

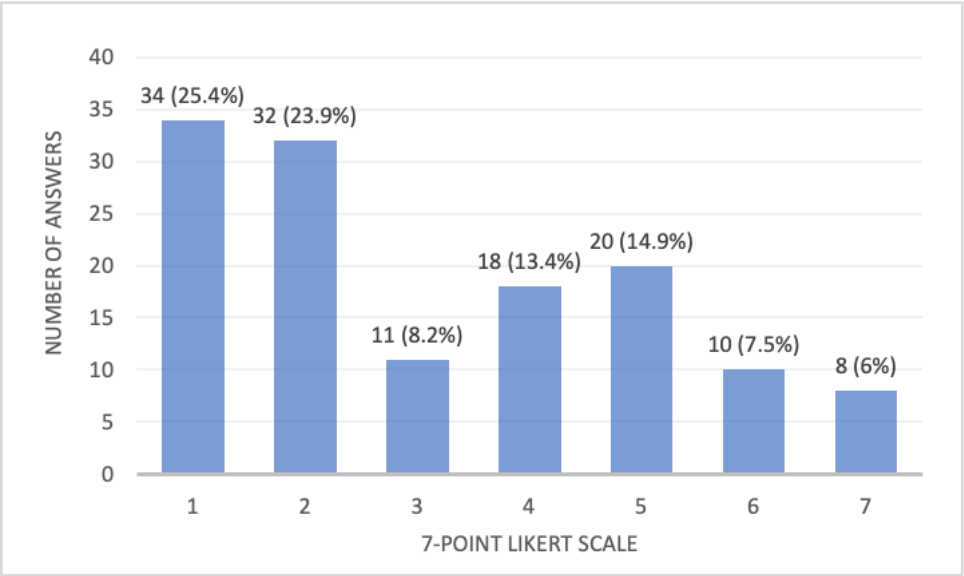

Figure 5.23 I am proud to tell people I am on Social Networking Sites (SNS2)

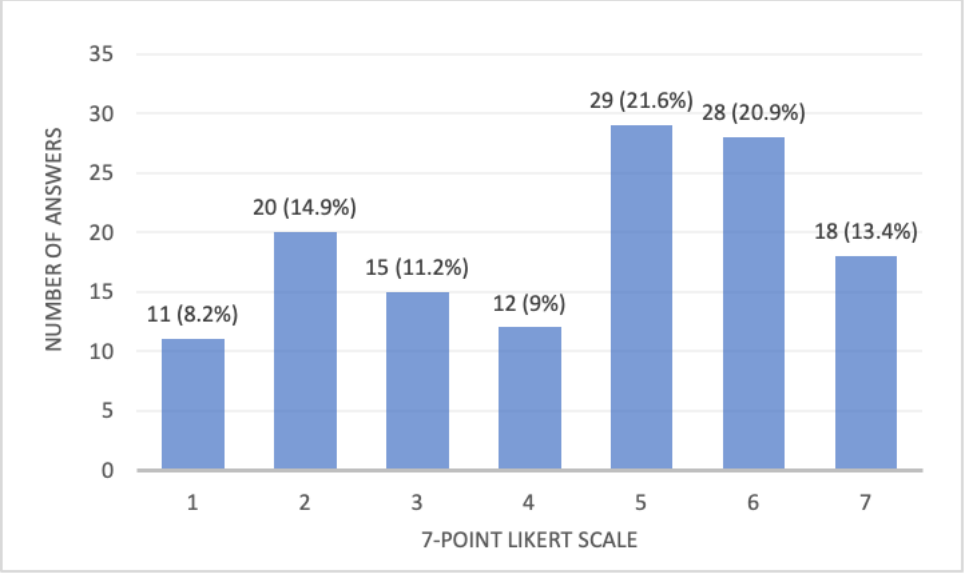

Figure 5.24 Social Networking Sites have become part of my daily routine (SNS3)

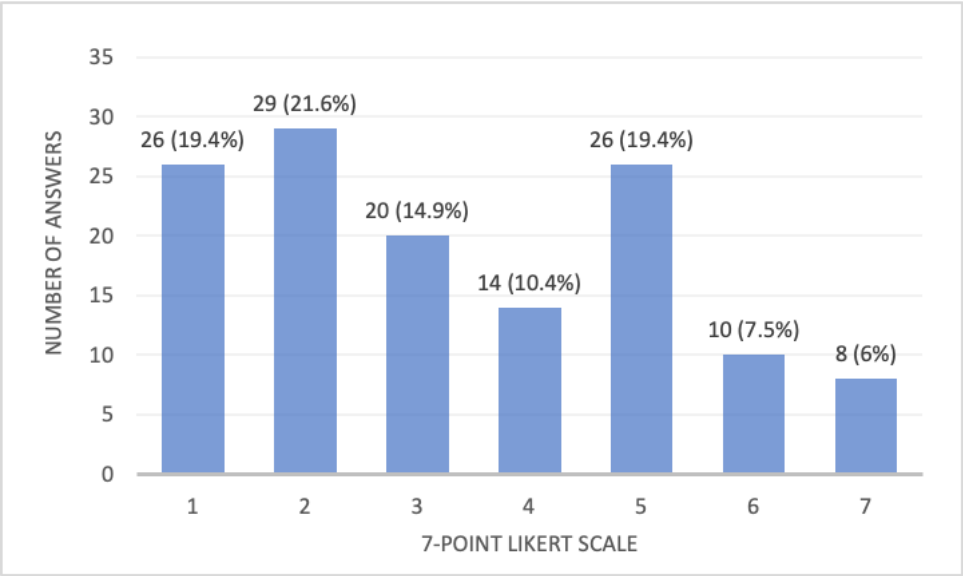

Figure 5.25 I feel out of touch when I haven't logged onto a Social Networking Site for a while (SNS4)

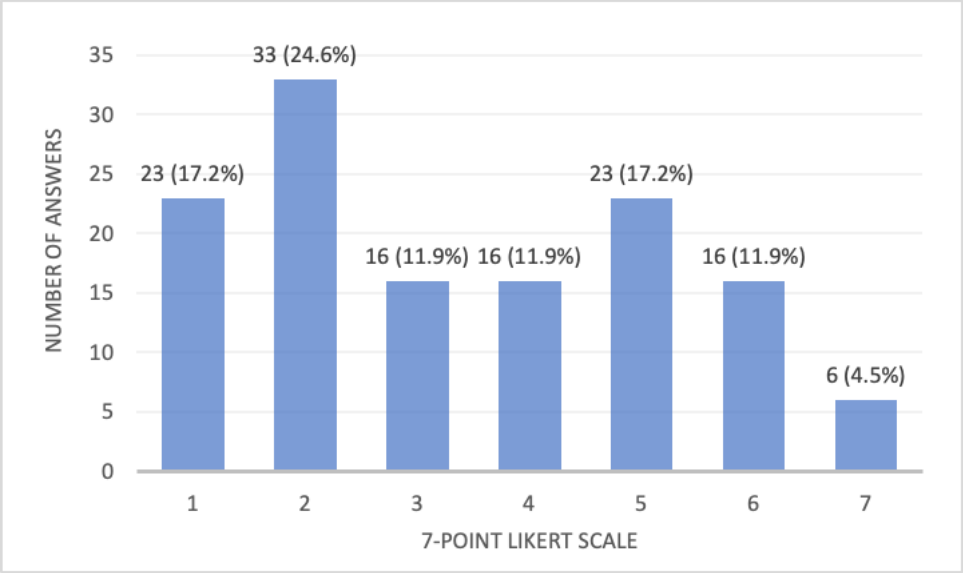

Figure 5.26 I feel I am part of the SNS community (SNS5)

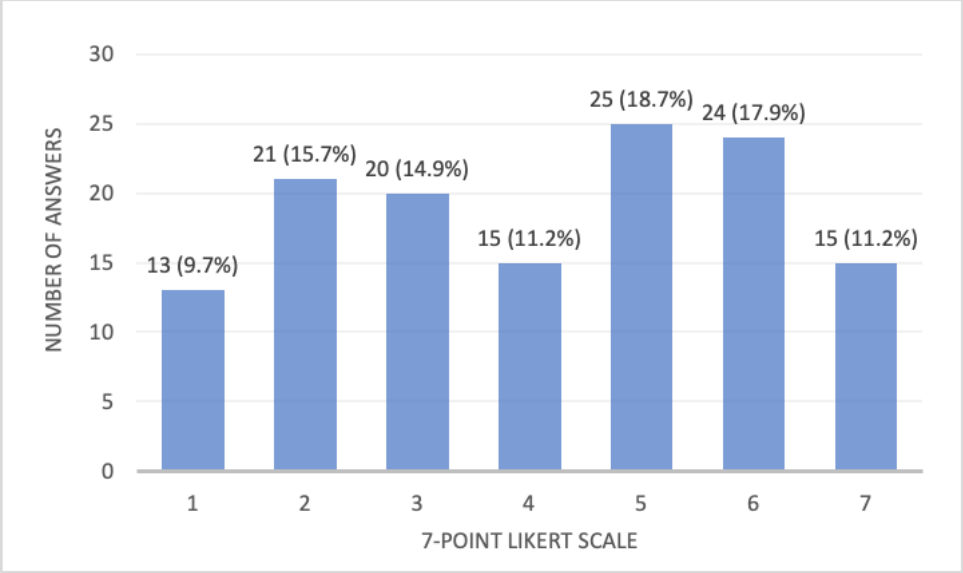

Figure 5.27 I would be sorry if social networking sites shut down (SNS6)

5.2.3 Political message sharing tendency (PMST)

Overall, as provided in Table 5.3, the participants' tendency of sharing political message is quite low with a mean value of 2.75 and standard deviation of 2.04. While PMST6 has the highest rating, PMST2 has the lowest rating. Further, except PMST6, all indices have the rating below the moderate value of 4.00.

Table 5.3 Participant's tendency of sharing political message

Scale	Question	Mean	Standart deviation	Minimum	Maximum
POLITICAL MESSAGE SHARING TENDENCY SCALE	PMST1	2.32	1.78	1	7
	PMST2	1.92	1.44	1	7
	PMST3	2.45	1.84	1	7
	PMST4	1.98	1.49	1	7
	PMST5	3.83	2.39	1	7
	PMST6	4.19	2.09	1	7
	PMST7	2.59	1.92	1	7
	OVERALL	2.75	2.04	1	7

The detailed distribution of participants' responses for each political message sharing tendency scale item are provided in Figures 5.28-5.34.

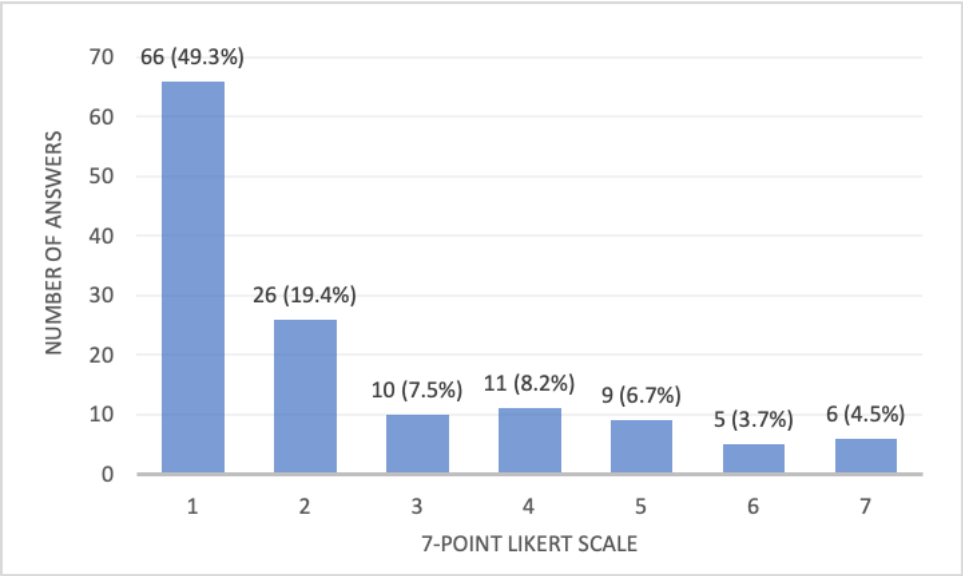

Figure 5.28 In social media, I make more sharings about politics than other topics (PMST1)

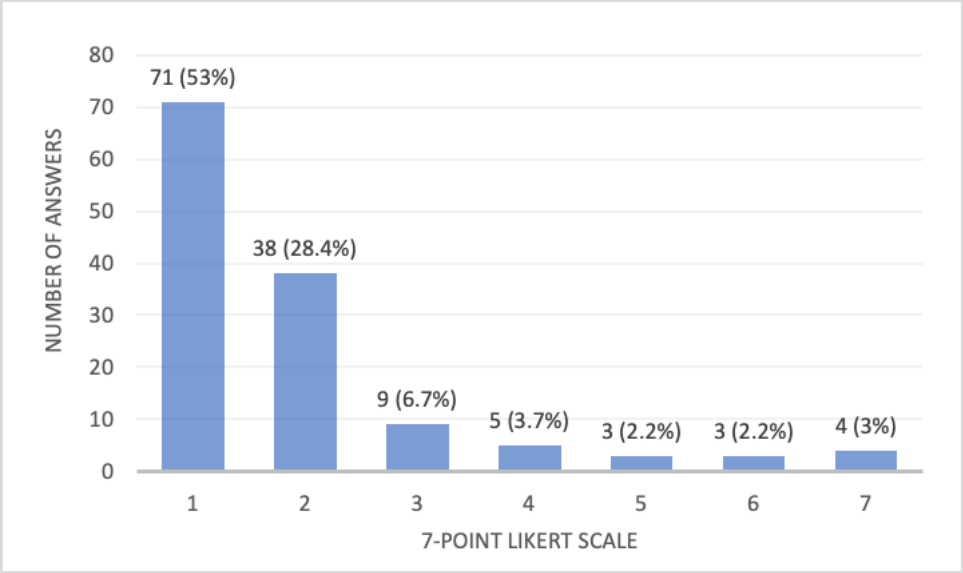

Figure 5.29 I can participate in any political debate through social media (PMST2)

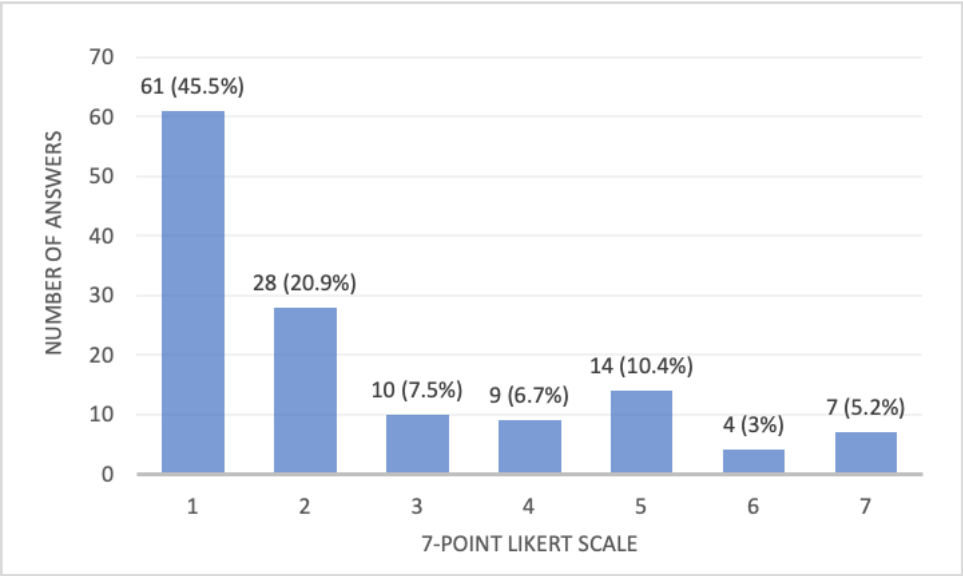

Figure 5.30 I do not hesitate to share after reading the share of political parties and political party members (PMST3)

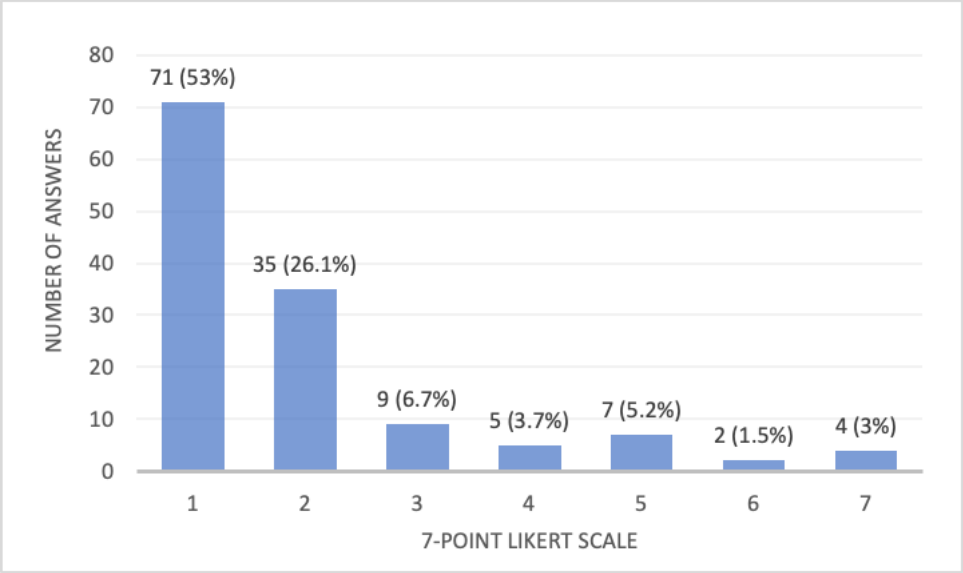

Figure 5.31 I communicate with different people about politics through social media (PMST4)

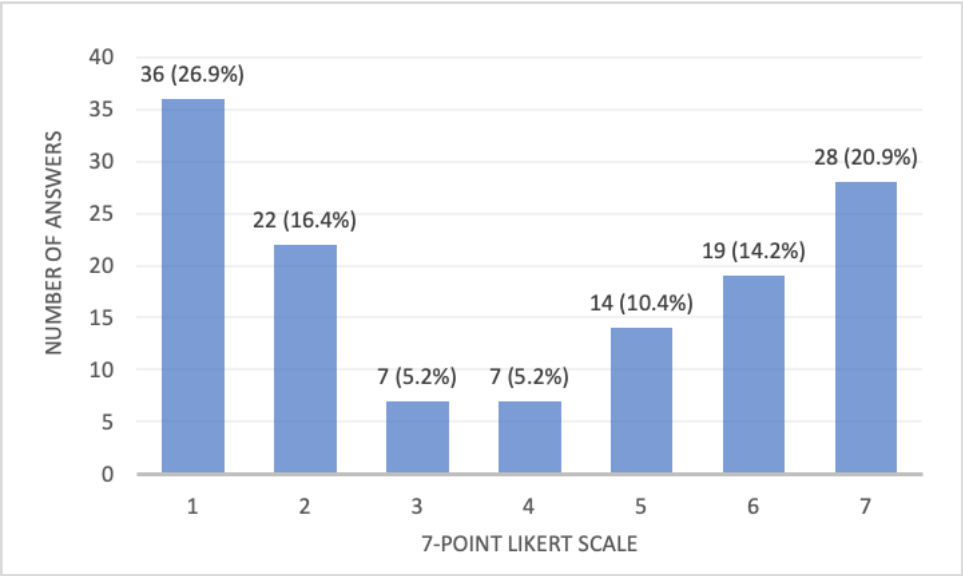

Figure 5.32 I pay more attention to the sharing of political issues in social media than other issues (PMST5)

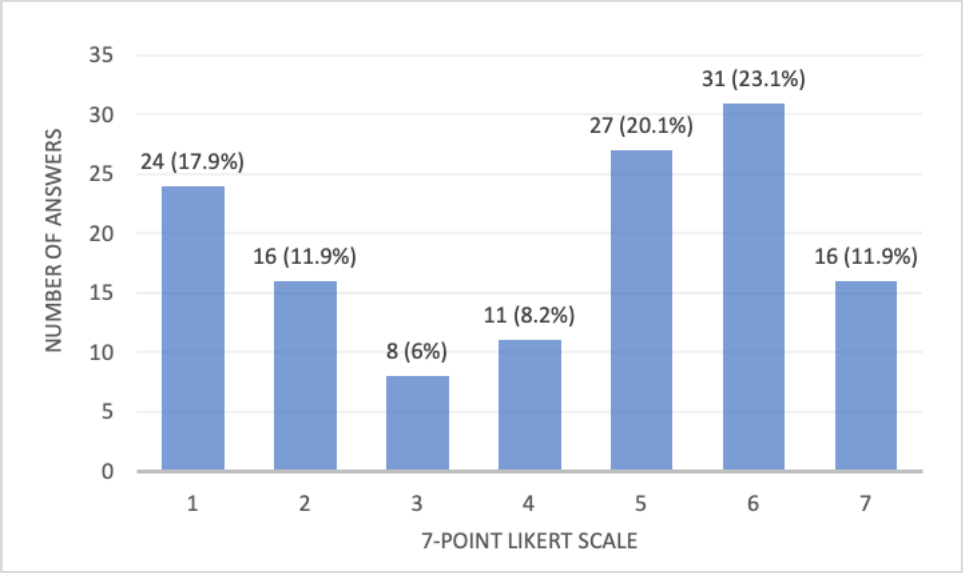

Figure 5.33 I read the sharings of political parties and political party members (PMST6)

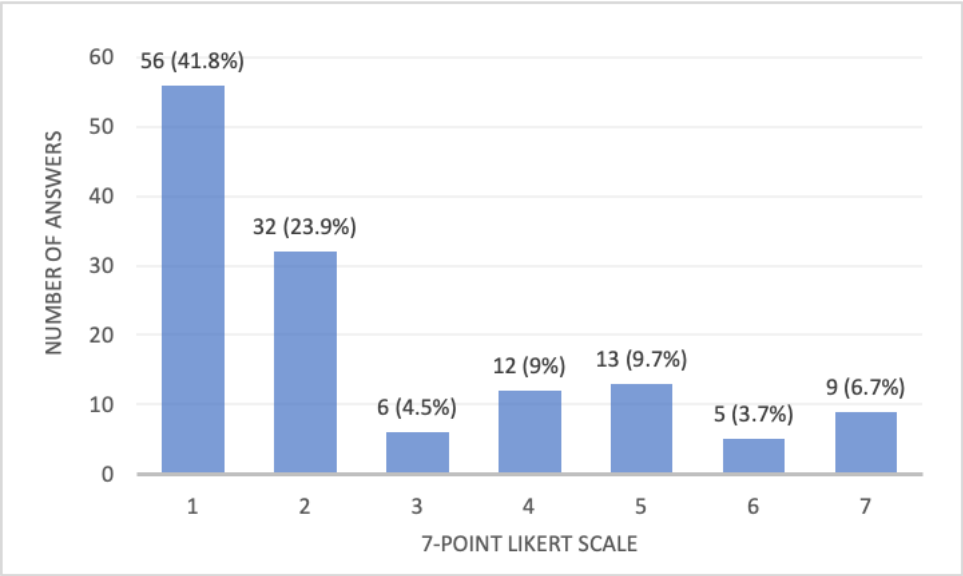

Figure 5.34 I clearly react the people whose sharings are biased and unconvincing through social media (PMST7)

5.2.4 Political orientation (PO)

Table 5.4 shows that participants have a strong political orientation with a mean value of 5.36 and standard deviation of 1.80. Moreover, except PO10, all political orientation indices have values greater than the moderate level of 4.00. This means that participants are not neutral and reflect their own political views. Providing values higher than 6.00, PO1, PO2 under liberal category and PO6 under conservative category are the most noteworthy indices.

Table 5.4 Participants' political orientation

Scale		Question	Mean	Standart deviation	Minimum	Maximum
POLITICAL ORIENTATION	LIBERAL	PO1	6.30	1.28	1	7
		PO2	6.55	1.00	1	7
		PO3	5.94	1.27	1	7
		PO4	5.36	1.57	1	7
	CONSERVATIVE	PO5	5.84	1.43	1	7
		PO6	6.15	1.35	1	7
	LIBERTARIAN	PO7	4.74	1.81	1	7
		PO8	4.14	1.76	1	7
		PO9	5.19	1.73	1	7
		PO10	3.36	1.77	1	7
		OVERALL	5.36	1.80	1	7

The detailed distribution of participants' responses for each political orientation scale item are provided in Figures 5.35-5.44.

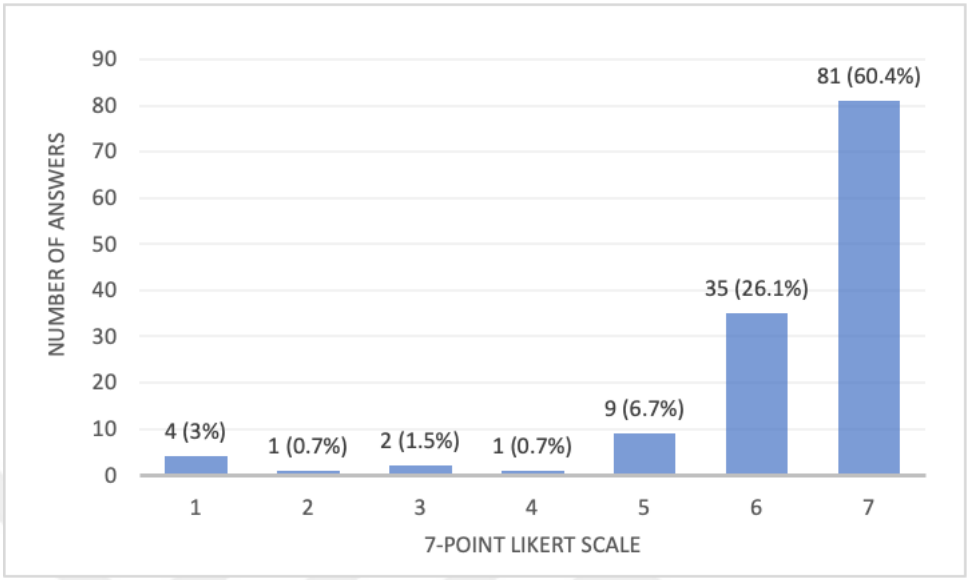

Figure 5.35 I place great importance on social equality (PO1)

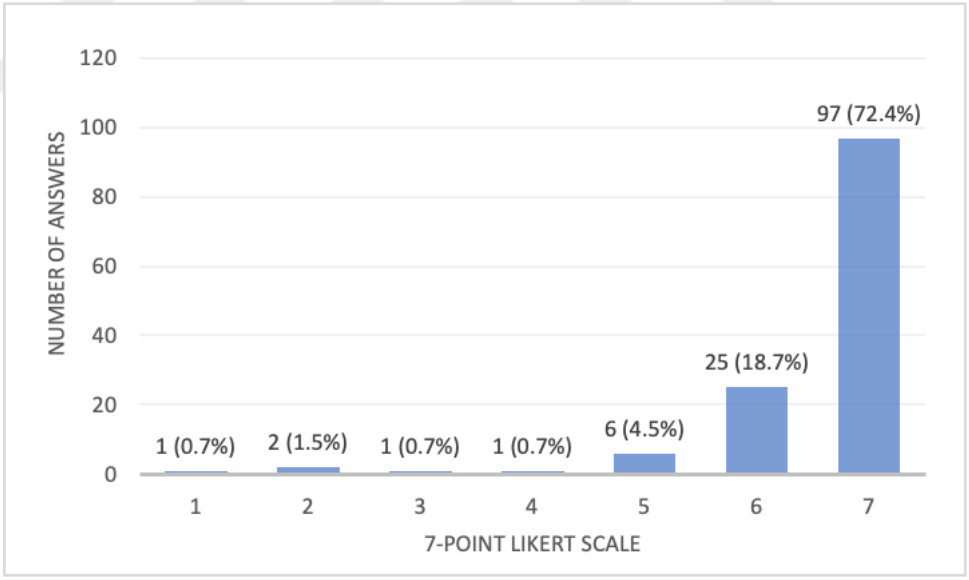

Figure 5.36 We need to dramatically reduce inequality between rich and poor (PO2)

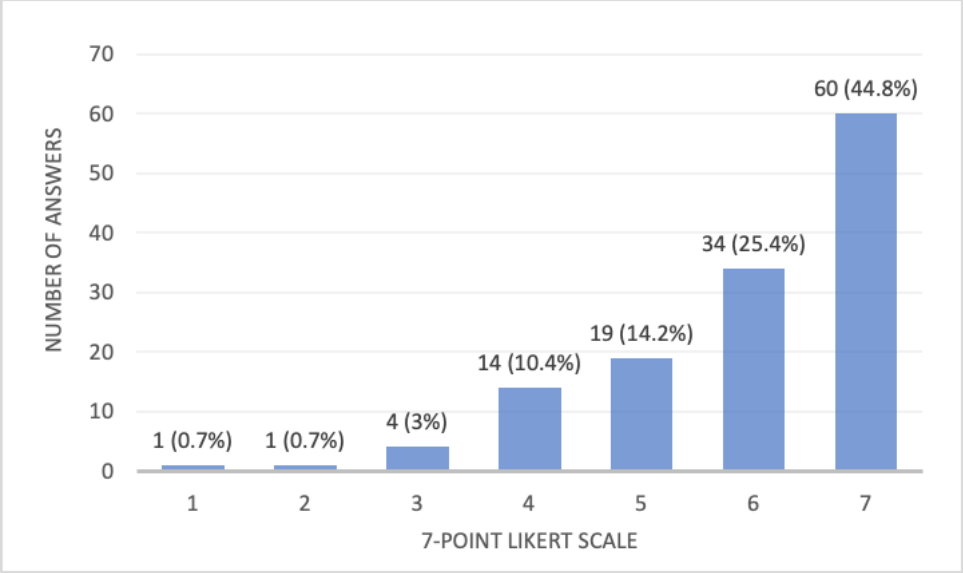

Figure 5.37 Corporations have too much power (PO3)

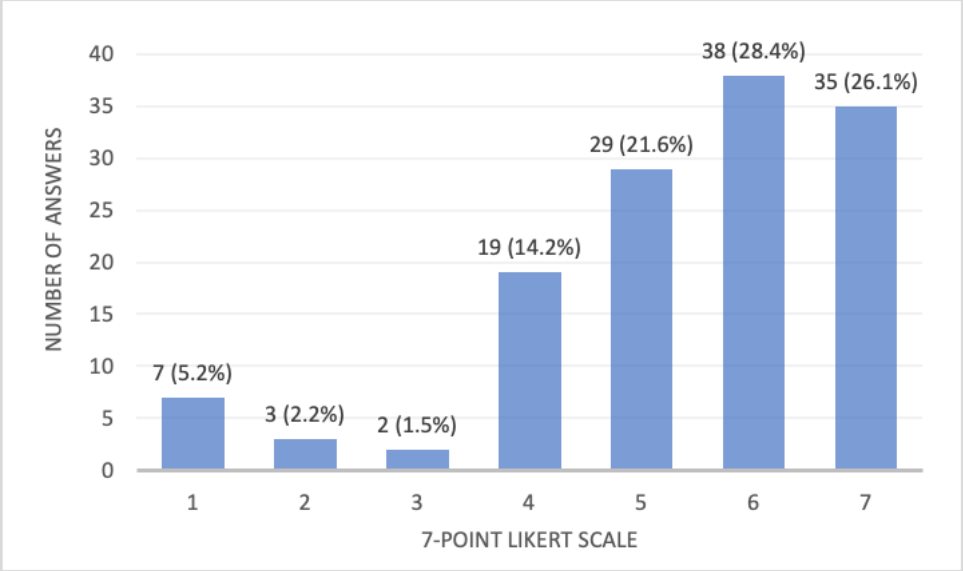

Figure 5.38 Social change should be welcomed (PO4)

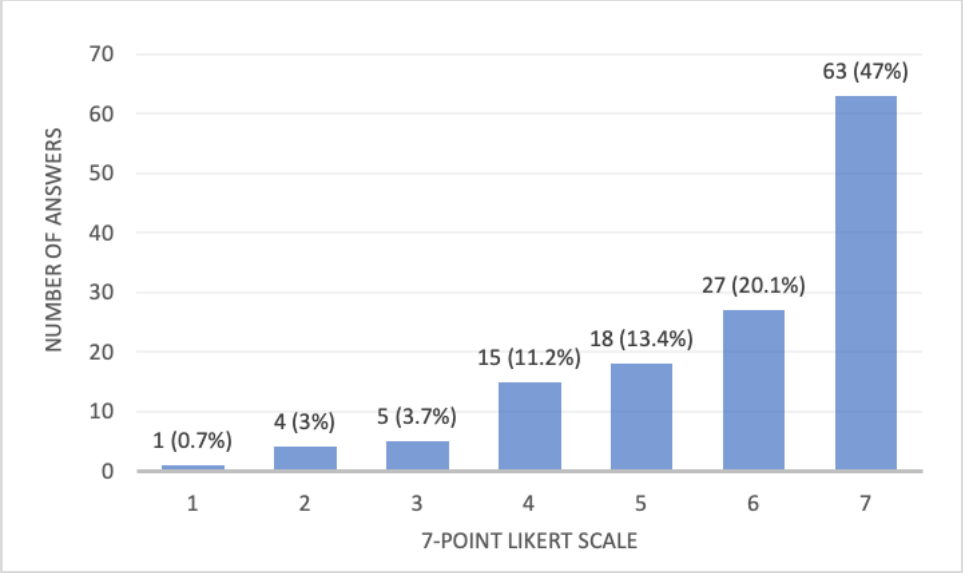

Figure 5.39 I prefer order and stability (PO5)

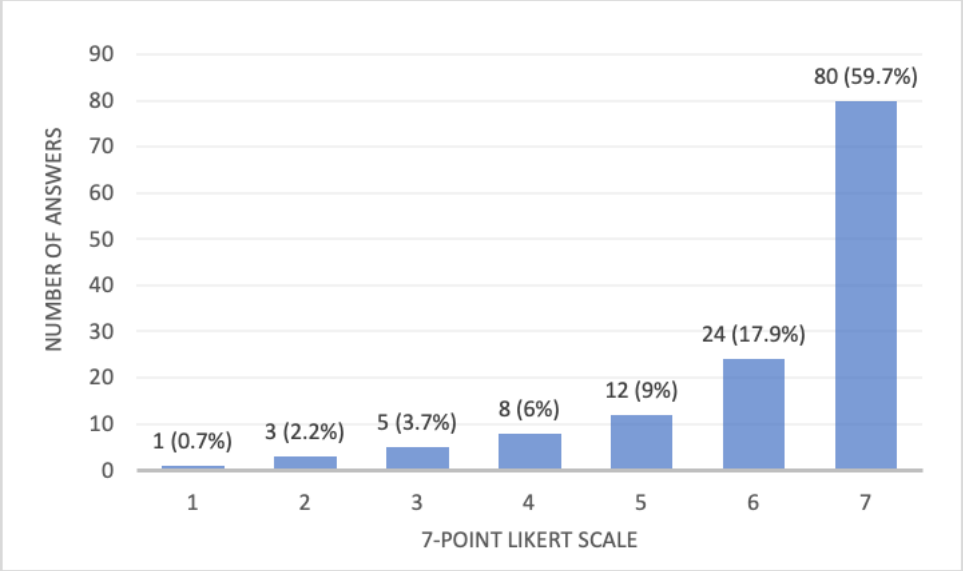

Figure 5.40 Maintaining moral order is very important (PO6)

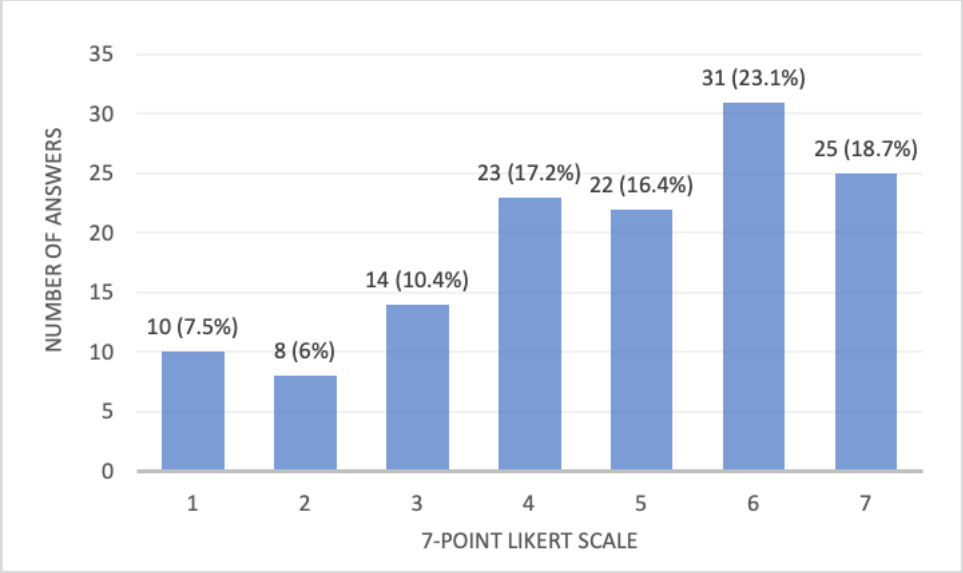

Figure 5.41 I strongly believe in a free market economy (PO7)

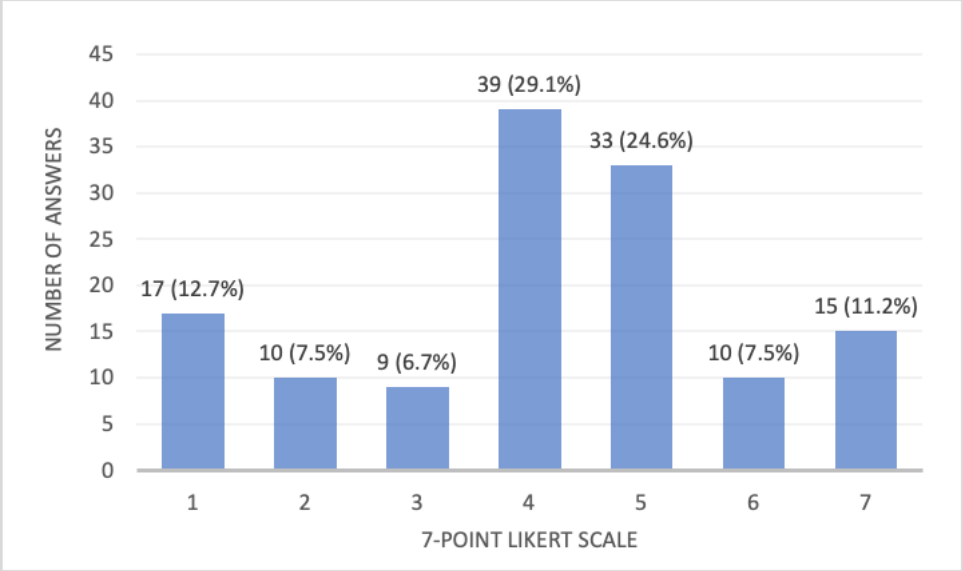

Figure 5.42 Government regulation usually does more harm than good (PO8)

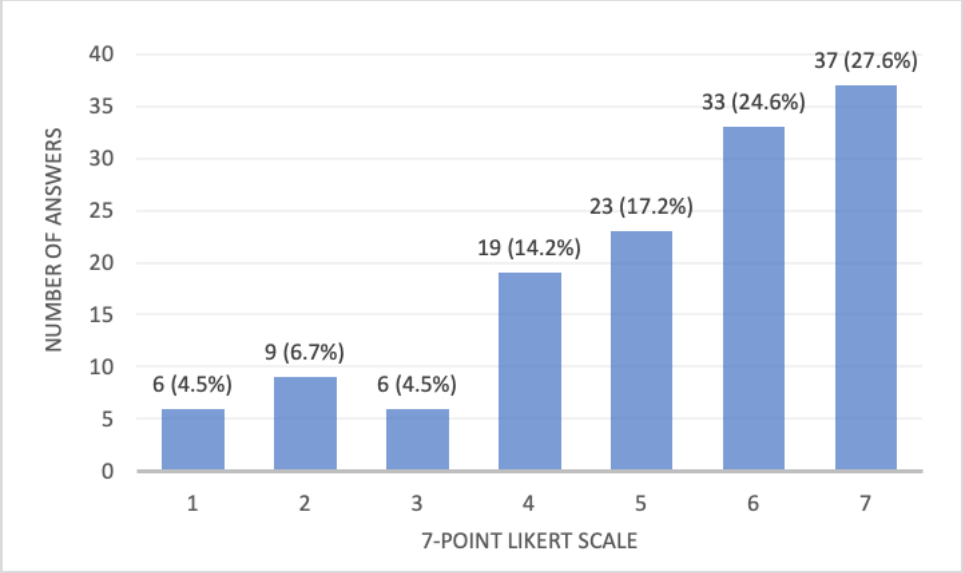

Figure 5.43 Governments should have less influence over our lives (PO9)

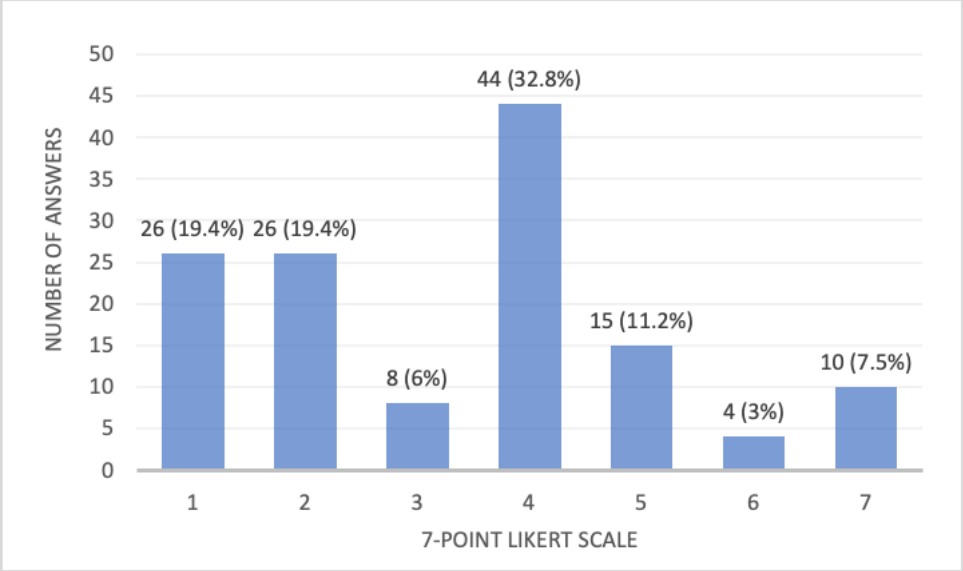

Figure 5.44 Small government is good (PO10)

5.2.5 Political ideology (PI)

When Figure 5.45 and Figure 5.46 are observed, it can be said that majority of participants have a moderate ideology. On the other hand, conservative participants involve a small portion of the pie for both the social and economic policies. However, the ratio of conservatives regarding economic policies is lower than the ratio of conservatives regarding social policies. In parallel to this, the ratio of liberals regarding social policies in lower than the ratio of liberals regarding economic policies.

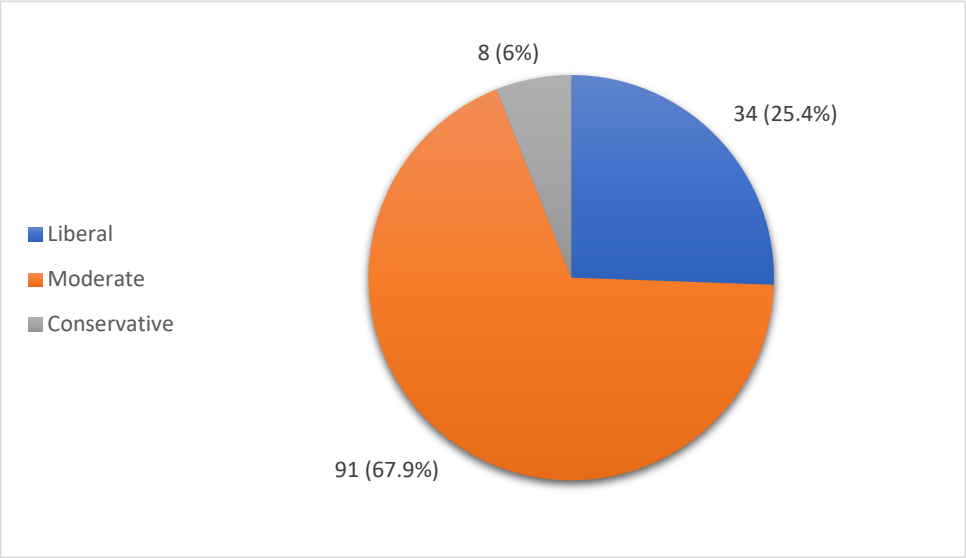

Figure 5.45 Distribution of participants' political ideology regarding economic policies

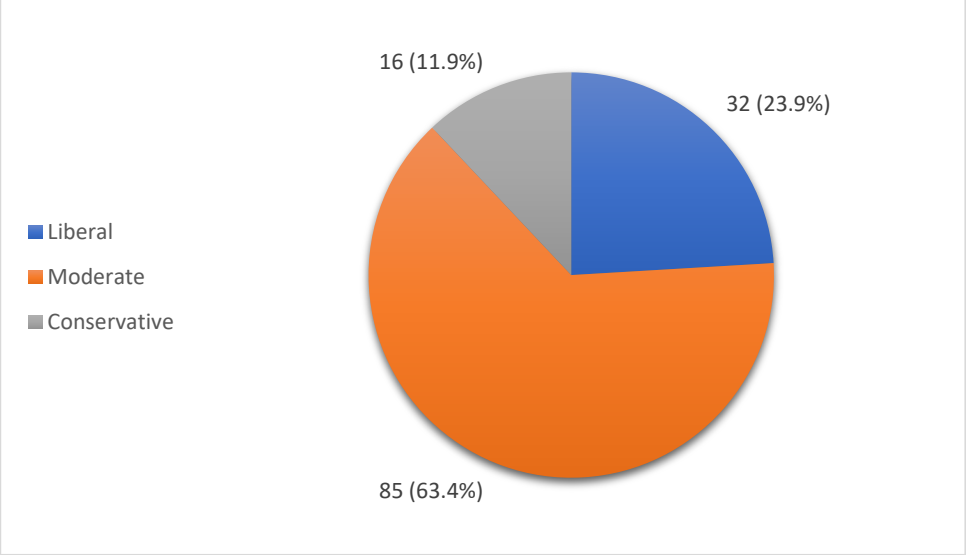

Figure 5.46 The distribution of participants political ideology regarding social policies

5.3 Statistical Findings

5.3.1 SMI versus gender

Based on Kolmogorov-Smirnov (KS) test, normality assumption is rejected for both Female and Male groups ($p<0.01$ for both groups). As seen in Table 5.5, when the variances of Female and Male groups are compared using Levene test, a significant

difference is also detected (p=0.007). Thus, Mann-Whitney test, which is a nonparametric alternative of independent T-test, is used to compare the means of samples. As presented in Table 5.6, Mann-Whitney test indicates that there is no significant difference between the medians of Female and Male groups in terms of SMI (p=0.615).

Table 5.5 Comparison of variances for Female and Male groups in terms of SMI

Method

σ_1: standard deviation of Female
σ_2: standard deviation of Male
Ratio: σ_1/σ_2
The Bonett and Levene's methods are valid for any continuous distribution.

Descriptive Statistics

Variable	N	StDev	Variance	95% CI for σ
Female	81	0.667	0.444	(0.578, 0.787)
Male	47	1.191	1.418	(0.929, 1.593)

Ratio of Standard Deviations

Estimated Ratio	95% CI for Ratio using Bonett	95% CI for Ratio using Levene
0.559702	(0.421, 0.764)	(0.425, 0.866)

Test

Null hypothesis	$H_0: \sigma_1 / \sigma_2 = 1$
Alternative hypothesis	$H_1: \sigma_1 / \sigma_2 \neq 1$
Significance level	$\alpha = 0.05$

Method	Test Statistic	DF1	DF2	P-Value
Bonett	*			0.002
Levene	7.42	1	126	0.007

Table 5.6 Comparison of medians for Female and Male groups in terms of SMI

Method

η_1: median of Female
η_2: median of Male
Difference: $\eta_1 - \eta_2$

Descriptive Statistics

Sample	N	Median
Female	81	6.21429
Male	47	6.21429

Estimation for Difference

Difference	CI for Difference	Achieved Confidence
0.0714286	(-0.214286, 0.357143)	95.03%

Test

Null hypothesis	$H_0: \eta_1 - \eta_2 = 0$
Alternative hypothesis	$H_1: \eta_1 - \eta_2 \neq 0$

Method	W-Value	P-Value
Not adjusted for ties	5326.50	0.616
Adjusted for ties	5326.50	0.615

5.3.1.1 SMI-ENVIRONMENT versus gender

An independent sample unpooled T-test is conducted to check whether there is any difference among the means of gender groups in terms of SMI-ENVIRONMENT. Table 5.7 indicates that there is no significant difference among the means of gender groups with p=0.150.

Table 5.7 Comparison of means for Female and Male groups in terms of SMI-ENVIRONMENT

Method

μ_1: population mean of SMI-ENVIRONMENT when Gender = Female
μ_2: population mean of SMI-ENVIRONMENT when Gender = Male
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: SMI-ENVIRONMENT

Gender	N	Mean	StDev	SE Mean
Female	81	5.959	0.851	0.095
Male	47	5.62	1.47	0.22

Estimation for Difference

Difference	95% CI for Difference
0.342	(-0.127, 0.811)

Test

Null hypothesis	$H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis	$H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
1.46	64	0.150

5.3.1.2 SMI-COMMUNITY versus gender

An independent sample unpooled T-test is conducted to check whether there is any difference among the means of gender groups in terms of SMI-COMMUNITY. Table 5.8 indicates that there is no significant difference among the means of gender groups with p=0.234.

Table 5.8 Comparison of means for Female and Male groups in terms of SMI-COMMUNITY

Method

μ_1: population mean of SMI-COMMUNITY when Gender = Female
μ_2: population mean of SMI-COMMUNITY when Gender = Male
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: SMI-COMMUNITY

Gender	N	Mean	StDev	SE Mean
Female	81	6.179	0.747	0.083
Male	47	5.90	1.46	0.21

Estimation for Difference

Difference	95% CI for Difference
0.275	(-0.182, 0.731)

Test

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
1.20	60	0.234

5.3.1.3 SMI-GOVERNANCE versus gender

An independent sample unpooled T-test is conducted to check whether there is any difference among the means of gender groups in terms of SMI-GOVERNANCE. Table 5.9 indicates that there is no significant difference among the means of gender groups with p=0.154.

Table 5.9 Comparison of means for Female and Male groups in terms of SMI-GOVERNANCE

Method

μ_1: population mean of SMI-GOVERNANCE when Gender = Female
μ_2: population mean of SMI-GOVERNANCE when Gender = Male
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: SMI-GOVERNANCE

Gender	N	Mean	StDev	SE Mean
Female	81	6.086	0.678	0.075
Male	47	5.84	1.04	0.15

Estimation for Difference

Difference	95% CI for Difference
0.244	(-0.094, 0.581)

Test	
Null hypothesis	$H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis	$H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
1.44	69	0.154

5.3.2 SMI versus income

Since the sample sizes for Low and High income groups are relatively small to conduct a statistical test, only three groups are created under the names of Low and Low-Middle, Middle, and Middle-High and High income groups. Based on Kolmogorov-Smirnov (KS) test, while normality assumption is satisfied for Low and Low-Middle, and Middle-High and High income groups ($p>0.150$ and $p=0.116$, respectively), it is rejected for Middle income group with $p<0.01$. As seen in Table 5.10, when the variances of Low and Low-Middle, Middle, and Middle-High and High income groups are compared, no significant difference is detected based on Levene test ($p=0.404$). Since the normality assumption is not satisfied, Kruskal Wallis test, which is a nonparametric alternative of Anova, is preferred to compare the medians of samples. As presented in Table 5.11, Kruskal Wallis test indicates that there is no significant difference among the medians of income groups in terms of SMI ($p=0.148$).

Table 5.10 Comparison of variances for Low and Low-Middle, Middle, and Middle High and High income groups in terms of SMI

Method	
Null hypothesis	All variances are equal
Alternative hypothesis	At least one variance is different
Significance level	$\alpha = 0.05$

95% Bonferroni Confidence Intervals for Standard Deviations

Sample	N	StDev	CI
Low and Low-Middle	32	0.70053	(0.505092, 1.05014)
Middle	79	0.88271	(0.669208, 1.20072)
Middle-High and High	22	1.11486	(0.634778, 2.19713)

Individual confidence level = 98.3333%

Tests

Method	Test Statistic	P-Value
Multiple comparisons	—	0.298
Levene	0.91	0.404

Table 5.11 Comparison of medians for Low and Low-Middle, Middle, and Middle-High and High income groups in terms of SMI.

Descriptive Statistics

Income Level	N	Median	Mean Rank	Z-Value
Low and Low-Middle	32	6.28571	77.3	1.74
Middle	79	6.21429	65.5	-0.54
Middle-High and High	22	6.03571	57.3	-1.29
Overall	133		67.0	

Test

Null hypothesis	H_0: All medians are equal
Alternative hypothesis	H_1: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	2	3.81	0.149
Adjusted for ties	2	3.82	0.148

5.3.2.1 SMI-ENVIRONMENT versus income

A one-way Anova is conducted to check whether there is any difference among the means of income groups in terms of SMI-ENVIRONMENT. Table 5.12 indicates that there is no significant difference among the means of income groups with p=0.135.

Table 5.12 Comparison of means for High, Middle-High, Middle, Low-Middle and Low income groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Income	5	High income, Low income, Low-Middle income, Middle income, Middle-High income

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Income	4	8.719	2.180	1.79	0.135
Error	128	155.835	1.217		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.10338	5.30%	2.34%	*

Means

Income	N	Mean	StDev	95% CI
High income	1	6.430	*	(4.247, 8.613)

Low income	9	5.824	1.265	(5.097, 6.552)
Low-Middle income	23	6.310	0.580	(5.855, 6.765)
Middle income	79	5.792	1.125	(5.546, 6.038)
Middle-High income	21	5.455	1.358	(4.979, 5.932)

Pooled StDev = 1.10338

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Income	N	Mean	Grouping
High income	1	6.430	A
Low-Middle income	23	6.310	A
Low income	9	5.824	A
Middle income	79	5.792	A
Middle-High income	21	5.455	A

Means that do not share a letter are significantly different.

5.3.2.2 SMI-COMMUNITY versus income

A one-way Anova is conducted to check whether there is any difference among the means of income groups in terms of SMI-COMMUNITY. Table 5.13 indicates that there is no significant difference among the means of income groups with p=0.308.

Table 5.13 Comparison of means for High, Middle-High, Middle, Low-Middle and Low income groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Income	5	High income, Low income, Low-Middle income, Middle income, Middle-High income

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Income	4	5.408	1.352	1.21	0.308
Error	128	142.513	1.113		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.05517	3.66%	0.65%	*

Means

Income	N	Mean	StDev	95% CI
High income	1	7.000	*	(4.912, 9.088)
Low income	9	6.278	0.667	(5.582, 6.974)
Low-Middle income	23	6.326	0.668	(5.891, 6.761)

Middle income	79	6.070	1.120	(5.835, 6.305)
Middle-High income	21	5.714	1.251	(5.259, 6.170)

Pooled StDev = 1.05517

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Income	N	Mean	Grouping
High income	1	7.000	A
Low-Middle income	23	6.326	A
Low income	9	6.278	A
Middle income	79	6.070	A
Middle-High income	21	5.714	A

Means that do not share a letter are significantly different.

5.3.2.3 SMI-GOVERNANCE versus income

A one-way Anova is conducted to check whether there is any difference among the means of income groups in terms of SMI-GOVERNANCE. Table 5.14 indicates that there is no significant difference among the means of income groups with p=0.283.

Table 5.14 Comparison of means for High, Middle-High, Middle, Low-Middle and Low income groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Income	5	High income, Low income, Low-Middle income, Middle income, Middle-High income

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Income	4	3.444	0.8610	1.28	0.283
Error	128	86.433	0.6753		
Total	132	89.877			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.821742	3.83%	0.83%	*

Means

Income	N	Mean	StDev	95% CI
High income	1	7.000	*	(5.374, 8.626)
Low income	9	5.911	0.807	(5.369, 6.453)
Low-Middle income	23	6.243	0.612	(5.904, 6.583)
Middle income	79	5.9924	0.8268	(5.8095, 6.1753)
Middle-High income	21	5.781	0.992	(5.426, 6.136)

Pooled StDev = 0.821742

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Income	N	Mean	Grouping
High income	1	7.000	A
Low-Middle income	23	6.243	A
Middle income	79	5.9924	A
Low income	9	5.911	A
Middle-High income	21	5.781	A

Means that do not share a letter are significantly different.

5.3.3 SMI versus education

Based on Kolmogorov-Smirnov (KS) test, normality assumption is satisfied for all education groups, except for Bachelor group with $p<0.01$. As seen in Table 5.15, when the variances of Ph.D., Master, Bachelor, Vocational school, and High school groups are compared, no significant difference is detected based on Levene test ($p=0.347$). Although normality assumption is not satisfied for Bachelor group, when Anova test is applied as provided in Table 5.16, a significant difference is detected among the means of groups with $p=0.022$ and Tukey post hoc test indicates that the mean of Ph.D. group is significantly lower than the means of Vocational school and High school groups. This finding is considered as reliable since Ph.D., Vocational school, and High school groups satisfy the normality assumption. Further, in Table 5.17, such a significant finding is also supported with Kruskal Wallis test as the nonparametric option of Anova with $p=0.026$.

Table 5.15 Comparison of variances for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of SMI

Method

Null hypothesis	All variances are equal
Alternative hypothesis	At least one variance is different
Significance level	$\alpha = 0.05$

95% Bonferroni Confidence Intervals for Standard Deviations

Sample	N	StDev	CI
Ph.D.	9	0.954610	(0.602111, 2.12032)
Master	20	0.953004	(0.595115, 1.75173)
Bachelor	78	0.925207	(0.650178, 1.36154)
Vocational school	14	0.478894	(0.301299, 0.93279)
High school	12	0.558671	(0.265183, 1.49866)

Individual confidence level = 99%

Tests

Method	Test Statistic	P-Value
Multiple comparisons	—	0.147
Levene	1.13	0.347

Table 5.16 Comparison of means for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of SMI using Anova

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Factor	5	Ph.D., Master, Bachelor, Vocational school, High school

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Factor	4	8.973	2.2432	2.96	0.022
Error	128	96.874	0.7568		
Total	132	105.846			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.869957	8.48%	5.62%	2.19%

Means

Factor	N	Mean	StDev	95% CI
Ph.D.	9	5.206	0.955	(4.633, 5.780)
Master	20	5.764	0.953	(5.379, 6.149)
Bachelor	78	5.931	0.925	(5.736, 6.126)
Vocational school	14	6.301	0.479	(5.841, 6.761)
High school	12	6.315	0.559	(5.819, 6.812)

Pooled StDev = 0.869957

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Factor	N	Mean	Grouping	
High school	12	6.315	A	
Vocational school	14	6.301	A	
Bachelor	78	5.931	A	B
Master	20	5.764	A	B
Ph.D.	9	5.206		B

Means that do not share a letter are significantly different.

Table 5.17 Comparison of medians for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of SMI using Kruskal Wallis test

Descriptive Statistics

Education	N	Median	Mean Rank	Z-Value
2-year vocational school degree	14	6.32143	81.0	1.43
Bachelor's degree	78	6.21429	67.6	0.20
High school degree	12	6.50000	83.9	1.59
Master's degree	20	5.78571	59.1	-0.99
Ph.D. degree	9	4.85714	35.4	-2.55
Overall	133		67.0	

Test

Null hypothesis	H_0: All medians are equal
Alternative hypothesis	H_1: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	4	11.05	0.026
Adjusted for ties	4	11.07	0.026

5.3.3.1 SMI-ENVIRONMENT versus education

A one-way Anova is conducted to check whether there is any difference among the means of education groups in terms of SMI-ENVIRONMENT. Table 5.18 indicates that there is no significant difference among the means of education groups with p=0.138.

Table 5.18 Comparison of means for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Education	5	2-year vocational school degree, Bachelor's degree, High school degree, Master's degree, Ph.D. degree

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Education	4	8.642	2.160	1.77	0.138
Error	128	155.912	1.218		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.10366	5.25%	2.29%	0.00%

Means

Education	N	Mean	StDev	95% CI
2-year vocational school degree	14	6.388	0.495	(5.804, 6.971)
Bachelor's degree	78	5.800	1.229	(5.553, 6.048)
High school degree	12	6.118	0.831	(5.488, 6.749)
Master's degree	20	5.664	0.994	(5.175, 6.152)
Ph.D. degree	9	5.286	1.121	(4.558, 6.013)

Pooled StDev = 1.10366

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Education	N	Mean	Grouping
2-year vocational school degree	14	6.388	A
High school degree	12	6.118	A
Bachelor's degree	78	5.800	A
Master's degree	20	5.664	A
Ph.D. degree	9	5.286	A

Means that do not share a letter are significantly different.

5.3.3.2 SMI-COMMUNITY versus education

A one-way Anova is conducted to check whether there is any difference among the means of education groups in terms of SMI-COMMUNITY. Table 5.19 indicates that there is a significant difference among the means of groups with p=0.001 such that the mean of Ph.D. group is significantly higher than the means of Bachelor, Vocational school, and High school groups in terms of SMI-COMMUNITY.

Table 5.19 Comparison of means for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Education	5	2-year vocational school degree, Bachelor's degree, High school degree, Master's degree, Ph.D. degree

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Education	4	21.19	5.2985	5.35	0.001
Error	128	126.73	0.9901		
Total	132	147.92			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.995014	14.33%	11.65%	7.74%

Means

Education	N	Mean	StDev	95% CI
2-year vocational school degree	14	6.393	0.594	(5.867, 6.919)
Bachelor's degree	78	6.192	0.971	(5.969, 6.415)
High school degree	12	6.458	0.450	(5.890, 7.027)
Master's degree	20	5.775	1.400	(5.335, 6.215)
Ph.D. degree	9	4.778	1.121	(4.122, 5.434)

Pooled StDev = 0.995014

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Education	N	Mean	Grouping	
High school degree	12	6.458	A	
2-year vocational school degree	14	6.393	A	
Bachelor's degree	78	6.192	A	
Master's degree	20	5.775	A	B
Ph.D. degree	9	4.778		B

Means that do not share a letter are significantly different.

5.3.3.3 SMI-GOVERNANCE versus education

A one-way Anova is conducted to check whether there is any difference among the means of education groups in terms of SMI-GOVERNANCE. Table 5.20 indicates that there is a significant difference among the means of groups with p=0.010 such that the mean of Ph.D. group is significantly higher than the mean of High school group in terms of SMI-GOVERNANCE.

Table 5.20 Comparison of means for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Education	5	2-year vocational school degree, Bachelor's degree, High school degree, Master's degree, Ph.D. degree

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Education	4	8.745	2.1861	3.45	0.010

Error	128	81.133	0.6338
Total	132	89.877	

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.796147	9.73%	6.91%	2.84%

Means

Education	N	Mean	StDev	95% CI
2-year vocational school degree	14	6.143	0.677	(5.722, 6.564)
Bachelor's degree	78	6.0103	0.7967	(5.8319, 6.1886)
High school degree	12	6.533	0.485	(6.079, 6.988)
Master's degree	20	5.900	0.972	(5.548, 6.252)
Ph.D. degree	9	5.267	0.849	(4.742, 5.792)

Pooled StDev = 0.796147

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Education	N	Mean	Grouping	
High school degree	12	6.533	A	
2-year vocational school degree	14	6.143	A	B
Bachelor's degree	78	6.0103	A	B
Master's degree	20	5.900	A	B
Ph.D. degree	9	5.267		B

Means that do not share a letter are significantly different.

5.3.4 SMI versus marital status

A one-way Anova is conducted to check whether there is any difference among the means of marital status groups in terms of SMI. Table 5.21 indicates that there is a significant difference among the means groups with p=0.047 such that the mean of Married group is significantly higher than the mean of Single group in terms of SMI.

Table 5.21 Comparison of means for Married, Single, Divorced/Widowed and I don't want to answer groups in terms of SMI

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Marital status	4	Divorced/Widow, I don't want to answer., Married, Single

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value

Marital status	3	6.291	2.0971	2.72	0.047
Error	129	99.470	0.7711		
Total	132	105.762			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.878116	5.95%	3.76%	1.28%

Means

Marital status	N	Mean	StDev	95% CI
Divorced/Widow	5	5.970	0.331	(5.193, 6.747)
I don't want to answer.	4	5.662	0.812	(4.794, 6.531)
Married	92	6.0673	0.9016	(5.8861, 6.2484)
Single	32	5.565	0.863	(5.258, 5.872)

Pooled StDev = 0.878116

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Marital status	N	Mean	Grouping	
Married	92	6.0673	A	
Divorced/Widow	5	5.970	A	B
I don't want to answer.	4	5.662	A	B
Single	32	5.565		B

Means that do not share a letter are significantly different.

5.3.4.1 SMI-ENVIRONMENT versus marital status

A one-way Anova is conducted to check whether there is any difference among the means of marital status groups in terms of SMI-ENVIRONMENT. Table 5.22 indicates that there is a significant difference among the means of groups with p=0.035 such that the mean of Married group is significantly higher than the mean of Single group in terms of SMI-ENVIRONMENT.

Table 5.22 Comparison of means for Married, Single, Divorced/Widowed and I don't want to answer groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Marital status	4	Divorced/Widow, I don't want to answer., Married, Single

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Marital status	3	10.55	3.518	2.95	0.035
Error	129	154.00	1.194		
Total	132	164.55			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.09261	6.41%	4.24%	0.67%

Means

Marital status	N	Mean	StDev	95% CI
Divorced/Widow	5	5.856	0.777	(4.889, 6.823)
I don't want to answer.	4	5.465	1.090	(4.384, 6.546)
Married	92	6.014	1.053	(5.789, 6.239)
Single	32	5.365	1.234	(4.983, 5.747)

Pooled StDev = 1.09261

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Marital status	N	Mean	Grouping	
Married	92	6.014	A	
Divorced/Widow	5	5.856	A	B
I don't want to answer.	4	5.465	A	B
Single	32	5.365		B

Means that do not share a letter are significantly different.

Even if there is a significant finding, it is surprising that this finding has not been analyzed in the literature before. There is no relationship between marital status and sustainability in the literature.

5.3.4.2 SMI-COMMUNITY versus marital status

A one-way Anova is conducted to check whether there is any difference among the means of marital status groups in terms of SMI-COMMUNITY. Table 5.23 indicates that there is no significant difference among the means of groups with p=0.305.

Table 5.23 Comparison of means for Married, Single, Divorced/Widowed and I don't want to answer groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Marital status	4	Divorced/Widow, I don't want to answer., Married, Single

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Marital status	3	4.080	1.360	1.22	0.305
Error	129	143.841	1.115		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.05596	2.76%	0.50%	0.00%

Means

Marital status	N	Mean	StDev	95% CI
Divorced/Widow	5	5.800	0.758	(4.866, 6.734)
I don't want to answer.	4	5.875	0.854	(4.830, 6.920)
Married	92	6.196	1.043	(5.978, 6.413)
Single	32	5.813	1.141	(5.443, 6.182)

Pooled StDev = 1.05596

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Marital status	N	Mean	Grouping
Married	92	6.196	A
I don't want to answer.	4	5.875	A
Single	32	5.813	A
Divorced/Widow	5	5.800	A

Means that do not share a letter are significantly different.

5.3.4.3 SMI-GOVERNANCE versus marital status

A one-way Anova is conducted to check whether there is any difference among the means of marital status groups in terms of SMI-GOVERNANCE. Table 5.24 indicates that there is no significant difference among the means of groups with p=0.201.

Table 5.24 Comparison of means for Married, Single, Divorced/Widowed and I don't want to answer groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Marital status	4	Divorced/Widow, I don't want to answer., Married, Single

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Marital status	3	3.155	1.0518	1.56	0.201
Error	129	86.722	0.6723		
Total	132	89.877			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.819916	3.51%	1.27%	0.00%

Means

Marital status	N	Mean	StDev	95% CI
Divorced/Widow	5	6.200	0.316	(5.475, 6.925)
I don't want to answer.	4	5.850	0.500	(5.039, 6.661)
Married	92	6.0913	0.8833	(5.9222, 6.2604)
Single	32	5.744	0.686	(5.457, 6.031)

Pooled StDev = 0.819916

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Marital status	N	Mean	Grouping
Divorced/Widow	5	6.200	A
Married	92	6.0913	A
I don't want to answer.	4	5.850	A
Single	32	5.744	A

Means that do not share a letter are significantly different.

5.3.5 SMI versus PI-ECONOMIC

Based on Kolmogorov-Smirnov (KS) test, while normality assumption is satisfied for Liberal group (p=0.08), it is not satisfied for Conservative and Moderate groups with p=0.04 and p<0.01, respectively. As seen in Table 5.25, when the variances of Conservative, Liberal and Moderate groups are compared, no significant difference is detected based on Levene test (p=0.807). As the normality assumption is not satisfied for Conservative and Moderate groups, Kruskal Wallis test, which is a nonparametric alternative of Anova, is preferred to compare the medians of samples. As presented in Table 5.26, Kruskal Wallis test indicates that there is no significant difference between the medians of PI-ECONOMIC groups in terms of SMI (p=0.558).

Table 5.25 Comparison of variances for Conservative, Liberal and Moderate groups in terms of SMI

Method

Null hypothesis	All variances are equal

Alternative hypothesis	At least one variance is different
Significance level	α = 0.05

95% Bonferroni Confidence Intervals for Standard Deviations

Sample	N	StDev	CI
Conservative	8	1.13582	(0.279984, 6.57539)
Liberal	34	0.76069	(0.524105, 1.18771)
Moderate	91	0.92363	(0.703255, 1.24585)

Individual confidence level = 98.3333%

Tests

Method	Test Statistic	P-Value
Multiple comparisons	—	0.617
Levene	0.21	0.807

Table 5.26 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI

Descriptive Statistics

C2	N	Median	Mean Rank	Z-Value
Conservative	8	6.17857	74.5	0.57
Liberal	34	6.17857	71.7	0.82
Moderate	91	6.21429	64.6	-1.06
Overall	133		67.0	

Test

Null hypothesis	H_0: All medians are equal
Alternative hypothesis	H_1: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	2	1.16	0.559
Adjusted for ties	2	1.17	0.558

5.3.5.1 SMI-ENVIRONMENT versus PI-ECONOMIC

A one-way Anova is conducted to check whether there is any difference among the means of PI-ECONOMIC groups in terms of SMI-ENVIRONMENT. Table 5.27 indicates that there is no significant difference among the means of PI-ECONOMIC groups with p=0.352.

Table 5.27 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Economic	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Economic	2	2.621	1.311	1.05	0.352
Error	130	161.932	1.246		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.11608	1.59%	0.08%	0.00%

Means

PI-Economic	N	Mean	StDev	95% CI
Conservative	8	6.144	0.824	(5.363, 6.924)
Liberal	34	6.013	0.795	(5.634, 6.391)
Moderate	91	5.742	1.231	(5.511, 5.974)

Pooled StDev = 1.11608

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Economic	N	Mean	Grouping
Conservative	8	6.144	A
Liberal	34	6.013	A
Moderate	91	5.742	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	-0.131	0.439	(-1.170, 0.908)	-0.30	0.952
Moderate - Conservative	-0.402	0.412	(-1.377, 0.573)	-0.98	0.593
Moderate - Liberal	-0.271	0.224	(-0.802, 0.261)	-1.21	0.452

Individual confidence level = 98.07%

5.3.5.2 SMI-COMMUNITY versus PI-ECONOMIC

A one-way Anova is conducted to check whether there is any difference among the means of PI-ECONOMIC groups in terms of SMI-COMMUNITY. Table 5.28 indicates that there is no significant difference among the means of PI-ECONOMIC groups with p=0.106.

Table 5.28 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Economic	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Economic	2	5.030	2.515	2.29	0.106
Error	130	142.891	1.099		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.04841	3.40%	1.91%	0.00%

Means

PI-Economic	N	Mean	StDev	95% CI
Conservative	8	5.313	2.137	(4.579, 6.046)
Liberal	34	6.103	0.944	(5.747, 6.459)
Moderate	91	6.1374	0.9518	(5.9199, 6.3548)

Pooled StDev = 1.04841

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Economic	N	Mean	Grouping
Moderate	91	6.1374	A
Liberal	34	6.103	A
Conservative	8	5.313	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	0.790	0.412	(-0.185, 1.766)	1.92	0.138
Moderate - Conservative	0.825	0.387	(-0.091, 1.741)	2.13	0.087
Moderate - Liberal	0.034	0.211	(-0.465, 0.534)	0.16	0.985

Individual confidence level = 98.07%

5.3.5.3 SMI-GOVERNANCE versus PI-ECONOMIC

A one-way Anova is conducted to check whether there is any difference among the means of PI-ECONOMIC groups in terms of SMI-GOVERNANCE. Table 5.29 indicates that

there is no significant difference among the means of PI-ECONOMIC groups with p=0.578.

Table 5.29 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Economic	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Economic	2	0.7550	0.3775	0.55	0.578
Error	130	89.1223	0.6856		
Total	132	89.8773			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.827983	0.84%	0.00%	0.00%

Means

PI-Economic	N	Mean	StDev	95% CI
Conservative	8	6.075	1.228	(5.496, 6.654)
Liberal	34	6.124	0.896	(5.843, 6.404)
Moderate	91	5.9538	0.7607	(5.7821, 6.1256)

Pooled StDev = 0.827983

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Economic	N	Mean	Grouping
Liberal	34	6.124	A
Conservative	8	6.075	A
Moderate	91	5.9538	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	0.049	0.325	(-0.722, 0.819)	0.15	0.988
Moderate - Conservative	-0.121	0.305	(-0.844, 0.602)	-0.40	0.917
Moderate - Liberal	-0.170	0.166	(-0.564, 0.225)	-1.02	0.566

Individual confidence level = 98.07%

5.3.6 SMI versus PI-SOCIAL

Based on Kolmogorov-Smirnov (KS) test, while normality assumption is satisfied for Conservative and Liberal groups (p=0.069 and p=0.086, respectively), it is not satisfied for Moderate group with p<0.01. As seen in Table 5.30, when the variances of Conservative, Liberal and Moderate groups are compared, no significant difference is detected based on Levene test (p=0.729). As the normality assumption is not satisfied for Moderate group, Kruskal Wallis test, which is a nonparametric alternative of Anova, is preferred to compare the medians of samples. As presented in Table 5.31, Kruskal Wallis test indicates that there is no significant difference between the medians of PI-SOCIAL groups in terms of SMI (p=0.800).

Table 5.30 Comparison of variances for Conservative, Liberal and Moderate groups in terms of SMI

Method

Null hypothesis	All variances are equal
Alternative hypothesis	At least one variance is different
Significance level	α = 0.05

95% Bonferroni Confidence Intervals for Standard Deviations

Sample	N	StDev	CI
Conservative	16	0.889422	(0.386236, 2.40853)
Liberal	32	0.991477	(0.572842, 1.85482)
Moderate	85	0.868014	(0.675325, 1.14802)

Individual confidence level = 98.3333%

Tests

Method	Test Statistic	P-Value
Multiple comparisons	—	0.823
Levene	0.32	0.729

Table 5.31 Comparison of medians for Conservative, Liberal and Moderate groups in terms of SMI

Descriptive Statistics

Social PI	N	Median	Mean Rank	Z-Value
Conservative	16	6.14286	70.7	0.40
Liberal	32	6.17857	69.6	0.43
Moderate	85	6.21429	65.3	-0.66
Overall	133		67.0	

Test

Null hypothesis	H_0: All medians are equal

Alternative hypothesis	H_1: At least one median is different		
Method	DF	H-Value	P-Value
Not adjusted for ties	2	0.44	0.801
Adjusted for ties	2	0.45	0.800

5.3.6.1 SMI-ENVIRONMENT versus PI-SOCIAL

A one-way Anova is conducted to check whether there is any difference among the means of PI-SOCIAL groups in terms of SMI-ENVIRONMENT. Table 5.32 indicates that there is no significant difference among the means of PI-SOCIAL groups with p=0.895.

Table 5.32 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05
Rows unused	1

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Social	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Social	2	0.280	0.1400	0.11	0.895
Error	130	164.273	1.2636		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.12412	0.17%	0.00%	0.00%

Means

PI-Social	N	Mean	StDev	95% CI
Conservative	16	5.956	0.903	(5.400, 6.512)
Liberal	32	5.839	1.193	(5.446, 6.232)
Moderate	85	5.812	1.134	(5.570, 6.053)

Pooled StDev = 1.12412

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Social	N	Mean	Grouping
Conservative	16	5.956	A
Liberal	32	5.839	A
Moderate	85	5.812	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	-0.117	0.344	(-0.932, 0.698)	-0.34	0.938
Moderate - Conservative	-0.144	0.306	(-0.870, 0.582)	-0.47	0.885
Moderate - Liberal	-0.027	0.233	(-0.579, 0.525)	-0.12	0.993

Individual confidence level = 98.07%

5.3.6.2 SMI-COMMUNITY versus PI-SOCIAL

A one-way Anova is conducted to check whether there is any difference among the means of PI-SOCIAL groups in terms of SMI-COMMUNITY. Table 5.33 indicates that there is no significant difference among the means of PI-SOCIAL groups with p=0.890.

Table 5.33 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05
Rows unused	1

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Social	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Social	2	0.264	0.1320	0.12	0.890
Error	130	147.657	1.1358		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.06575	0.18%	0.00%	0.00%

Means

PI-Social	N	Mean	StDev	95% CI
Conservative	16	6.000	1.602	(5.473, 6.527)
Liberal	32	6.031	1.121	(5.659, 6.404)
Moderate	85	6.1118	0.9141	(5.8831, 6.3405)

Pooled StDev = 1.06575

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Social	N	Mean	Grouping
Moderate	85	6.1118	A

Liberal	32	6.031	A
Conservative	16	6.000	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	0.031	0.326	(-0.742, 0.804)	0.10	0.995
Moderate - Conservative	0.112	0.290	(-0.576, 0.800)	0.38	0.922
Moderate - Liberal	0.081	0.221	(-0.443, 0.604)	0.36	0.930

Individual confidence level = 98.07%

5.3.6.3 SMI-GOVERNANCE versus PI-SOCIAL

A one-way Anova is conducted to check whether there is any difference among the means of PI-SOCIAL groups in terms of SMI-GOVERNANCE. Table 5.34 indicates that there is no significant difference among the means of PI-SOCIAL groups with p=0.616.

Table 5.34 Comparison of means for Conservative, Liberal and Moderate groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05
Rows unused	1

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Social	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Social	2	0.6680	0.3340	0.49	0.616
Error	130	89.2093	0.6862		
Total	132	89.8773			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.828387	0.74%	0.00%	0.00%

Means

PI-Social	N	Mean	StDev	95% CI
Conservative	16	6.138	0.888	(5.728, 6.547)
Liberal	32	6.075	0.859	(5.785, 6.365)
Moderate	85	5.9529	0.8057	(5.7752, 6.1307)

Pooled StDev = 0.828387

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Social	N	Mean	Grouping
Conservative	16	6.138	A
Liberal	32	6.075	A
Moderate	85	5.9529	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	-0.063	0.254	(-0.663, 0.538)	-0.25	0.967
Moderate - Conservative	-0.185	0.226	(-0.719, 0.350)	-0.82	0.693
Moderate - Liberal	-0.122	0.172	(-0.529, 0.285)	-0.71	0.758

Individual confidence level = 98.07%

5.3.7 SMI versus PO-LIBERAL

The participants are divided into two groups as Liberal-High and Liberal-Low based on their responses to the Liberal category of Political Orientation scale. Liberal-High group represents the participants who give a rating greater than the group mean which is equal to 6.04 while Liberal-Low group represents the participants who give a rating less than this value. Similarly, this mean split method is used by Hee Kim (2014). He used this method to categorize consumers who rated less then 5.44 into low group while he put other group who gave more that 5.44 into high group (Hee Kim 2014). At the same time, Rathnayake et al. (2017) used mean-split method too. It is important to analyze ethical issues and concepts in marketing from consumers' perspectives so the groups are divided into low and high according to their ethical believes (Dilan Tharindu Rathnayake, Jayakody, and Jayawardana 2017). Similary, Andrade (2018) used mean split method too. He tries to define health consciousness by diving the groups as high and low. The group which rated less than 4.1695 is low group while the others who rated above than 4.1695 are high ones in terms of health consciousness (Andrade 2018). Duvos (2018) also used mean split method to divide respondents into groups. Respondents rated 5.2 or lower are categorized as low group while respondents who rated 5.3 and higher are categorized as high group in terms of global identity (Duvos 2018). A one-way Anova is conducted to check whether there is any difference between these two groups in terms of SMI. Table 5.35 indicates that there is a significant difference between the groups with $p<0.001$ such that the mean of Liberal-High group is significantly higher than the mean of Liberal-Low group in terms of SMI.

Table 5.35 Comparison of means for Liberal-High and Liberal-Low groups in terms of SMI

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Liberal	2	Liberal-High, Liberal-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Liberal	1	11.84	11.8355	16.51	0.000
Error	131	93.93	0.7170		
Total	132	105.76			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.846754	11.19%	10.51%	8.32%

Means

PO-Liberal	N	Mean	StDev	95% CI
Liberal-High	75	6.1929	0.6926	(5.9995, 6.3864)
Liberal-Low	58	5.591	1.012	(5.371, 5.811)

Pooled StDev = 0.846754

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Liberal	N	Mean	Grouping
Liberal-High	75	6.1929	A
Liberal-Low	58	5.591	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal-Low - Liberal-High	-0.602	0.148	(-0.894, -0.309)	-4.06	0.000

Individual confidence level = 95.00%

Wetherell, Brandt, and Reyna (2013) indicate that there are two different parts as liberals and conservatives. The liberal part is much more open to tolerance while the other parts have much more discrimination and prejudice. There is a huge difference between liberals and other parts of the society.

5.3.7.1 SMI-ENVIRONMENT versus PO-LIBERAL

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERAL groups in terms of SMI-ENVIRONMENT. Table 5.36 indicates that there is a significant difference between the groups with p=0.005 such that the mean of Liberal-High group is significantly higher than the mean of Liberal-Low group in terms of SMI-ENVIRONMENT.

Table 5.36 Comparison of means for Liberal-High and Liberal-Low groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Liberal	2	Liberal-High, Liberal-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Liberal	1	9.626	9.626	8.14	0.005
Error	131	154.927	1.183		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.08750	5.85%	5.13%	2.82%

Means

PO-Liberal	N	Mean	StDev	95% CI
Liberal-High	75	6.072	0.912	(5.824, 6.320)
Liberal-Low	58	5.529	1.280	(5.247, 5.812)

Pooled StDev = 1.08750

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Liberal	N	Mean	Grouping
Liberal-High	75	6.072	A
Liberal-Low	58	5.529	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal-Low - Liberal-High	-0.543	0.190	(-0.919, -0.166)	-2.85	0.005

Individual confidence level = 95.00%

Haas, Herberg, and Löw-Beer (2022) state that there are some political parties like democratic party, liberals and the greens giving much more importance to sustainability compared to other ones. They also mention that people perception of sustainability is about energy-policies of government and environmental issues. In other words, liberals are the ones who give much more importance to environmental issues rather than the other parts of the society.

5.3.7.2 SMI-COMMUNITY versus PO-LIBERAL

A one-way Anova is conducted to check whether there is any difference between the PO-LIBERAL groups in terms of SMI-COMMUNITY. Table 5.37 indicates that there is a significant difference between the groups with $p<0.001$ such that the mean of Liberal-High group is significantly higher than the mean of Liberal-Low group in terms of SMI-COMMUNITY.

Table 5.37 Comparison of means for Liberal-High and Liberal-Low groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Liberal	2	Liberal-High, Liberal-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Liberal	1	26.75	26.7502	28.92	0.000
Error	131	121.17	0.9250		
Total	132	147.92			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.961753	18.08%	17.46%	15.37%

Means

PO-Liberal	N	Mean	StDev	95% CI
Liberal-High	75	6.4733	0.6673	(6.2536, 6.6930)

Liberal-Low	58	5.569	1.244	(5.319, 5.819)

Pooled StDev = 0.961753

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Liberal	N	Mean	Grouping
Liberal-High	75	6.4733	A
Liberal-Low	58	5.569	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal-Low - Liberal-High	-0.904	0.168	(-1.237, -0.572)	-5.38	0.000

Individual confidence level = 95.00%

5.3.7.3 SMI-GOVERNANCE versus PO-LIBERAL

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERAL groups in terms of SMI-GOVERNANCE. Table 5.38 indicates that there is a significant difference between the groups with $p<0.001$ such that the mean of Liberal-High group is significantly higher than the mean of Liberal-Low group in terms of SMI-GOVERNANCE.

Table 5.38 Comparison of means for Liberal-High and Liberal-Low groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Liberal	2	Liberal-High, Liberal-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Liberal	1	10.42	10.4209	17.18	0.000
Error	131	79.46	0.6065		
Total	132	89.88			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.778805	11.59%	10.92%	8.75%

Means

PO-Liberal	N	Mean	StDev	95% CI
Liberal-High	75	6.2507	0.6552	(6.0728, 6.4286)
Liberal-Low	58	5.686	0.915	(5.484, 5.889)

Pooled StDev = 0.778805

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Liberal	N	Mean	Grouping
Liberal-High	75	6.2507	A
Liberal-Low	58	5.686	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal-Low - Liberal-High	-0.564	0.136	(-0.834, -0.295)	-4.14	0.000

Individual confidence level = 95.00%

5.3.8 SMI versus PO-CONSERVATIVE

The participants are divided into two groups as Conservative-High and Conservative-Low based on their responses to the Conservative category of Political Orientation scale. Conservative-High group represents the participants who give a rating greater than the group mean which is equal to 6.00 while Conservative-Low group represents the participants who give a rating less than this value. Similarly, this mean split method is used by Hee Kim (2014). He used this method to categorize consumers who rated less then 5.44 into low group while he put other group who gave more that 5.44 into high group (Hee Kim 2014). At the same time, Rathnayake et al. (2017) used mean-split method too. It is important to analyze ethical issues and concepts in marketing from consumers' perspectives so the groups are divided into low and high according to their ethical believes (Dilan Tharindu Rathnayake, Jayakody, and Jayawardana 2017). Similarly, Andrade (2018) used mean split method too. He tries to define health consciousness by diving the groups as high and low. The group which rated less than 4.1695 is low group while the others who rated above than 4.1695 are high ones in terms of health consciousness (Andrade 2018). Duvos (2018) also used mean split method to divide respondents into groups. Respondents rated 5.2 or lower are categorized as low group while respondents who rated 5.3 and higher are categorized as high group in terms of global identity (Duvos 2018). A one-way Anova is conducted to check whether there

is any difference between these two groups in terms of SMI. Table 5.39 indicates that there is a significant difference between the means of groups with p=0.000 such that the mean of Conservative-High group is significantly higher than the mean of Conservative-Low group in terms of SMI.

Table 5.39 Comparison of means for Conservative-High and Conservative-Low groups in terms of SMI

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Conservative	2	Conservative-High, Conservative-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Conservative	1	11.09	11.0899	15.35	0.000
Error	131	94.67	0.7227		
Total	132	105.76			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.850109	10.49%	9.80%	7.26%

Means

PO-Conservative	N	Mean	StDev	95% CI
Conservative-High	92	6.1234	0.7288	(5.9480, 6.2987)
Conservative-Low	41	5.498	1.076	(5.235, 5.761)

Pooled StDev = 0.850109

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Conservative	N	Mean	Grouping
Conservative-High	92	6.1234	A
Conservative-Low	41	5.498	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Conservative - Conservative	-0.625	0.160	(-0.941, -0.310)	-3.92	0.000

Individual confidence level = 95.00%

At the same time, Wetherell, Brandt, and Reyna (2013) support this argument too. They indicate that there are two different parts as liberals and conservatives. The liberal part is much more open to tolerance while the conservative part involves much more discrimination and prejudice. In the literature, it is also indicated that these groups create a polarization in the society. Gries (2016) also divides the groups as economic liberals and economic conservatives. As we understand from the article, there are high polarized public opinions in Latin America. Latin America can be a good case to understand the effect of division of opinions of different groups and in one society and then it can be reached to a good conclusion to see how polarization of groups can affect the future of one county.

5.3.8.1 SMI-ENVIRONMENT versus PO-CONSERVATIVE

A one-way Anova is conducted to check whether there is any difference between the means of PO-CONSERVATIVE groups in terms of SMI-ENVIRONMENT. Table 5.40 indicates that there is a significant difference between the groups with p=0.000 such that the mean of Conservative-High group is significantly higher than the mean of Conservative-Low group in terms of SMI-ENVIRONMENT.

Table 5.40 Comparison of means for Conservative-High and Conservative-Low groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Conservative	2	Conservative-High, Conservative-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Conservative	1	16.56	16.561	14.66	0.000
Error	131	147.99	1.130		
Total	132	164.55			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.06288	10.06%	9.38%	6.61%

Means

PO-Conservative	N	Mean	StDev	95% CI
Conservative-High	92	6.0710	0.8337	(5.8518, 6.2902)
Conservative-Low	41	5.307	1.456	(4.978, 5.635)

Pooled StDev = 1.06288

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Conservative	N	Mean	Grouping
Conservative-High	92	6.0710	A
Conservative-Low	41	5.307	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Conservative - Conservative	-0.764	0.200	(-1.159, -0.369)	-3.83	0.000

Individual confidence level = 95.00%

5.3.8.2 SMI-COMMUNITY versus PO-CONSERVATIVE

A one-way Anova is conducted to check whether there is any difference between the means of PO-CONSERVATIVE groups in terms of SMI-COMMUNITY. Table 5.41 indicates that there is a significant difference between the groups with p=0.006 such that the mean of Conservative-High group is significantly higher than the mean of Conservative-Low group in terms of SMI-COMMUNITY.

Table 5.41 Comparison of means for Conservative-High and Conservative-Low groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Conservative	2	Conservative-High, Conservative-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Conservative	1	8.186	8.186	7.67	0.006
Error	131	139.735	1.067		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.03280	5.53%	4.81%	2.45%

Means

PO-Conservative	N	Mean	StDev	95% CI
Conservative-High	92	6.245	0.985	(6.032, 6.458)
Conservative-Low	41	5.707	1.135	(5.388, 6.026)

Pooled StDev = 1.03280

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Conservative	N	Mean	Grouping
Conservative-High	92	6.245	A
Conservative-Low	41	5.707	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Conservative - Conservative	-0.537	0.194	(-0.921, -0.154)	-2.77	0.006

Individual confidence level = 95.00%

5.3.8.3 SMI-GOVERNANCE versus PO-CONSERVATIVE

A one-way Anova is conducted to check whether there is any difference between the means of PO-CONSERVATIVE groups in terms of SMI-GOVERNANCE. Table 5.42 indicates that there is a significant difference between the groups with p=0.002 such that the mean of Conservative-High group is significantly higher than the mean of Conservative-Low group in terms of SMI-GOVERNANCE.

Table 5.42 Comparison of means for Conservative-High and Conservative-Low groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Conservative	2	Conservative-High, Conservative-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Conservative	1	6.130	6.1297	9.59	0.002

Error	131	83.748	0.6393
Total	132	89.877	

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.799559	6.82%	6.11%	3.82%

Means

PO-Conservative	N	Mean	StDev	95% CI
Conservative-High	92	6.1478	0.7720	(5.9829, 6.3127)
Conservative-Low	41	5.683	0.859	(5.436, 5.930)

Pooled StDev = 0.799559

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Conservative	N	Mean	Grouping
Conservative-High	92	6.1478	A
Conservative-Low	41	5.683	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Conservative - Conservative	-0.465	0.150	(-0.762, -0.168)	-3.10	0.002

Individual confidence level = 95.00%

5.3.9 SMI versus PO-LIBERTARIAN

The participants are divided into two groups as Libertarian-High and Libertarian-Low based on their responses to the Libertarian category of Political Orientation scale. Libertarian-High group represents the participants who give a rating higher than the group mean which is equal to 4.36 while Libertarian-Low group represents the participants who give a rating less than this value. Similarly, this mean split method is used by Hee Kim (2014). He used this method to categorize consumers who rated less then 5.44 into low group while he put other group who gave more thatn5.44 into high group (Hee Kim 2014). At the same time, Rathnayake et al. (2017) used mean-split method too. It is important to analyze ethical issues and concepts in marketing from consumers' perspectives so the groups are divided into low and high according to their ethical believes (Dilan Tharindu Rathnayake, Jayakody, and Jayawardana 2017). Similarly, Andrade (2018) used mean split method too. He tries to define health consciousness by diving the groups as high and low. The group which rated less than 4.1695 is low group while the others who rated above than 4.1695 are high ones in terms of health consciousness (Andrade 2018). Duvos

(2018) also used mean split method to divide respondents into groups. Respondents rated 5.2 or lower are categorized as low group while respondents who rated 5.3 and higher are categorized as high group in terms of global identity (Duvos 2018). A one-way Anova is conducted to check whether there is any difference between these two groups in terms of SMI. Table 5.43 indicates that there is no significant difference between the means of groups with p<0.988.

Table 5.43 Comparison of means for Libertarian-High and Libertarian-Low groups in terms of SMI

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Libertarian	2	Libertarian-High, Libertarian-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Libertarian	1	0.000	0.000197	0.00	0.988
Error	131	105.761	0.807339		
Total	132	105.762			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.898520	0.00%	0.00%	0.00%

Means

PO-Libertarian	N	Mean	StDev	95% CI
Libertarian-High	65	5.932	0.844	(5.711, 6.152)
Libertarian-Low	68	5.929	0.948	(5.714, 6.145)

Pooled StDev = 0.898520

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Libertarian	N	Mean	Grouping
Libertarian-High	65	5.932	A
Libertarian-Low	68	5.929	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Libertarian- - Libertarian-	-0.002	0.156	(-0.311, 0.306)	-0.02	0.988

Individual confidence level = 95.00%

5.3.9.1 SMI-ENVIRONMENT versus PO-LIBERTARIAN

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERTARIAN groups in terms of SMI-ENVIRONMENT. Table 5.44 indicates that there is no significant difference between the means of groups with p=0.864.

Table 5.44 Comparison of means for Libertarian-High and Libertarian-Low groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Libertarian	2	Libertarian-High, Libertarian-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Libertarian	1	0.037	0.03695	0.03	0.864
Error	131	164.517	1.25585		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.12065	0.02%	0.00%	0.00%

Means

PO-Libertarian	N	Mean	StDev	95% CI
Libertarian-High	65	5.852	0.919	(5.577, 6.127)
Libertarian-Low	68	5.819	1.284	(5.550, 6.088)

Pooled StDev = 1.12065

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Libertarian	N	Mean	Grouping
Libertarian-High	65	5.852	A
Libertarian-Low	68	5.819	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Libertarian- - Libertarian-	-0.033	0.194	(-0.418, 0.351)	-0.17	0.864

Individual confidence level = 95.00%

5.3.9.2 SMI-COMMUNITY versus PO-LIBERTARIAN

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERTARIAN groups in terms of SMI-COMMUNITY. Table 5.45 indicates that there is no difference between the means of groups with p=0.699.

Table 5.45 Comparison of means for Libertarian-High and Libertarian-Low groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Libertarian	2	Libertarian-High, Libertarian-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Libertarian	1	0.169	0.1688	0.15	0.699
Error	131	147.752	1.1279		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.06202	0.11%	0.00%	0.00%

Means

PO-Libertarian	N	Mean	StDev	95% CI
Libertarian-High	65	6.115	1.128	(5.855, 6.376)
Libertarian-Low	68	6.044	0.995	(5.789, 6.299)

Pooled StDev = 1.06202

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Libertarian	N	Mean	Grouping
Libertarian-High	65	6.115	A
Libertarian-Low	68	6.044	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Libertarian- - Libertarian-	-0.071	0.184	(-0.436, 0.293)	-0.39	0.700

Individual confidence level = 95.00%

5.3.9.3 SMI-GOVERNANCE versus PO-LIBERTARIAN

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERTARIAN groups in terms of SMI-GOVERNANCE. Table 5.46 indicates that there is no significant difference between the means of groups with p=0.632.

Table 5.46 Comparison of means for Libertarian-High and Libertarian-Low groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Libertarian	2	Libertarian-High, Libertarian-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Libertarian	1	0.1582	0.1582	0.23	0.632
Error	131	89.7190	0.6849		
Total	132	89.8773			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.827574	0.18%	0.00%	0.00%

Means

PO-Libertarian	N	Mean	StDev	95% CI
Libertarian-High	65	5.969	0.913	(5.766, 6.172)
Libertarian-Low	68	6.0382	0.7365	(5.8397, 6.2368)

Pooled StDev = 0.827574

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Libertarian	N	Mean	Grouping
Libertarian-Low	68	6.0382	A
Libertarian-High	65	5.969	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Libertarian- - Libertarian-	0.069	0.144	(-0.215, 0.353)	0.48	0.632

Individual confidence level = 95.00%

5.3.10 SMI versus SNS

The participants are divided into two groups as SNS-High and SNS-Low based on their responses to SNS scale. SNS-High group represents the participants who give a rating greater than the group mean which is equal to 3.89 while SNS-Low group represents the participants who give a rating less than this value. Similarly, this mean split method is used by Hee Kim (2014). He used this method to categorize consumers who rated less then 5.44 into low group while he put other group who gave more than 5.44 into high group (Hee Kim 2014). At the same time, Rathnayake et al. (2017) used mean-split method too. It is important to analyze ethical issues and concepts in marketing from consumers' perspectives so the groups are divided into low and high according to their ethical believes (Dilan Tharindu Rathnayake, Jayakody, and Jayawardana 2017). Similarly, Andrade (2018) used mean split method too. He tries to define health consciousness by diving the groups as high and low. The group which rated less than 4.1695 is low group while the others who rated above than 4.1695 are high ones in terms of health consciousness (Andrade 2018). Duvos (2018) also used mean split method to divide respondents into groups. Respondents rated 5.2 or lower are categorized as low group while respondents who rated 5.3 and higher are categorized as high group in terms of global identity (Duvos 2018). A one-way Anova is conducted to check whether there is any difference between these two groups in terms of SMI. Table 5.47 indicates that there is no significant difference between the means of groups with p=0.101.

Table 5.47 Comparison of means for SNS-High and SNS-Low groups in terms of SMI

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
SNS	2	SNS-High, SNS-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
SNS	1	2.163	2.1634	2.74	0.101
Error	131	103.598	0.7908		
Total	132	105.762			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.889284	2.05%	1.30%	0.00%

Means

SNS	N	Mean	StDev	95% CI
SNS-High	68	6.0553	0.7186	(5.8420, 6.2686)
SNS-Low	65	5.800	1.038	(5.582, 6.018)

Pooled StDev = 0.889284

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

SNS	N	Mean	Grouping
SNS-High	68	6.0553	A
SNS-Low	65	5.800	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
SNS-Low - SNS-High	-0.255	0.154	(-0.560, 0.050)	-1.65	0.101

Individual confidence level = 95.00%

5.3.10.1 SMI-ENVIRONMENT versus SNS

A one-way Anova is conducted to check whether there is any difference between the means of SNS groups in terms of SMI-ENVIRONMENT. Table 5.48 indicates that there is no significant difference between the means of groups with p=0.175.

Table 5.48 Comparison of means for SNS-High and SNS-Low groups in terms of SMI-ENVIRONMENT

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
SNS	2	SNS-High, SNS-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
SNS	1	2.300	2.300	1.86	0.175
Error	131	162.254	1.239		
Total	132	164.554			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.11292	1.40%	0.64%	0.00%

Means

SNS	N	Mean	StDev	95% CI
SNS-High	68	5.9640	0.8045	(5.6970, 6.2310)
SNS-Low	65	5.701	1.363	(5.428, 5.974)

Pooled StDev = 1.11292

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

SNS	N	Mean	Grouping
SNS-High	68	5.9640	A
SNS-Low	65	5.701	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
SNS-Low - SNS-High	-0.263	0.193	(-0.645, 0.119)	-1.36	0.175

Individual confidence level = 95.00%

5.3.10.2 SMI-COMMUNITY versus SNS

A one-way Anova is conducted to check whether there is any difference between the means of groups in terms of SMI-COMMUNITY. Table 5.49 indicates that there is a significant difference between the groups with p=0.031 such that the mean of SNS-High group is significantly higher than the mean of SNS-Low group in terms of SMI-COMMUNITY.

Table 5.49 Comparison of means for SNS-High and SNS-Low groups in terms of SMI-COMMUNITY

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
SNS	2	SNS-High, SNS-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
SNS	1	5.189	5.189	4.76	0.031
Error	131	142.732	1.090		
Total	132	147.921			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.04382	3.51%	2.77%	0.51%

Means

SNS	N	Mean	StDev	95% CI
SNS-High	68	6.272	0.835	(6.022, 6.522)
SNS-Low	65	5.877	1.225	(5.621, 6.133)

Pooled StDev = 1.04382

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

SNS	N	Mean	Grouping
SNS-High	68	6.272	A
SNS-Low	65	5.877	B

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
SNS-Low - SNS-High	-0.395	0.181	(-0.753, -0.037)	-2.18	0.031

Individual confidence level = 95.00%

Allen and Spialek (2018) supported that WOM recommendations are important to protect the green consumption in the society. People who purchase products consistent with sustainability are more likely to provide green WOM recommendations. This sustainability, WOM and social media issues start to be significant concerns for some companies. For instance, for some food companies, people start to have a strategic business plan according to WOM recommendations and sustainability issues.

At the same time, (Choi et al. 2019) indicate that there is positive relationship of using social media in some platforms and corporate sustainability. In other words, people using social media support the sustainability practices by increasing positive E-WOM on some platforms.

5.3.10.3 SMI-GOVERNANCE versus SNS

A one-way Anova is conducted to check whether there is any difference between the means of SNS groups in terms of SMI-GOVERNANCE. Table 5.50 indicates that there is no significant difference between the means of groups with p=0.187.

Table 5.50 Comparison of means for SNS-High and SNS-Low groups in terms of SMI-GOVERNANCE

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
SNS	2	SNS-High, SNS-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
SNS	1	1.192	1.1917	1.76	0.187
Error	131	88.686	0.6770		
Total	132	89.877			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.822793	1.33%	0.57%	0.00%

Means

SNS	N	Mean	StDev	95% CI
SNS-High	68	6.0971	0.8151	(5.8997, 6.2944)
SNS-Low	65	5.908	0.831	(5.706, 6.110)

Pooled StDev = 0.822793

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

SNS	N	Mean	Grouping
SNS-High	68	6.0971	A
SNS-Low	65	5.908	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
SNS-Low - SNS-High	-0.189	0.143	(-0.472, 0.093)	-1.33	0.187

Individual confidence level = 95.00%

Allen and Spialek (2018) also supported that this sustainability, WOM and social media issues start to be significant concerns for some companies. For instance, for some food companies, people start to have a strategic business plan according to WOM recommendations and sustainability issues.

5.3.11 PMST versus gender

A one-way Anova is conducted to check whether there is any difference among the means of gender groups in terms of PMST. Table 5.51 indicates that there is no significant difference between the means of groups with p=0.278.

Table 5.51 Comparison of means for Female and Male groups in terms of PMST

Method

μ_1: population mean of PMST when Gender = Female
μ_2: population mean of PMST when Gender = Male
Difference: $\mu_1 - \mu_2$

Equal variances are not assumed for this analysis.

Descriptive Statistics: PMST

Gender	N	Mean	StDev	SE Mean
Female	81	2.64	1.24	0.14
Male	47	2.91	1.41	0.21

Estimation for Difference

Difference	95% CI for Difference
-0.271	(-0.764, 0.222)

Test

Null hypothesis	$H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis	$H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
-1.09	86	0.278

However, according to some authors, women are the ones who much more talk about political parties and elections in social media and mention about their political views compared to men. In other words, women do more WOM sharing compared to men (Chowdhury and Naheed 2020).

5.3.12 PMST versus income

A one-way Anova is conducted to check whether there is any difference among the means of income groups in terms of PMST. Table 5.52 indicates that there is a significant difference among the groups with p=0.021 such that the mean of Low income group is significantly higher than the mean of High income group in terms of PMST.

Table 5.52 Comparison of means for High, Middle-High, Middle, Low-Middle and Low income groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Income	5	High income, Low income, Low-Middle income, Middle income, Middle-High income

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Income	4	19.64	4.909	3.01	0.021
Error	128	208.87	1.632		
Total	132	228.50			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.27741	8.59%	5.74%	*

Means

Income	N	Mean	StDev	95% CI
High income	1	1.860	*	(-0.668, 4.388)
Low income	9	3.921	1.470	(3.079, 4.764)
Low-Middle income	23	2.254	0.935	(1.727, 2.781)
Middle income	79	2.726	1.286	(2.441, 3.010)
Middle-High income	21	2.946	1.473	(2.394, 3.497)

Pooled StDev = 1.27741

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Income	N	Mean	Grouping	
Low income	9	3.921	A	
Middle-High income	21	2.946	A	B
Middle income	79	2.726	A	B
Low-Middle income	23	2.254		B
High income	1	1.860	A	B

Means that do not share a letter are significantly different.

5.3.13 PMST versus education

A one-way Anova is conducted to check whether there is any difference among the means of education groups in terms of PMST. Table 5.53 indicates that there is no significant difference among the means of groups with p=0.824.

Table 5.53 Comparison of means for Ph.D., Master, Bachelor, Vocational school, and High school groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	$\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Education	5	2-year vocational school degree, Bachelor's degree, High school degree, Master's degree, Ph.D. degree

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Education	4	2.664	0.6661	0.38	0.824
Error	128	225.839	1.7644		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.32829	1.17%	0.00%	0.00%

Means

Education	N	Mean	StDev	95% CI
2-year vocational school degree	14	2.919	1.663	(2.216, 3.621)
Bachelor's degree	78	2.704	1.302	(2.406, 3.001)
High school degree	12	3.036	1.175	(2.277, 3.795)
Master's degree	20	2.815	1.313	(2.228, 3.403)
Ph.D. degree	9	2.411	1.196	(1.535, 3.287)

Pooled StDev = 1.32829

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Education	N	Mean	Grouping
High school degree	12	3.036	A
2-year vocational school degree	14	2.919	A
Master's degree	20	2.815	A
Bachelor's degree	78	2.704	A
Ph.D. degree	9	2.411	A

Means that do not share a letter are significantly different.

5.3.14 PMST versus marital status

A one-way Anova is conducted to check whether there is any difference among the means of marital status groups in terms of PMST. Table 5.54 indicates that there is no significant difference among the means of groups with p=0.167.

Table 5.54 Comparison of means for Married, Single, Divorced/Widowed and I don't want to answer groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Marital status	4	Divorced/Widow, I don't want to answer., Married, Single

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Marital status	3	8.778	2.926	1.72	0.167
Error	129	219.725	1.703		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.30510	3.84%	1.61%	0.00%

Means

Marital status	N	Mean	StDev	95% CI
Divorced/Widow	5	3.858	1.579	(2.703, 5.013)
I don't want to answer.	4	3.357	1.968	(2.066, 4.649)
Married	92	2.645	1.311	(2.375, 2.914)
Single	32	2.817	1.162	(2.361, 3.274)

Pooled StDev = 1.30510

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

Marital status	N	Mean	Grouping
Divorced/Widow	5	3.858	A
I don't want to answer.	4	3.357	A
Single	32	2.817	A
Married	92	2.645	A

Means that do not share a letter are significantly different.

5.3.15 PMST versus PI-ECONOMIC

A one-way Anova is conducted to check whether there is any difference among the means of PI-ECONOMIC groups in terms of PMST. Table 5.55 indicates that there is no significant difference among the means of groups with p=0.539.

Table 5.55 Comparison of means for Conservative, Liberal and Moderate groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Economic	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Economic	2	2.161	1.081	0.62	0.539
Error	130	226.342	1.741		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.31950	0.95%	0.00%	0.00%

Means

PI-Economic	N	Mean	StDev	95% CI
Conservative	8	3.000	1.082	(2.077, 3.923)
Liberal	34	2.925	1.378	(2.477, 3.373)
Moderate	91	2.667	1.315	(2.394, 2.941)

Pooled StDev = 1.31950

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Economic	N	Mean	Grouping
Conservative	8	3.000	A
Liberal	34	2.925	A
Moderate	91	2.667	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	-0.075	0.519	(-1.303, 1.153)	-0.14	0.989
Moderate - Conservative	-0.333	0.487	(-1.485, 0.820)	-0.68	0.773
Moderate - Liberal	-0.258	0.265	(-0.886, 0.371)	-0.97	0.596

Individual confidence level = 98.07%

5.3.16 PMST versus PI-SOCIAL

A one-way Anova is conducted to check whether there is any difference among the means of PI-SOCIAL groups in terms of PMST. Table 5.56 indicates that there is no significant difference among the means of groups with p=0.214.

Table 5.56 Comparison of means for Conservative, Liberal and Moderate groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05
Rows unused	1

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PI-Social	3	Conservative, Liberal, Moderate

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PI-Social	2	5.359	2.680	1.56	0.214
Error	130	223.144	1.716		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.31015	2.35%	0.84%	0.00%

Means

PI-Social	N	Mean	StDev	95% CI
Conservative	16	3.126	1.163	(2.478, 3.774)
Liberal	32	2.956	1.353	(2.497, 3.414)
Moderate	85	2.607	1.319	(2.326, 2.888)

Pooled StDev = 1.31015

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PI-Social	N	Mean	Grouping
Conservative	16	3.126	A
Liberal	32	2.956	A
Moderate	85	2.607	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal - Conservative	-0.171	0.401	(-1.121, 0.780)	-0.43	0.905
Moderate - Conservative	-0.519	0.357	(-1.365, 0.326)	-1.45	0.316
Moderate - Liberal	-0.349	0.272	(-0.992, 0.295)	-1.28	0.407

Individual confidence level = 98.07%

5.3.17 PMST versus PO-LIBERAL

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERAL groups in terms of PMST. Table 5.57 indicates that there is no significant difference between the means of groups with p=0.885.

Table 5.57 Comparison of means for Liberal-High and Liberal-Low groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Liberal	2	Liberal-High, Liberal-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Liberal	1	0.037	0.03683	0.02	0.885
Error	131	228.466	1.74402		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.32061	0.02%	0.00%	0.00%

Means

PO-Liberal	N	Mean	StDev	95% CI
Liberal-High	75	2.768	1.209	(2.466, 3.070)
Liberal-Low	58	2.734	1.453	(2.391, 3.077)

Pooled StDev = 1.32061

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Liberal	N	Mean	Grouping
Liberal-High	75	2.768	A
Liberal-Low	58	2.734	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Liberal-Low - Liberal-High	-0.034	0.231	(-0.490, 0.423)	-0.15	0.885

Individual confidence level = 95.00%

5.3.18 PMST versus PO-CONSERVATIVE

A one-way Anova is conducted to check whether there is any difference between the means of PO-CONSERVATIVE groups in terms of PMST. Table 5.58 indicates that there is no significant difference between the means of groups with p=0.596.

Table 5.58 Comparison of means for Conservative-High and Conservative-Low groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Conservative	2	Conservative-High, Conservative-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Conservative	1	0.491	0.4912	0.28	0.596
Error	131	228.012	1.7405		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.31930	0.21%	0.00%	0.00%

Means

PO-Conservative	N	Mean	StDev	95% CI
Conservative-High	92	2.794	1.311	(2.522, 3.066)
Conservative-Low	41	2.662	1.338	(2.255, 3.070)

Pooled StDev = 1.31930

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Conservative	N	Mean	Grouping
Conservative-High	92	2.794	A
Conservative-Low	41	2.662	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Conservative - Conservative	-0.132	0.248	(-0.622, 0.358)	-0.53	0.596

Individual confidence level = 95.00%

5.3.19 PMST versus PO-LIBERTARIAN

A one-way Anova is conducted to check whether there is any difference between the means of PO-LIBERTARIAN groups in terms of PMST. Table 5.59 indicates that there is no significant difference between the means of groups with p=0.374.

Table 5.59 Comparison of means for Libertarian-High and Libertarian-Low groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
PO-Libertarian	2	Libertarian-High, Libertarian-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
PO-Libertarian	1	1.379	1.379	0.80	0.374
Error	131	227.124	1.734		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.31673	0.60%	0.00%	0.00%

Means

PO-Libertarian	N	Mean	StDev	95% CI
Libertarian-High	65	2.857	1.183	(2.534, 3.180)
Libertarian-Low	68	2.654	1.433	(2.338, 2.970)

Pooled StDev = 1.31673

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

PO-Libertarian	N	Mean	Grouping
Libertarian-High	65	2.857	A
Libertarian-Low	68	2.654	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
Libertarian- - Libertarian-	-0.204	0.228	(-0.656, 0.248)	-0.89	0.374

Individual confidence level = 95.00%

5.3.20 PMST versus SNS

A one-way Anova is conducted to check whether there is any difference between the means of SNS groups in terms of PMST. Table 5.60 indicates that there is no significant difference between the means of groups with p=0.875.

Table 5.60 Comparison of means for SNS-High and SNS-Low groups in terms of PMST

Method

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
SNS	2	SNS-High, SNS-Low

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
SNS	1	0.043	0.04332	0.02	0.875
Error	131	228.460	1.74397		
Total	132	228.503			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1.32059	0.02%	0.00%	0.00%

Means

SNS	N	Mean	StDev	95% CI
SNS-High	68	2.736	1.277	(2.419, 3.052)
SNS-Low	65	2.772	1.365	(2.448, 3.096)

Pooled StDev = 1.32059

Tukey Pairwise Comparisons

Grouping Information Using the Tukey Method and 95% Confidence

SNS	N	Mean	Grouping
SNS-Low	65	2.772	A
SNS-High	68	2.736	A

Means that do not share a letter are significantly different.

Tukey Simultaneous Tests for Differences of Means

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
SNS-Low - SNS-High	0.036	0.229	(-0.417, 0.489)	0.16	0.875

Individual confidence level = 95.00%

However, in the literature, it is surprising that Oross, Mátyás, and Gherghina (2021) analyzed some concepts to understand the relationship between sustainability and politics. In other words, citizens' assemblies have a huge impact on sustainability. People can create assemblies on climate change with the help of social media. For example, Citizens' Assembly in Budapest (Hungary) can be a good example how to protect environment.

At the same time, political organizations start to increase day by day with the increase of sharing political opinions of people in social media. With the increase of political organizations, we can witness that there are different political parties which defense different opinions. The important point here is that some Internet applications might be blocked by governments or governmental agencies, so it is necessary to give the right political message in social media without making any discrimination among groups (Akın and Özbezek 2017).

5.3.21 Summary of findings and correlation analysis

Table 5.61 provides a summary of the findings obtained from statistical tests. "Yes" indicates that there is a significant difference between/among gender, income, education etc. factor groups in terms of SMI, SMI-ENVIRONMENT, SMI-COMMUNITY, SMI-GOVERNANCE and PSMT. Thus, the hypotheses H11c, H11d, H13a, H13b, H21d, H23a, H23b, H31c, H33a, H33b, H34, H41c, H43a, H43b and H51b are rejected.

Table 5.61 Summary of the findings in statistical tests

	SMI	SMI-ENVIRONMENT	SMI-COMMUNITY	SMI-GOVERNANCE	PMST
GENDER	H11a: No	H21a: No	H31a: No	H41a: No	H51a: No
INCOME	H11b: No	H21b: No	H31b: No	H41b: No	**H51b: Yes**
EDUCATION	**H11c: Yes**	H21c: No	**H31c: Yes**	**H41c: Yes**	H51c: No
MARITAL STATUS	**H11d: Yes**	**H21d: Yes**	H31d: No	H41d: No	H51d: No
PI-ECONOMIC	H12a: No	H22a: No	H32a: No	H42a: No	H52a: No
PI-SOCIAL	H12b: No	H22b: No	H32b: No	H42b: No	H52b: No
PO-LIBERAL	**H13a: Yes**	**H23a: Yes**	**H33a: Yes**	**H43a: Yes**	H53a: No
PO-CONSERVATIVE	**H13b: Yes**	**H23b: Yes**	**H33b: Yes**	**H43b: Yes**	H53b: No
PO-LIBERTARIAN	H13c: No	H23c: No	H33c: No	H43c: No	H53c: No
SNS	H14: No	H24: No	**H34: Yes**	H44: No	H54: No

To further investigate and validate these significant findings, a correlation analysis is conducted. With this aim, first, Education level and Income level categories are quantified by assigning values such as 1, 2, 3, and so on to their increasing levels. Then, the correlation coefficient values among SMI, SMI-ENVIRONMENT, SMI-COMMUNITY, SMI-GOVERNANCE, PMST, SNS, PO-LIBERAL, PO-CONSERVATIVE, PO-LIBERTARIAN, Age, Income level, and Education level are calculated together with their significancy levels as provided in Table 5.62. Correlation analysis results are also aligned with the findings obtained from statistical tests.

Table 5.62 indicates that there are significant positive correlations among SMI, SMI-ENVIRONMENT, SMI-COMMUNITY and SMI-GOVERNANCE. It also implies that while education has significant positive correlation with income, it has significant negative correlations with SMI, SMI-ENVIRONMENT, SMI-COMMUNITY, SMI-GOVERNANCE and Conservative orientation. On the other hand, Liberal and Conservative orientations have significant positive correlations with SMI, SMI-ENVIRONMENT, SMI-COMMUNITY and SMI-GOVERNANCE, and Liberal orientation is positively correlated both with Conservative and Libertarian orientations. Finally, Age has significant positive correlations with SMI and SMI-ENVIRONMENT, SMI-GOVERNANCE, but a significant negative correlation with SNS, and SNS has positive correlations with Liberal and Libertarian orientations.

Table 5.62 Correlation table for SMI, SMI-ENVIRONMENT, SMI-COMMUNITY, SMI-GOVERNANCE, PMST, SNS, PO-LIBERAL, PO-CONSERVATIVE, PO-LIBERTARIAN, Age, Income level and Education level

	SMI	SMI1	SMI2	SMI3	PMST	SNS	Liberal	Conservative	Libertarian	Age	Income
SMI1	0.938***										
SMI2	0.789***	0.603***									
SMI3	0.857***	0.645***	0.741***								
PMST	-0.025	-0.077	-0.011	0.074							
SNS	0.046	0.016	0.112	0.053	0.076						
Liberal	0.438***	0.331***	0.513***	0.44***	-0.011	0.236**					
Conservative	0.332***	0.35***	0.253**	0.215*	-0.026	-0.022	0.295**				
Libertarian	-0.003	0.009	-0.004	-0.023	0.093	0.288**	0.192*	0.029			
Age	0.244**	0.261**	0.079	0.208*	0.113	-0.197*	-0.017	0.104	-0.047		
Income	-0.143	-0.151†	-0.137	-0.076	-0.053	0.028	0.114	-0.039	0.087	-0.011	
Education	-0.276**	-0.200*	-0.325***	-0.291**	-0.085	0.019	0.223	-0.204*	0.162†	-0.067	0.306***

†p<0.100, *p<0.050, **p<0.010, ***p<0.001

It is supported by the literature that age is positively correlated with SMI. In other words, it can be said that old people give much more importance to sustainability issues compared to young people. This situation shows itself in social media too. Iyer, Yazdanparast, and Strutton (2017) found that political WOM is changing according to some demographic qualifications such as age. Old people are more likely receptive to complex messages in social media compared to young people who like short and brief messages. Political messages also create a relationship community intentions and message believability. Old people and young people have different modes of communication regarding to political messages in social media. It is seen in the correlation table that liberal orientation is positively correlated with conservative orientation. At the same time, conservative orientation is positively correlated with SMI. It is very surprising that some authors don't support this finding. Wetherell, Brandt, and Reyna (2013) indicate that there are two different parts as liberals and conservatives. The liberal part is much more open to tolerance while the conservative side has much more discrimination and prejudice. Wetherell can be true in some issues as correlation table supports him in one point. In social media, liberal people are much more opened to share their ideas compared conservative ones. In other words, conservative people usually don't share their opinions in social platforms. This can be a good opposition point between liberals and conservatives as Wetherell supports this argument. At the same time, Choi et al. (2019) indicate that there is positive relationship of using social media in some platforms and corporate sustainability. In other words, people using social media support the sustainability practices by increasing positive E-WOM on some platforms. People are more likely to share their ideas about sustainability practices of companies in social media and discuss these ideas with other people. This argument is the same as correlation table. In other words, there is a finding that liberals using social media platforms give much more attention to sustainability issues and practices. Conservatives as well give importance to sustainability as seen in correlation table however liberals are the ones who can openly share their political ideas in social platforms much more openly. We can say that conservatives are secretive people or they can be afraid of expressing their opinions in this political environment.

6. GENERAL DISCUSSION

Significant positive correlations among SMI, SMI-ENVIRONMENT, SMI-COMMUNITY and SMI-GOVERNANCE imply that the environment, community and governance dimensions of sustainability materiality complement each other and contribute to sustainability as a whole.

Significant positive correlation of education with income suggests that as the level of education increases, the level of income also increases. However, education is negatively correlated with SMI, SMI-ENVIRONMENT, SMI-COMMUNITY, SMI-GOVERNANCE and Conservative orientation. It means that as the level of education increases, the levels of sustainability materiality and conservatism decrease, and the difference between the sustainability materiality ratings of Ph.D. group, and high school and vocational school groups is highly visible. At a first glance, such a finding seems surprising, but higher education may cause people to think more critically and realistically about sustainability materiality and related practices.

Significant positive correlations of Liberal and Conservative orientations with SMI, SMI-ENVIRONMENT, SMI-COMMUNITY and SMI-GOVERNANCE propose that highly liberal (or conservative) people care sustainability materiality more compared to less liberal (or conservative) people. However, such a difference is not observed between highly libertarians and less libertarians, may be it is because libertarianism is more about opposition to governments and governmental interventions, but not about opposition to corporations and corporate practices.

Significant positive correlations of Liberal orientation with Conservative and Libertarian orientations imply that while the rise in liberalism and thus the opposition to corporations causes a significant increase in conservatism, it also induces a marginal increase in libertarianism and thus the opposition to governments.

Significant positive correlations of Age with SMI and SMI-ENVIRONMENT, SMI-GOVERNANCE, as age increases, the level of sustainability materiality also increases.

This is reasonable because as people age, their concern about individual sustainability practices such as health, well-being, quality of life, organic food, etc. increases. Significant difference between married and single people in terms of SMI and SMI-ENVIRONMENT can also be interpreted in a similar way such that married people, especially the ones having kids, pay relatively higher attention to individual sustainability practices to improve the quality of their families' lives.

Positive correlations of Liberal and Libertarian orientations with SNS point that as people's opposition to corporations and governments increases, their use intensity of social networking sites increases. Similarly, negative correlation of Age with SNS means that young people use social networking sites in a more intensive manner than the elder ones do. This is probably because young people are more open to learning and accepting new technologies. Additionally, people who use social networking sites in a highly intensive manner tend to care others more as their ratings of SMI-COMMUNITY are higher than the related ratings of people who use social networking sites less intensively.

Finally, although a general low level of PMST indicates that people are highly unwilling to share political messages may be due to the general political atmosphere in the country, people with low income seem to have a higher political message sharing tendency. Such a situation may be interpreted in a way that they are not happy with the prevalent policies as they are not able to earn enough.

Based these findings and interpretations, it is possible to make some recommendations to sales and marketing managers. First, they should adopt a holistic sustainability strategy as there is a strong dependency among the three dimensions of sustainability materiality. Second, to increase their sales and revenues, in their marketing campaigns, they can target highly liberal, highly conservative, and married consumers as they pay higher attention to corporate sustainability performance than the others do in their purchasing decisions. Third, to improve their firm and brand image, in their socio-environmental responsibility projects, they can focus on low income and socially sensitive consumers as they have higher political message sharing tendency and SNS use intensity, respectively. Fourth, to improve the effectiveness of their marketing activities, they can communicate with young, liberal and libertarian consumers utilizing online channel and social media, while

communicating with elder and conservative consumers utilizing traditional channels. Finally, they can make on-site observations to check whether there is any gap between the stated and real sustainability materiality of consumers especially for the ones having relatively lower education such as high school and vocational school degree groups.

7. CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

The thesis presented aims to assess the general perception level of consumers about sustainability materiality, and how it alters according to their political orientations, political message sharing tendencies, and use intensities of social networking sites.

Although the data used in the research is collected randomly through the Internet and e-mail/WhatsApp groups on a voluntary basis after receiving the approval of the ethical committee of Kadir Has University, the research conducted has several limitations.

First, it is assumed that the participants respond all the questions honestly and candidly, and the results obtained are based on a relatively small, and uneven or non-homogeneous sample coming from the consumers living in Turkey. For this reason, the research sample may not represent the whole population living in Turkey which may cause some biases in the results.

To be able to increase the reliability and generalizability of results, the sample size can be increased by collecting additional data based on a stratified sampling approach. For instance, a data set collected from 4050 consumers totally with the participation of randomly selected 50 consumers from each of the 81 cities of the country will provide a much more representative sample, and thus much more reliable and generalizable results. However, such a large-scale extension requires additional time and budget.

Further, the scope of the data can be expanded by including other countries or focusing on specific participant profiles such as the young liberals using social networking sites intensively. Such a spatial or in-depth analysis will enable to make geographical or profile based comparisons, providing additional future insights.

Finally, depending on the research objectives and the nature of collected data, different types of statistical approaches such as structural equation modeling and multiple regression analysis can be utilized.

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