Research Articles :

Aims and Scope Aims and Scope

The NIDA Development Journal (NDJ) publishes manuscripts that describe or synthesize research of direct relevance to development administration. Its main objective is to publish high quality, double blind peer-review papers using at least three referees that have not previously been published and that reflect the latest research in the area of policy, administration and development. The editors welcome a wide range of academic papers, including research articles, review articles, and book reviews.

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Announcement on Ethics in the Dissemination of Academic Articles

Message from the Editor

This issue of NIDA Development Journal (NDJ) is the Volume 63 Number 2 (July - December 2023). As always, the issue features research articles covering a variety of subject areas, ranging from Business, Development Studies, Environmental Studies, to Socio-Cultural Studies, to suit the different interests of readers.

The first article, **"Perceived Media Portrayal of K-Pop Idols and Its Potential Impacts on Audiences' Perception of Masculinity in China: A Comparative Study of Different Generations"**, by Peng Yan and Assoc. Prof. Dr. Rosechongporn Komolsevin of Bangkok University, investigates the perceived media portrayal of masculinity by K-pop idols on TV/online TV and its impact on the perception of masculinity by two generations in China, Millennials and Generation Z, and compare the difference between them. This issue, which has sparked controversy in this country, reflects a crucial aspect of generational differences of our days.

The second article, **"The roles of local employment and environmental sustainability on business performance: The mediating role of brand image in the modern trade business in rural areas in Thailand"**, by Dr. Akaraphun Ratasuk of Panyapiwat Institute of Management, shifts our attention from socio-cultural studies to business. Informed by the idea of incorporating SDGs in business activities, the article investigates the influence of modern trade business's local employment and environmental sustainability practices on the brand image and business performance as perceived by customers.

The next article, **"Interrelations of the Sustainable Development Goals in terms of alignments and conflicts between each pair of goals"**, by Assoc. Prof. Vesarach Aumeboonsuke of ICO NIDA, leads us to still another subject area, development studies. The author critically explores the Sustainable Development Goals (SDGs) by analyzing the interrelations and the possible conflicts among each pair of goals, revealing the dynamic of interrelations and conflicts among SDGs during a crisis interval compared to the long-term span.

The fourth article, **"Understanding plastic bag consumers' use behavior after the plastic bag ban policy in major retail stores in Bangkok"**, involves a critical environmental issue. The authors, Assoc. Prof. Dr. Aweewan Mangmeechai and Angkana Kreeratiratanalak of ICO NIDA, estimated the number of plastic bags used in Bangkok and developed the knowledge, attitude and practice (KAP) model to investigate plastic bag consumption behaviors among Bangkok consumers. The results showed that the campaign is effective especially in the supermarket and convenient stores.

The fifth article is related to still another critical environmental problem – the socio-economic impacts of PM2.5. In their article, **"The impact of PM2.5 on the socio-economic situation in Thailand: The perception based on survey data"**, Assoc. Prof. Dr. Chukiat Chaiboonsri of the Faculty of Economics, Chiang Mai University, and his colleagues from various institutions, investigate the health dimensions that could be affected by PM2.5, including respiratory tract diseases, mental health, well-being, etc. These impacts affect working people, as well as the whole society in various living conditions in the urban as well as rural setting. According to the study, PM2.5 not only affects health but also has significant social and economic consequences.

The last paper takes our attention back to a socio-cultural issue. In his **"Exploring Xenophobia in South Africa through Sociocultural Len"**, Aung Mya Soe of MHTi-M Hospitality & Tourism Institute, Myanmar, addresses the problem of Xenophobia in South Africa to find out the causes of Xenophobia, the challenges, and solutions for rebuilding social cohesion and reducing inequality in this country. The paper concludes that, together with other measures, promoting cultural diversity with structural transformation, can help heal Xenophobia, alleviate discrimination, and promote equality in divided South Africa.

We believe that the wide range of topics under various subject areas being featured by this issue of NIDA Development Journal (NDJ) will be of considerable academic and practical interest to readers. We hope that our readers will continue to follow our scholarly trajectory.

Patthareeya Lakpetch
Editor

Prapin Nuchpiam
Associate Editor

Contents

Volume 63 Number 2 (July - December 2023)

Research Articles:

Perceived Media Portrayal of K-Pop Idols and Its Potential Impacts on Audiences' Perception of Masculinity in China: A Comparative Study of Different Generations

Peng Yan* and Rosechongporn Komolsevin**

Abstract

The proliferation of K-pop culture has sparked controversy in China over its impact on the perception of masculinity, therefore the Chinese government has banned all K-pop content on TV and social media. This research intends to investigate the perceived media portrayal of masculinity by K-pop idols on TV/online TV and its impact on the perception of masculinity by two generations: Millennials and Generation Z and compare the difference between them. This study adopted the quantitative approach and surveyed with an online questionnaire due to Covid-19. As many as 425 valid results were collected from respondents of both Millennials and Generation Z groups. The data collected were utilized to test the hypotheses on SPSS. Hypothesis 1 was tested with linear regression analysis and hypothesis 2 with independent sample t-test. The findings show a significant difference between Millennials and Generation Z in the perception of masculinity under the impact of the perceived portrayal of masculinity by K-pop idols on TV/online TV in China. Millennials strongly agreed with the impact while Generation Z disagreed. The findings of this study could serve to improve the regulations on intercultural communication activities in China. It is recommended to proceed with ongoing comparative studies on the perception of masculinity between the current target audience and the coming younger generation to draw a better conclusion about the cultural trends in China.

Keywords: K-pop Idol, Perceived Media Portrayal, Perception of Masculinity

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การรับรู้ภาพสื่อของไอดอลเคป๊อปและผลกระทบที่อาจเกิดขึ้นต่อการรับรู้ของผู้ชมเกี่ยวกับความเป็นชายในจีน: การศึกษาเปรียบเทียบของคนรุ่นต่างๆ

เป็ง หยาน[*] **และ รสชงพร โกมลเสวน**[**]

บทคัดย่อ

การแพร่กระจายของวัฒนธรรมเคป๊อปได้จุดชนวนให้เกิดความขัดแย้งในประเทศจีนเกี่ยวกับผลกระทบที่มีต่อการรับรู้ถึงความเป็นชาย ดังนั้นรัฐบาลจีนจึงสั่งห้ามเนื้อหาเคป๊อปทั้งหมดในทีวีและโซเชียลมีเดีย งานวิจัยนี้มีจุดมุ่งหมายที่จะศึกษาภาพที่สื่อรับรู้เกี่ยวกับความเป็นชายของไอดอลเคป๊อปในทีวี/ทีวีออนไลน์ และผลกระทบที่มีต่อการรับรู้ถึงความเป็นชายโดยสองรุ่น: Millennials และ Generation Z และเปรียบเทียบความแตกต่างระหว่างพวกเขา การศึกษานี้ใช้แนวทางเชิงปริมาณและสำรวจด้วยแบบสอบถามออนไลน์เนื่องจากโควิด-19 รวบรวมผลลัพธ์ที่ถูกต้องได้มากถึง 425 รายการจากผู้ตอบแบบสอบถามของทั้งกลุ่ม Millennials และ Generation Z ข้อมูลที่รวบรวมได้ถูกนำมาใช้เพื่อทดสอบสมมติฐานเกี่ยวกับ SPSS ทดสอบสมมติฐาน 1 ด้วยการวิเคราะห์การถดถอยเชิงเส้นและสมมติฐานที่ 2 ด้วยการทดสอบตัวอย่างอิสระ ผลการวิจัยแสดงให้เห็นความแตกต่างอย่างมีนัยสำคัญระหว่างคนรุ่นมิลเลนเนียลและเจเนอเรชั่น Z ในการรับรู้ถึงความเป็นชายภายใต้ผลกระทบของภาพที่ไอดอลเคป๊อปรับรู้ทางทีวี/ทีวีออนไลน์ในประเทศจีน Millennials เห็นด้วยอย่างยิ่งกับผลกระทบในขณะที่ Generation Z ไม่เห็นด้วย ผลการวิจัยนี้สามารถนำไปใช้ในการปรับปรุงกฎระเบียบเกี่ยวกับกิจกรรมการสื่อสารระหว่างวัฒนธรรมในประเทศจีน ขอแนะนำให้ดำเนินการศึกษาเปรียบเทียบอย่างต่อเนื่องเกี่ยวกับการรับรู้ถึงความเป็นชายระหว่างกลุ่มเป้าหมายปัจจุบันกับคนรุ่นใหม่ที่กำลังมาถึง เพื่อหาข้อสรุปที่ดีขึ้นเกี่ยวกับแนวโน้มทางวัฒนธรรมในประเทศจีน

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Introduction

     Background of the Study

     This study intends to investigate the perceived media portrayal of K-pop idols and its potential impacts on audiences' perception of masculinity in China. Over the past two decades, the Korean pop idols have swept the globe. This cultural phenomenon was first described by the Chinese media with the term "Korean Wave". Television coverage in the days before the internet should be given credit for the Korean wave's early dissemination. K-pop was broadcast on television thanks to official cultural exchange initiatives. With songs that resonated with the younger generation and covered many diverse issues aside from love, the early K-pop idols won over their followers' hearts. Additionally, K-pop idols' public image as polite and modest factors into their appeal in China during this decade.

     Early K-pop is Western-influenced music sung by Koreans in a combination of English and Korean. The early transmission of the Korean wave should be attributed to television coverage in the pre-internet age. Televised K-pop was spread through official cultural exchange activities like the China-Korea Song Festival broadcasted on China Central Television (CCTV), variety shows such as Hunan Satellite TV's Happy Camp, K-pop MVs broadcast on music programs like Channel V, and song request programs on cable TV (Sun & Liew, 2019). With "their rebellious image, as portrayed through the group's outlandish fashion, irreverent rapping, and urban dance choreographies" (Doujiao, 2001), the early K-pop idols won the hearts of their fans with songs that" resonated with the younger generation" covering "many different topics apart from love"(Blue Rain, 2001). For instance, about a top-of-the-list boy band of the time-H.O.T., fans pointed out the existence of songs touching on the broader social issues and challenges faced by young people (Blue Rain, 2001). Another K-pop boy band NRG rose to stardom after their appearance on Happy Camp due to nationwide coverage of the show on satellite television. As Si Jie recalled, NRG's cassettes sold almost 200,000 copies within a month (NetEase Entertainment, 2012). Moreover, the portrayal of K-pop idols' as publicly well-mannered and humble also contributed to their popularity in China during this decade. China used to be a country where K-pop culture appeared to have an unequaled effect due to a lack of strong indigenous entertainment organizations. China's media business had generated a significant demand for K-pop material and persistent reliance on South Korean entertainment productions catering to its cultural tastes, in addition to the interdependent economic relations with South Korea.

The greatest Korean star-seeking community in the world is found in China, particularly in Generation Z. Due to China's reform and opening-up policy along with its rapid economic development, it has been made possible for the Chinese people to pick a lifestyle catering to their aesthetic orientation and according to their wishes. The arrival of the Korean wave provides Chinese people with more choices - to feel and experience different cultures, cultivate their own aesthetic taste, and change and enrich their past lifestyle (Piao, 2011). Historically influenced by Chinese Confucianism, South Korean pop culture has served as a new model incorporating Western and Confucianist values, which is conducive to China's transitioning to modernity and connecting to the outside world.

During this process, Chinese teenagers are the most profoundly and extensively affected by the Korean wave. Firstly, they are "energetic, with wide-ranging interests, rich feelings, active thoughts and full of fantasy; they are constantly seeking novelty and to be different in society" (Zheng, 2008), so they have to try to follow the leading trend led by K-pop idols. Secondly, they are also a vulnerable group in that they have been "in a state of tension, bustle, and fatigue since they were primary school students (even kindergartens). They bear multiple pressures from families, schools and society, and bear too many expectations and hopes, so there must always be a channel to eliminate the resulting pressure and troubles" (Piao, 2016). The rapid economic development of China and its reform and opening-up policies have made it feasible for the Chinese people to choose a way of life that is in line with their preferences and aesthetic orientation. Chinese people now have more options thanks to the entrance of the Korean wave, including the chance to experience and learn about other cultures, develop their own aesthetic preferences, and improve and change their current way of life. South Korea, historically influenced by Chinese Confucianism, has its pop culture acting as a new model fusing Western and Confucianist ideals, which is helpful for China's modernization and connection to the outside world. The Korean wave is having the most deep and widespread effects on Chinese teenagers at this time.

While K-pop idols were so pervasive on TV, on social media, on the front page of the press, to the point that the Chinese authorities implemented censorship against the sweeping influence of K-pop idols, for reasons they claim to be threats to the future of the nation. According to the National Radio and Television Administration (NRTA), all broadcasters must "resolutely put an end to 'sissy men' and other abnormal aesthetics." These actions taken by the Chinese authorities are a reflection of the official concern that Chinese pop idols influenced by the slim, androgynous look of K-pop

singers and actors, are misleading China's young boys and men to becoming 'not masculine enough'. The nationwide action also shows how rampant the phenomenon is.

Although never been explicitly admitted by the Chinese state media, the ban on K-pop has been repeatedly revealed by media reports outside the country. In a BBC Chinese report by Wang (2017), the specific measures under the restriction orders against K-pop have been summarized in five points: 1) Prohibit South Korean directors from coming to China to direct artistic productions; 2) Stop new investment in Korean cultural industry companies; 3) Stop Korean idol groups from performing to audiences of more than 10,000; 4) Prohibition of signing new cooperation projects for Korean TV dramas and variety shows; 5) Prohibition of South Korean actors appearing in TV dramas, etc.

In common sense, public disgust and media criticism should be able to put this 'abnormal' trend under control, with the criticism and opinions of literary critics and scholars playing a supervisory role as well. However, today's facts have proved that wrong. Amid the entertainment industry, whether it be the capitalist power at the back or the fans in the front, they all turned a blind eye to such criticisms and continue to let it go on its way. Now that the government intervention is in place, "Niang pao" has been given substantive connotation: it is something that violates mainstream values. Since male K-pop idols are recognized for their distinctive "beautiful boy" appearance, a number of Korean news outlets described China's restriction on effeminate men as another effort to enrage the K-pop industry. Many Chinese internet commenters have also blamed the Korean wave, also known as hallyu, for the trend of "sissy" behavior in Chinese guys, contending that K-pop boy bands were the main inspiration for the Niang pao look.

In the construct and the audiences' perception of masculinity nowadays, the media portrayal on television/online television has played an essential role which added fuel to the prevalence of K-pop idols. Idols are a kind of "constructed individuals" whose images are composed of media promotion, publicity, entertainment review, etc. They are combined and constructed together, and at the same time blended with the taste and evaluation of the public. From "masculine" to "effeminate" by observing the changes in the image of male idols, not only can we see how the cultural industry profoundly affects and changes physical cognition and aesthetics, but also discover the evolution and anxiety in the social cognition of gender image.

Therefore, it is important to perceive K-pop idols' potential influences from two different perspectives. On the surface, the K-pop wave has successfully made its way into almost every participating country of globalization which is the external cause for the situation, therefore China is

no exception, not to mention its geographical and cultural adjacency with South Korea. Meanwhile internally, the awakening of feminism has paved the way for the changes of masculinity in China, simply because young women are the largest audience group for the artistic works created and the major fan base of the pop stars produced by the entertainment industry in recent years. As a result, the shift to a softened portrayal of men happened to meet the psychological needs of female audiences. Women who used to be the object of the 'male gaze', have now become the subject as the major consumer group and are transforming the masculinity image with the 'female gaze'.

When it comes to the perception of masculinity, this study is intended to focus particularly on Generation Z (born in 1997- 2012) and the Millennials (born in 1981-1996) for the reasons that the Millennials were the major consumers of K-pop idols when the "Korean wave" started to have an important impact on China's entertainment industry, and that Generation Z is the group of people who built up the world's biggest K-pop fandom. Meanwhile, the Millennials are the witness and active participants of the time when China's economy was growing at a two-digit rate while embracing all cultures from the developed world, whereas Generation Z is growing up in the period when China's economy is comparatively slowing down and promoting the revival of traditional values-a movement considered more conservative than progressive. The perception of masculinity is a reflection of the self-identity of the people in China. Therefore, a comparative analysis on the perceptive differences between two generations will serve to understand the permeating impact of mass media in the shaping of social norms and to predict future trends on gender issues.

Objectives of Study

First, to examine the main characteristics of K-pop culture with idols as icons, the way K-pop idols are portrayed by the K-pop industry and by Chinese mainstream media, and the principal channels for intercultural communication;

Second, to study the definition of masculinity, and how this concept has changed over time;

Third, to compare the differences in the perception of masculinity between Millennials and Generation Z and to explore the causes for the differences;

Scope of Study

This study will explore the features of K-pop idols from their first appearance to the official censorship in 2017, their artworks and the platforms they used to gain publicity, as well as the portrayal in Chinese mass media. Then the study will compare the perception of masculinity between

Generation Z and Millennials. Taking into consideration the significance in the comparison, the Millennials born from 1982 to 1987 and the Generation Z born from 2002 to 2007 will be selected as the population for this study. The selection for these two age groups can be explained by Lifshitz (2000) whose findings posited that people aged 14 to 19 are categorized as adolescents and people aged 20 to 39 as a younger group of adults.

Research Questions

This study aims to examine the following four research questions:

1) Does the perceived portrayal of masculinity by K-pop idols on Chinese TV/online TV have an impact on the perception of masculinity in Chinese society?

2) Are there differences in the perception of masculinity between the Millennials and Generation Z?

Significance of The Study

Firstly, the K-pop culture has developed into a main driver of global culture, to study its impacts is important in understanding a nation's soft power which has been recognized as an engine for sustainable economic growth. It is also a successful model for facilitating a nation's publicity and intercultural communications.

Secondly, masculinity as a concept has long been trapped in a patriarchal stereotype and earlier endeavors are mostly from the western world whose research findings were based on western traditions and values. This study will focus on east Asians, or more specifically, the countries with Confucian heritage culture. Its findings will potentially enrich the concept of masculinity.

Thirdly, the Millennials are the backbone actors of today's Chinese society and are making substantive changes in the country, whereas Generation Z is their immediate successors. An analysis of the difference in the perception of a common concept will help understand the current cultural trends and make potential predictions about where this nation is headed in the future.

Definition of Terms

K-Pop Idol: In South Korean fandom culture, a star who performs in the K-pop industry, either as a solo artist or as a member of a group, is referred to as K-Pop Idol. The highly manufactured star system that K-pop idols are produced under and made their debut under, as well as their propensity to symbolize a hybridized fusion of visuals, music, fashion, and dance, are characteristics of the genre. They typically work for a well-known entertainment company and have received considerable

instruction in singing, dancing, and a foreign language. Idols invest a lot of time and money into cultivating relationships with fans through events like concerts and meetups in addition to maintaining a carefully manicured public persona and social media presence.

Hallyu: the literal translation of the Chinese term hallyu is "Korean Wave." It is a term that refers to the phenomenal rise of Korean popular culture as a whole, which includes everything from Korean food to music, drama, and movies.

Fandom: a fandom is a group of people who have a common interest and is defined by its members' sense of empathy and togetherness. Fans typically pay close attention to even the smallest details of the subjects of their fandom and devote a significant amount of their time and energy to these pursuits. They frequently participate in specific social networks with similar practices, which distinguishes fandom members from those who have only a passing interest.

Millennial: people who were born in the year 1981-1996, aged 25-40 in 2021;

Generation Z (Gen Z): people who were born in the year 1997 to 2012;

Confucianism: also known as Ruism, is a system of thought and behavior originating in ancient China. Variously described as tradition, a philosophy, a religion, a humanistic or rationalistic religion, a way of governing, or simply a way of life.

Niang Pao:a pejorative nickname for some guys in Chinese that is most often rendered as "sissy" but properly means "girly weapons / girlie cannons."

Male Gaze: the term "male gaze" refers to an attitude toward women that sexualizes and devalues them while emancipating men. While we are biologically compelled to assess each other as potential partners starting in early adolescence, the male gaze twists this natural impulse, turning the women into passive objects to possess and use as props.

Female Gaze: the gendered attention anticipated in visual and audiovisual texts addressed to female viewers.

Perceived Portrayal of masculinity by K-pop Idols on TV/online TV: it refers to the incorporation of fashion styles, behavioral styles, way of thinking and speaking presented by male K-pop idols on TV/online TV.

Perception Of Masculinity: it involves how the audiences perceive masculinity, and the factors they consider to measuring the level of masculinity.

Literature Review

This chapter is a summary of related literature and previous studies on the K-pop idols and fan culture, the representation of masculinity by K-pop idols, and the perception of masculinity in China. Furthermore, this chapter serves to explore the concepts, principles, and the related theories to develop the hypotheses and the theoretical framework.

Past Study on the Chronology of K-pop

Hallyu can be further divided into three stages when analyzed from the consumer's perspective while keeping China's features in mind: Hallyu 1.0, or the Analog Media era (1992-2004), Hallyu 2.0, or the Pre-mobile Internet era (2005-2012), and Hallyu 3.0, or the Mobile Internet era (2013-present).

Hallyu 1.0 (1997-2007)

Before the arrival of K-pop, China's entertainment content was mainly from Hong Kong and Taiwan. As a result of the normalization of the diplomatic ties between South Korea and China in the 1990s, Hallyu 1.0 arrive in the form of a 'Korean remake' of the American Hip-Hop music through traditional media such as television, radio and magazines. The positive reception of K-pop in this period "reflects the global connectivity, ethnolinguistic affinity, and cultural modernity desired and referenced by the Chinese consumers as they re-plug themselves into the world of pop." (Sun & Liew, 2019). The representative boy band of K-pop in this period are H.O.T., SECHSKIES，Shinhwa and GOD whose fans were mostly the first generation of Millennials. Labeled as "Hahanzu", these fans were mainly middle and high school students between the age 13-18 (Dazui, 2001). At its peak, H.O.T. had a Chinese fan club of over 8 million members (Tencent Entertainment, 2015).

Hallyu 2.0 (2005-2012)

Hallyu 2.0 is described as the Korean wave in the age of social media. Since late 2007, the Hallyu phenomenon has experienced a significant shift with the growth of social media, and K-Pop has become the most distinct cultural genre in the Hallyu 2.0 era (Dal, 2013). The massive usage of social media and the proliferation of smart phones have also taken central roles in the diffusion of K-Pop, because fans worldwide consume K-Pop and through social media along with other cultural content. The most successful boy bands of this era are Super Junior, TVXQ! Bigbang, 2PM, SS501, CNblue.

Hallyu 3.0 (2013-present)

The beginning of the mid-2010s marks the start of "Hallyu 3.0" which is characterized by new associations with different platforms, exerting a larger cultural and societal impact across the globe. The rise and spread of K-pop groups such as BTS and new YouTube content like Mukbang (먹방; meokbang) videos have become characteristic of Hallyu 3.0. Musical artists and international media production with foreign studios such as Netflix have also facilitated a new rise in global Korean media consumption (TNEC News Desk, 2021). The representatives of this era are BTS, EXO, GOT7, Winner, IKON, etc. Among them, the most prominent boy group is BTS who was the first K-pop group to deliver a speech at the UN, themed "speak yourself". They were also the very boy group that triggered the harsh regulation against Hallyu in China, with their fans spreading photos of a Jeju Air airplane featuring BTS' Jimin on its exterior circulated on Weibo as part of a BTS fan club's campaign to celebrate the K-pop star's 26th birthday. The campaign was later accused of "illegal fundraising" among fandom members.

K-pop Idols and Fan Culture

In contrast to western artists and their fans, K-pop idols have a different relationship with their followers. K-pop idols host fan events, stream live, and reply to fan comments on social media, forging a connection with plenty of interactions and expanding K-reach pops in terms of audiences. K-pop idols have overwhelmingly received support for their artwork garnering awards and accolades thanks to their growing fan base. In the meanwhile, the fans frequently choose the paths that idols take. The connections between idols and fans are fascinating because they are a double-edged sword that may be both good and terrible, spreading support for a specific musical genre while also causing drama and controversy.

Perceived Portrayal of Masculinity By K-Pop Idols

People today are almost surely going to see bright hair colors, lavish costumes, beautiful complexion, extensively made-up eyes, and painted lips when watching any K-pop music video. They demonstrate to people how wearing makeup increases confidence, which is seen to be the very definition of masculinity.

The reason K-pop stars put on makeup and dress up, in their opinion, is not that they can be perceived as being more or less feminine or masculine, but rather that they can display their best selves to audiences and fans.

Perception of Masculinity in China

Men, in a traditional patriarchal society, represented societal order, therefore emotional self-control is essential. Their job was to discipline, direct, and educate the people in their neighborhood. an interesting concept relating to historical masculinity ideals in China is wen-wu (文武), proposed by scholar Kam Louie. Wen (文) or 'civil', suggested a culturally refined masculinity, wu (武) or 'martial' a warlike masculinity (Li & Kuang, 2021).

As China's economy and competitiveness rose significantly in the 1980s, so did its perception of masculinity. Men were still expected to be 'responsible,' but this time it meant earning a living. Success was defined as having a decent career and providing a greater standard of living for your family: in other words, money. The ability to take chances and compete in the corporate world has become synonymous with masculinity.

However, in recent years, attitudes around masculinity have begun to shift. China, being one of K-pop's most important markets, has been profoundly influenced by its portrayal of masculinity. Nowadays, when viewing any K-pop music video, people will almost certainly be confronted with "loud hair colors, elaborate outfits, flawless skin, heavily made-up eyes and painted lips." (Morin, 2020). BTS members are an excellent example of "being unabashed in wearing bright eye shadows, pastel-colored hairstyles, and taking care of their complexions." (Yi, 2020). They show people that wearing makeup boosts one's confidence, which appears to be the essence of masculinity. The young Chinese have enthusiastically embraced the new emergent masculinity, with China's idol production based on the Korean model. This has added to the widespread concern about a "gender crisis." This new masculinity is artistically and emotionally portrayed by male idols who are typically thin, with light skin, colored hair, and full makeup, exuding femininity and attractiveness. They have no qualms about expressing personal feelings. The tendency cannot be explained by the wen-wu paradigm. Instead, the lines between traditional gender norms are blurring.

Related Theories

The Looking-glass Self Theory: it argues that human conduct is substantially determined by self-awareness, which is mostly acquired through social contact. Other people's opinions, attitudes, and perceptions of themselves are a reflection of oneself. Through this "mirror," the individual learns about and grasps himself. Fans might see themselves in idols. Individual fans in the fandom also integrate their self-imagination with the opinions of others by comparing their proposals to those of

other fans or the fan base, completing the development of self-identity. Others notice fan behavior, and self-imagination is harmonized with others' assessments, resulting in a high level of self-identity.

Social Cognitive Theory: it emphasizes learning via observing others. When K-pop idols' fashion styles or behavior patterns are magnified and repeated by media, young audiences are more prone to copy them and regard their idols act as role models. Therefore, when young audiences try to establish their concept of masculinity, they are inevitably influenced by the media portrayal of their idols. With the massive consumption of K-pop idols' media content, young audiences may form their perception of social concepts with their role models as reference, which is a tremendous benefit to young audiences who lack social experience and illuminates the path for them. The young audience watches and imitates idols' styles and actions to determine what is suitable and if they will be rewarded or penalized for it, and then self-regulate using their own cognition. If the youth audience feels they match the criteria, they will be satisfied, and their perception of the concept will be strengthened.

Hypothesis(es)

This study aims to test the following hypotheses:

Hypothesis 1: The perceived portrayal of masculinity by K-pop idols on television/online television has influenced the perception of masculinity in Chinese society.

Hypothesis 2: The perception of masculinity by Millennials and Generation Z are significantly different;

Theoretical Framework

The theoretical framework discusses the interrelationships among the independent variable and the dependent variables.

Independent variable: the perceived portrayal of masculinity by K-pop idols on Chinese television /online television;

Dependent variables: the perception of masculinity by Millennials in China/ the perception of masculinity by Generation Z in China
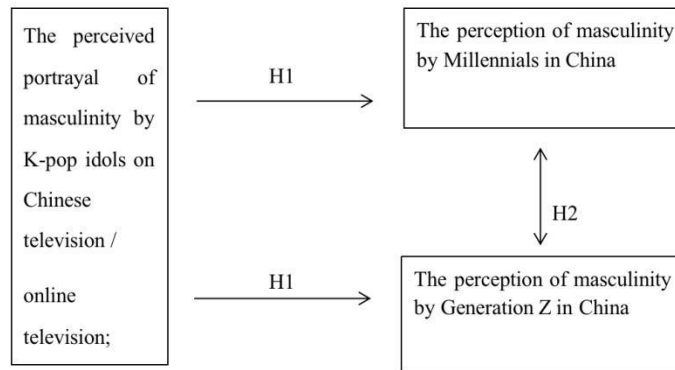
Figure 1: Theoretical Framework

Methodology

The procedures and research methodology used to investigate the theoretical framework and hypotheses were outlined in this part.

Research Design

The K-pop culture has a far-reaching impact in China, not merely in the development of the entertainment industry, but also in the perception of masculinity with its media portrayals in a subtle way. Up until recently, the changing image of masculinity in Chinese society has been a controversial topic. The purpose of this study was to investigate the correlation between media portrayals of K-pop idols and their audiences' perception of masculinity, especially among Generation Z and Millennials.

This study will adopt a quantitative approach whose aim is to determine the relationship between an independent variable and a dependent variable in a population. For data collection, a questionnaire will be used.

Population and Sample Selection

Targeted Populations: in this study, the population is the K-pop fans of the Generation Z and Millennials. These have been chosen as they have been the target audience of K-pop from Hallyu 1.0 to Hallyu 3.0. Moreover, they both have been heavy consumers of K-pop content from Hallyu 1.0 to Hallyu 3.0.

Selection of Sampling

The sample of this study are the Millennials born from 1982 to 1987 and the Generation Z born from 2002 to 2007, that is, the first half of the Millennial generation, and the second half of the generation Z. The age gap between the two sample groups was necessary to compare their perception of masculinity under the impact of the perceived portrayal of K-pop idols on Chinese TV/online TV.

In this study, the author will adopt the non-probability convenience sampling method to select sample units using convenience. The sample size for this study will be established using the Krejcie & Morgan table and formula, which can be found in the Appendix B. For a population of 1,000,000 K-pop Chinese fans, the researcher will select 384 respondents based on convenience sampling with 192 respondents from Generation Z and 192 respondents from Millennials.

Research Instrument

The researcher will utilize the quantitative research approach by constructing an online questionnaire which consists of five sections:

1) The Demographic Information: the demographic information of the participants was the focus of the first section of the questionnaire, which included age, gender, level of education, employment, financial condition, and starting age of idol worship.

2) The Perceived Portrayal Of K-Pop Idols On TV/Online TV In China: the second section of the questionnaire is about the perceived portrayal of K-pop idols on TV/online TV in China, the K-pop artifact which created awareness among fans, and the description of K-pop idols' looks and behaviors relevant to masculinity. According to the Brannon Masculinity Scale (BMS) (Brannon & Juni, 1984), there are four traditional themes in measuring masculinity: 1) the fear of appearing feminine; 2) the desire for success and the need to be looked up to; 3) to be tough, courageous, and self-reliant; and 4) to be aggressive, conquering and violent. The author provided statements according to these four themes and the respondents were provided with answers with five-point scale, arranging from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree to, (5) strongly agree.

The respondent's opinion on each item was measured using a five-point scale, ranging from strongly agree (5) to strongly disagree (1). Calculating the greatest score minus the lowest score and then dividing it by the number of levels yielded the requirements for the scale degree. The following is the formula:

Mean range for the scale degree = (Highest score - Lowest score) / Number of levels Mean range for the scale degree = (5 - 1) / 5 = 4 / 5 = 0.80

As a result, the scale's mean range was 0.8. The researcher classified the mean range into five categories, as shown in Table 3, ranging from strongly agree, agree, so-so, disagree, and strongly disagree.

Table 1: Opinions toward Score Mean Interpretation of the Statement

Opinions	Score	Mean	Meaning
Strongly Agree with the statement	5	4.21 - 5.00	Strongly Agree
Agree with the statement	4	3.41 - 4.20	Agree
So-so with the statement	3	2.61 - 3.40	So-so
Disagree with the statement	2	1.81 - 2.60	Disagree
Strongly Disagree with the statement	1	1.00 - 1.80	Strongly Disagree

Statements in this section:

(1). K-pop male idols are dressed in a masculine way on TV/online TV;

(2). K-pop male idols are dressed in an androgynous way;

(3). K-pop male idols' dance embodies power and strength;

(4). K-pop male idols' dance embodies flow and sexiness;

(5). K-pop male idols are portrayed as heroes in their music videos;

(6). K-pop male idols are portrayed as average people in their music videos;

(7). The biographical stories of your idol make you believe he is courageous and tough;

(8). The biographical stories of your idol make you believe he is fragile and gentle.

3) The Perception of K-pop Idols' behaviors on TV/online TV

The third section is about the perception of K-pop idols' behaviors on TV/ Online TV. The responses were provided with five-point scale, arranging from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree to (5) strongly agree.

Statements in this section:

(1). You often see aggressive and dominant behaviors of your K-pop idols on TV/online TV;

(2). You often see peaceful and obedient behaviors of your K-pop idols on TV/online TV;

4) The Impact of Exposure To K-Pop Content on Fans' Behaviors

The fourth part involves the impact of exposure to K-pop on fans' behaviors. The responses were provided with five-point scale, arranging from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree to (5) strongly agree.

Statements in this section:

(1). You consider yourself addicted to K-pop content;

(2). You often imitate your idols' style and way of speaking (including body language);

(3). You recommend the K-pop style to your family, friends, or lover;

(4). You look for partners resembling K-pop idols in your relationship;

5) The Perception of Masculinity in China

The fifth section is about the perception of masculinity in China, the difference between the perception of masculinity by Millennials and Generation Z, the responses were provided with five-point scale, arranging from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree to (5) strongly agree.

Statements in this section:

(1). You believe masculinity primarily means to be tough, courageous, ambitious, and sometimes aggressive;

(2). You believe masculinity also means to be emotional, assuming one's sexual orientation, and not hiding a man's feminine side;

(3). Do you agree that the standards of masculinity have changed over time?

(4). After the ban on K-pop content in China, its impact is still present;

(5). The perception of masculinity is different between Generation Z and Millennials

(6). Millennials' definition of masculinity is more macho.

(7). Generation Z's definition of masculinity is more androgynous.

Data Collection

Given the large number of K-pop fans in China, the researcher will only look at the fans from two age groups: Millennials and Generation Z. The respondents must have been a consumer of K-pop content on TV/online TV.

Using the convenience sampling approach, the researcher will spend 15 days to share the questionnaire link with the audience via Wechat when it is published on the Chinese questionnaire site "Questionnaire Star." The objective is to yield at least 384 valid results. Given the covid-19

prevention measures, the questionnaire will be completed online, and the audiences may complete the survey on Wechat and then send it back to the researcher.

Data Analysis

In this study, the hypotheses will be tested with SPSS (Statistical Package for the Social Sciences). Hypothesis 1 will be tested using linear regression analysis, and Hypothesis 2 will be tested using independent sample t-test.

Hypothesis 1: The perceived portrayal of masculinity by K-pop idols on television/online television has influenced the perception of masculinity in Chinese society;

Independent variable: The perceived portrayal of masculinity by K-pop idols;

Dependent variable: the perception of masculinity in Chinese society;

Statistical analysis: Regression Analysis

Hypothesis 2: The perception of masculinity by Millennials and Generation Z are significantly different;

Statistical analysis: Independent t-test

Findings

This part summarizes the descriptive findings and the interpretation of the data acquired from the online survey conducted in March 2022. The researcher received 425 fulfilled questionnaires from the target age groups: Millennials (1982-1987) and Gen Z (2002-2007).

Descriptive Analysis

1) Demographic Information

In this research, the sample was divided into two groups: those born between 1982-1987 (Millennials) and between 2002-2007 (Gen Z). The Millennials group accounted for 77.65%, and the Gen Z accounted for 22.35%, see table 2

Table 2: Age of respondents

Variables	Frequency	Percentage
1.born between 1982-1987	330	77.65%
2.born between 2002-2007	95	22.35%
Total	425	100%

As for Millennials, they consist of 33.03% of males (n=109), and 66.97% of females (n=221); regarding their level of education, they consist of 39.09% of high school diploma or under (n=129), 41.82% of bachelor's degree (n=138), 13.64% of master's degree (n=45) and 5.45% of doctoral degree (n=18); regarding their profession, they consist of 0.6% of student (n=2), 39.70% of office workers (n=131), 22.42% of technical workers (n=74), 18.18% of job applicants (n=60), 9.39% of freelancers (n=31), 4.85% of business owners (n=16), 3.94% of unemployed (n=13), and 0.91% of other careers (n=3); regarding their level of income, they consist of 5.15% under 2,000 RMB per month (n=17), 15.15% of 2,000-3,500 RMB per month (n=50), 50.6% of 3,501-5,000 RMB per month (n=167), and 29.09% of more than 5,000 RMB per month (n=96); regarding their length of time consuming K-pop content, they consist of 27.88% of less than one year (n=92), 36.67% of 1-3 years (n=121), 21.52% of more than 3-5 years (n=71), and 3.94% of over 5 years (n=46), see table 2.

As for Gen Z, they consist of 33.68% of males (n=32), and 66.32% of females(n=63); regarding their level of education, they consist of 60% of high school diploma or under (n=57), 33.68% of bachelor's degree (n=32), 6.32% of master's degree (n=6) and none of them got a doctoral degree (n=0); regarding their profession, they consist of 93.68% of students (n=89), 3.16% of freelancers (n=3), 1.05% of office workers, technical workers, or other careers (n=1/each), and none of them were business owners, job applicants, or unemployed (n=0); regarding their level of income, they consist of 21.05% under 2,000 RMB per month (n=20), 43.16% of 2,000-3,500 RMB per month (n=41), 18.95% of 3,501-5,000 RMB per month (n=18), and 16.84% of more than 5,000 RMB per month (n=16); regarding their length of time consuming K-pop content, they consist of 27.37% of less than one year (n=26), 37.89% of 1-3 years (n=36), 17.89% of more than 3-5 years (n=17), and 16.84% of over 5 years (n=16), see table 3.

Table 3: Gender, Level of Education, Profession, Level of Income, Years of Consuming Idol Content by Millennials and Gen Z

	Variables	**Group**	**Frequency**	**Percentage**
Gender	1. Female	Millennials	221	66.97%
		Gen Z	63	66.32%
	2. Male	Millennials	109	33.03%
		Gen Z	32	33.68%
		Millennials	129	39.09%

Table 3: Gender, Level of Education, Profession, Level of Income, Years of Consuming Idol Content by Millennials and Gen Z (Continue)

Variables		Group	Frequency	Percentage
Level of Education	1. High school diploma or under	Gen Z	57	60%
	2. Bachelor's degree	Millennials	138	41.82%
		Gen Z	32	33.68%
	3. Master's degree	Millennials	45	13.64%
		Gen Z	6	6.32%
	4. Doctoral degree	Millennials	18	5.45%
		Gen Z	0	0%
Profession	1. Student	Millennials	2	0.6%
		Gen Z	89	93.68%
	2. Office Worker	Millennials	131	39.70%
		Gen Z	1	1.05%
	3. Technical Worker	Millennials	74	22.42%
		Gen Z	1	1.05%
	4. Job Applicant	Millennials	60	18.18%
		Gen Z	0	0%
	5. Freelance	Millennials	31	9.39%
		Gen Z	3	3.16%
	6. Business Owner	Millennials	16	4.85%
		Gen Z	0	0%
	7. Unemployed	Millennials	13	3.94%
		Gen Z	0	0%
	8. Others	Millennials	3	0.91%
		Gen Z	1	1.05%
		Millennials	17	5.15%

Table 3: Gender, Level of Education, Profession, Level of Income, Years of Consuming Idol Content by Millennials and Gen Z (Continue)

Variables		Group	Frequency	Percentage
Level of Income	1. Under 2,000 RMB per month	Gen Z	20	21.05%
	2. 2,000 - 3,500 RMB per month	Millennials	50	15.15%
		Gen Z	41	43.16%
	3. 3,501 - 5,000 RMB per month	Millennials	167	50.6%
		Gen Z	18	18.95%
	4. More than 5,000 RMB per month	Millennials	96	29.09%
		Gen Z	16	16.84%
How many years have you been consuming K-pop idols' content?	1. Less than one year	Millennials	92	27.88%
		Gen Z	26	27.37%
	2. 1 - 3 years	Millennials	121	36.67%
		Gen Z	36	37.89%
	3. More than 3 - 5 years	Millennials	71	21.52%
		Gen Z	17	17.89%
	4. Over 5 years;	Millennials	46	13.94%
		Gen Z	16	16.84%

2) The Perceived Portrayal of K-pop Idols on TV/online TV in China

Regarding the respondents' opinion about the perceived portrayal of K-pop idols on TV/online TV in China, they agreed that K-pop male idols are portrayed as average people in their music videos (mean=3.83), K-pop male idols' dance embodies power and strength (mean=3.75), the biographical stories of their idol make them believe he is fragile and gentle (mean=3.74), pop male idols are dressed in a masculine way on TV/online TV (mean=3.73), K-pop male idols are portrayed as heroes in their music videos (mean=3.73), K-pop male idols' dance embodies flow and sexiness (mean=3.72), the biographical stories of their idol make them believe he is courageous and tough (mean=3.72), and K-pop male idols are dressed in an androgynous way (mean=3.70).

To conclude, the samples agreed (M=3.74, SD=1.09) with the perceived portrayal of masculinity by K-pop idols, see Table 4.

Table 4: The Perceived Portrayal of K-pop Idols on TV/online TV in China

The Perceived Portrayal of K-pop Idols on TV/online TV in China	Mean	SD	Meaning
Pop male idols are dressed in a masculine way on TV/online TV.	3.73	1.27	Agree
K-pop male idols are dressed in an androgynous way.	3.70	1.24	Agree
K-pop male idols' dance embodies power and strength.	3.75	1.34	Agree
K-pop male idols' dance embodies flow and sexiness.	3.72	1.29	Agree
K-pop male idols are portrayed as heroes in their music videos.	3.73	1.27	Agree
K-pop male idols are portrayed as average people in their music videos.	3.83	1.25	Agree
The biographical stories of your idol make you believe he is courageous and tough.	3.72	1.25	Agree
The biographical stories of your idol make you believe he is fragile and gentle.	3.75	1.24	Agree
Total	3.74	1.09	Agree

3) The Perception of K-pop Idols' Behaviors on TV/online TV

Regarding the respondents' opinion about the perception of K-pop idols' behaviors on TV/ online TV, the millennials strongly agreed that they often see aggressive and dominant behaviors of their K-pop idols on TV/online TV (mean=4.25), and often see peaceful and obedient behaviors of their K-pop idols on TV/online TV (mean=4.31), while Gen Z disagreed that they don't often see either aggressive and dominant behaviors or peaceful and obedient behaviors on TV/online TV (mean=1.84).

To conclude, Millennials strongly agreed (M=4.28, SD=0.76) with the perception of K-pop idols' behaviors on TV/ online TV, whereas Gen Zs disagreed (M=1.84, SD=0.76) with the perception of K-pop idols' behaviors on TV/ online TV, see Table 5.

Table 5: The Perception of K-pop idols' Behaviors on TV/ online TV

The Perception of K-pop idols' Behaviors on TV/ online TV	Group	Mean	SD	Meaning
You often see aggressive and dominant behaviors of your K-pop idols on TV	Millennials	4.25	0.745	Strongly Agree
	Gen Z	1.84	0.854	Disagree
You often see peaceful and obedient behaviors of your K-pop idols on TV/online	Millennials	4.31	0.769	Strongly Agree
	Gen Z	1.84	0.673	Disagree
Total		3.74	1.27	Agree

4) The Impact of Exposure To K-Pop content on Fans' Behaviors

Regarding the respondents' opinion about the impact of exposure to K-pop content on fans' behaviors, the millennials strongly agreed that they look for partners resembling K-pop idols in their relationships (mean=4.35), that they consider themselves addicted to K-pop content (mean=4.31), that they have recommended the K-pop style to their family, friends, or lovers (mean=4.30), and that they often imitate their idols' style and way of speaking (mean=4.29). However, the Gen Z disagreed that they look for partners resembling K-pop idols in their relationships (mean=1.92), that they have recommended the K-pop style to their family, friends, or lovers (mean=1.92), that they often imitate their idols' style and way of speaking (mean=1.88), or that they consider themselves addicted to K-pop content (mean=1.82).

To conclude, Millennials strongly agreed (M=4.31, SD=0.70) with the impact of exposure to K-pop content on their behaviors, while Gen Zs disagreed (M=1.89, SD=0.86) with the impact of exposure to K-pop content on their behaviors, see Table 6.

Table 6: The Impact of Exposure To K-Pop content on Fans' Behaviors

The Impact ff Exposure To K-Pop content on Fans' Behaviors	Group	Mean	SD	Meaning
You consider yourself addicted to K-pop content.	Millennials	4.31	0.704	Strongly Agree
	Gen Z	1.82	0.863	Disagree

Table 6: The Impact of Exposure To K-Pop content on Fans' Behaviors (Continue)

The Impact ff Exposure To K-Pop content on Fans' Behaviors	Group	Mean	SD	Meaning
You often imitate your idols' style and way of speaking	Millennials	4.29	0.706	Strongly Agree
	Gen Z	1.88	0.909	Disagree
You have recommended the K-pop style to your family, friends, or lover.	Millennials	4.30	0.708	Strongly Agree
	Gen Z	1.92	0.821	Disagree
You look for partners resembling K-pop idols in your relationship.	Millennials	4.35	0.690	Strongly Agree
	Gen Z	1.92	0.907	Disagree
Total		3.77	1.26	Agree

5) The Perception of Masculinity in China

Regarding the respondents' opinion about the perception of masculinity in China, the millennials strongly agreed that their definition of masculinity is more macho (mean=4.30), that Generation Z's definition of masculinity is more androgynous (mean=4.28), that the perception of masculinity is different between Generation Z and Millennials (mean=4.28), that the standards of masculinity have changed over time (mean=4.28), that they believe masculinity means to be emotional, assuming one's sexual orientation, and not hiding a man's feminine side (mean=4.28), that they believe masculinity primarily means to be tough, courageous, ambitious, and sometimes aggressive (mean=4.28), and that after the ban on K-pop content in China, its impact is still present (mean=4.24).

As for Gen Z, they disagreed that Millennials' definition of masculinity is more macho (mean=2.02), that after the ban on K-pop content in China, its impact is still present (mean=1.85), that they believe masculinity primarily means to be tough, courageous, ambitious, and sometimes aggressive (mean=1.84), that they believe masculinity means to be emotional, assuming one's sexual orientation, and not hiding a man's feminine side (mean=1.75), that their definition of masculinity is more androgynous (mean=1.72), that the perception of masculinity is different between Generation Z and Millennials (mean=1.72), and that the standards of masculinity have changed over time (mean=1.71).

To conclude, Millennials strongly agreed (M=4.28, SD=0.77) with the perception of masculinity in China, while Gen Zs strongly disagreed (M=1.80, SD=0.74) with the perception of masculinity in China, see Table 7.

Table 7: The Perception of Masculinity in China

The Perception of Masculinity in China	Group	Mean	SD	Meaning
You believe masculinity primarily means to be tough, courageous, ambitious, and sometimes aggressive.	Millennials	4.28	0.753	Strongly Agree
	Gen Z	1.84	0.879	Disagree
Masculinity means to be emotional, assuming one's sexual orientation, and not hiding a man's feminine side.	Millennials	4.28	0.753	Strongly Agree
	Gen Z	1.75	0.743	Disagree
The standards of masculinity have changed over time	Millennials	4.28	0.760	Strongly Agree
	Gen Z	1.71	0.698	Disagree
After the ban on K-pop content in China, its impact is still present	Millennials	4.24	0.771	Strongly Agree
	Gen Z	1.85	0.714	Disagree
The perception of masculinity is different between Generation Z and Millennials	Millennials	4.28	0.765	Strongly Agree
	Gen Z	1.72	0.663	Disagree
Millennials' definition of masculinity is more macho.	Millennials	4.30	0.750	Strongly Agree
	Gen Z	2.02	0.825	Disagree
Generation Z's definition of masculinity is more androgynous.	Millennials	4.28	0.816	Strongly Agree
	Gen Z	1.72	0.647	Disagree
Total		3.72	1.28	Agree

Hypothesis Testing

The hypotheses to be tested are the followings:

Hypothesis 1: The perceived portrayal of masculinity by K-pop idols on television/online television has influenced the perception of masculinity in Chinese society.

Hypothesis 2: The perception of masculinity by Millennials and by Gen Z are significantly different.

Hypothesis 1

Hypothesis 1: The perceived portrayal of masculinity by K-pop idols on television/online television has influenced the perception of masculinity in Chinese society.

Independent = the perceived portrayal of masculinity by K-pop idols on television/online television (measured on a 5-point scale (5) Strongly Agree (4) Agree (3) So-so (2) Disagree (1) Strongly Disagree)

Dependent = the perception of masculinity in Chinese society (by Millennials and Gen Z) (measured on a 5-point scale (5) Strongly Agree (4) Agree (3) So-so (2) Disagree (1) Strongly Disagree).

To test Hypothesis 1, a linear regression analysis was performed between the perceived portrayal of masculinity by K-pop idols on television/online television as the independent variable and the perception of masculinity in Chinese society as the dependent variable.

The R value indicated a strong relationship between the independent variable and the dependent variable, and the R^2 indicated that the independent variables accounted for 86.7% of the variation in the dependent variable, see Table 8.

Table 8: Regression Analysis of the Impact of the Perceived Portrayal of Masculinity by K-pop Idols on the Perception of Masculinity in China

Factors (n=425)	The Perceived Portrayal of Masculinity by K-pop Idols	
	β	t
Constant		1.835(p=.067)
The Perception of Masculinity in China	.931	52.613 (p<.001)
R	.931[a]	
F	2768.099 (p<.001[b])	
R Square.	.867	

p < .05

The linear regression analysis revealed the correlation coefficient (r = .93) (see table 8) was significant ($F_{(1, 423)}$ = 2768, p < .05 (see Table 8), and 86.7% of the variation in the dependent

variable was explained by the independent variable ($r2$ = .867, adjusted $r2$ = .867), see table 8. Therefore, hypothesis 1 was supported.

The equation of prediction produced by this analysis described the relationship between the two variables to be:

The perception of masculinity in Chinese society = .961 x the perceived portrayal of masculinity by K-pop idols on television/online television + .131, see table 8.

Hypothesis 2

Hypothesis 2: The perception of masculinity by Millennials and by Gen Z are significantly different.

An independent sample t-test was used to test Hypothesis 2. The result revealed a significant difference between the perception of masculinity between Millennials and Gen Z ($t423$ = 58.473, $p < .05$) (see Table 9). That is, the Millennials reported a strong agreement regarding the impact of the perceived portrayal of masculinity by K-pop idols on TV/online TV on the perception of masculinity in Chinese society (mean= 4.2932) (see Table 9), while the Gen Z indicated their disagreement (mean= 1.8342) (see Table 9) regarding the impact of the perceived portrayal of masculinity by K-pop idols on TV/online TV on the perception of masculinity in Chinese society.

Therefore, hypothesis 2 was supported.

Table 9: Sample descriptives using t-test for Equality of Means

	Millennials born between 1982-1987		Gen Z born between 2002-2007		
	M	SD	M	SD	t-test
The perceived portrayal of masculinity by K-pop idols	4.2932	.34681	1.8342	.40748	58.47

$p < .05$

Note. M=Mean, SD=Standard Deviation. The perceived portrayal of masculinity by K-pop idols ranges from 1(Strongly disagree) to 5 (Strongly agree).

Discussion

This part summarized the descriptive findings and discussion, hypothesis testing and discussion, the limitations of this study, and also provided recommendations for related parties. The results of this research suggest that the perceived portrayal of K-pop idols on TV/online TV has a significant impact on the perception of masculinity in Chinese society. In addition, there's a significant difference in the perception of masculinity between Millennials and Gen Z. The Millennials firmly believed that the perception of masculinity in Chinese society has been changing since the first appearance of K-pop idols on TV/online TV, and their perceived portrayals have been an important driving force of the change. However, Gen Zs think that the perception of masculinity has not changed over time and the impact of K-pop idols' media portrayal is less significant. This contrast in belief is closely related to the cultural background of the time. When Millennials were the major target audience of K-pop culture, China was aspiring to reconnect with the outside world both economically and culturally, and did not have its own popular culture. Therefore, embracing foreign cultures was the trend, and the attempt of K-pop content to influence Chinese youth was positively received.

As for Gen Zs who have grown up with the benefit of China's decade-long economic achievements to be the target audience of an evolved version of K-pop culture, they see K-pop as a dish in a cultural feast. For them, the consumption of K-pop content is more of a personal preference than a necessary need, because there is C-pop (Chinese popular culture) at their convenience and this generation appears to be more confident in cultural interactions with the outside world. In addition, the Chinese government is guiding the Gen Zs through public opinion to return to the traditional values while strengthening patriotism, which also greatly weakened the influence of K-pop culture.

When investigating the two generations (1982-1987 & 2002-2007) as the sample, the researcher found out that the age gap between them has placed them in different roles in Chinese society. Based on the survey results, 93.68% of Gen Zs in the sample are students, whereas 62.12% of Millennials in the sample are office/technical workers. Therefore, it is likely to assume that Millennials are the rule makers and Gen Zs are the rule followers in Chinese society. When Millennials are convinced of the significant impact of K-pop idol's media portrayal on the perception of masculinity in Chinese society, and they have the power to make changes, it is no longer difficult to understand the bans on K-pop content.

On the other hand, Gen Zs who have spontaneously established the biggest K-pop fandom in the world disagree with the impact of justifying the censorship, and they are obliged to accept the fact that K-pop content will no longer be available on any Chinese official platforms. They might opt to go underground for a continuous consumption of K-pop content which is undoubtedly more challenging to regulate for the rule-makers. According to a Reuters report by Jourdan (2017), K-pop fans "were already finding alternative channels" and "started following a group on a Chinese messaging service that provides links to shows on file sharing platforms like Baidu Cloud" after the censorship. Moreover, if the rules become stricter, the measures could provoke issues on personal freedom. The choice of dressing code or lifestyle is a part of personal freedom, and thus men, like women, should also be granted the right to pursue beauty. Lu Han, a former member of EXO (K-pop boy band), participating in the live broadcast of a beauty brand and was asked to comment on the topic of boys' makeup, and he said: "I think it is necessary. Makeup should not be divided by gender. Everyone can do it, as long as you like it." (Cheng, 2021). An interview by The New York Times (May, 2021) shows that K-pop fans in China "denounced" the ban on K-pop as unwarranted and overly harsh, claiming "chasing stars" a "personal freedom". Then a vicious circle is very likely to take place.

In the process of literature review, the researcher discovered that past studies have two things in common. Firstly, they have pre-set the changes in the perception of masculinity as feminine (Shiau & Chen, 2009). Secondly, they have been focusing on the impact on society as a whole (Louie, 2012). In this research, the author attempted to find out the insight with a questionnaire about the perception of masculinity by Millennials and Gen Z without psychologically suggesting that the current trend is feminizing. Rather, it was chosen by the sample whether the trend is changing from masculine to effeminate or simply masculine in an evolved pattern.

According to the survey results, Millennials strongly agreed that the standards of masculinity have changed over time, while the Gen Zs largely disagreed. Therefore, it can be suggested that the generation gap has led to a radical difference in the conceptualization of masculinity, that is, what is perceived as unmasculine by the Millennials could be considered masculine by the Gen Zs to a large extent. Furthermore, the severity of the negative impact of K-pop culture claimed by the rule makers could seem nonexistent according to the rule followers, and the good wills in the forms of restrictions or bans from the Millennials could be interpreted as abusive supervision of public authorities by the Gen Zs.

By researching the regulative measures taken by the Chinese authorities who are mostly Millennials, the author found out that the controversial situation is similar to an attempt at cultural hegemony. Cultural hegemony refers to domination or rule maintained through ideological or cultural means. It is usually achieved through social institutions, which allows those in power to strongly influence the values, norms, ideas, expectations, worldview, and behavior of the rest of society (Cole, 2020). When examining the difference in the perception of masculinity by the sample of this research, it is obvious that Gen Zs' perceptions of masculinity are more inclusive and diversified, while Millennials are adhering to the perception which promotes an either/or way of thinking. That is, if a behavior is not conformed to the 'masculine' norm, it will be considered feminine, or effeminate; In contrast, the perception of Gen Zs has broadened the concept of masculinity and brought diversity to the universally recognized form of perception. Even if the point of departure for banning K-pop content was to provide a better cultural environment to grow for the younger generation, diversity is still indispensable in helping them develop critical thinking and aesthetics.

Limitations of the Study

This research has numerous areas for improvement, listed as follows:

The Choice for Sampling

The sample chosen from the population could be inadequately representative, and the questions in the survey could be subjective with psychological implications affecting the samples' answers; meanwhile, the sample could have answered the questions randomly which puts the credibility of the collected data under question;

The Sample Selection

The size of the sample in this research could be amplified to collect better data reflecting the reality. Meanwhile, an imbalance was found in the number of Millennial respondents (330) and Gen Z respondents (95), which could affect the reliability of this study. Moreover, the questionnaire could include more dimensions to discover deeper insights from the sample;

The Independent Variable

This research primarily focused on the perceived portrayal of K-pop idols on TV/online TV. In fact, since the beginning of Hallyu 3.0, social media has become the major platform for K-pop. Therefore, the independent variable of this study could be partial compared to reality;

The Literature Review

Confined by the level of technological development in Hallyu 1.0, most of its records are found in printed media, which was difficult to approach for literature reviewing;

The Research Method

This research adopted solely the quantitative approach with an online survey as the research tool. The qualitative approach, such as in-depth interviews and observation, could also be employed to test the survey findings and yield better results.

Recommendations for Future Research

In the process of this study, the researcher identified a number of gaps that future researchers could address. Here are a few recommendations listed below:

The Research Method

Regarding this research topic, it is recommended to conduct a content analysis on the media portrayal of masculinity by K-pop idols to deepen the understanding of the communication objective and messages of K-pop culture.

The Research Topic

Since cultural communication is a reciprocal process, future research endeavors might focus on the reversed effect of the role of K-pop fans in cross-cultural communication, and how the status quo of K-pop has been implicitly shaped by its fans' directions.

This Research Duration

This research could proceed to study the next coming generation and compare their perception of masculinity with Gen Zs; the ongoing research will serve to predict the cultural trends in Chinese society.

Recommendations for Further Application for Related Parties

There is another dimension regarding the topic of this research. Historically speaking, Chinese society is rooted in a patriarchal culture. Since its economic opening-up in 1978, China has absorbed all kinds of foreign cultures and the cultural exchanges have been gradually reshaping the society. Some conservatives posited that the "femininization of young Chinese males" would endanger national security when the traditional muscular warrior-like male image was losing ground. Some even politicized the phenomenon with cold-war thinking, accusing that the US imperialist was supporting K-pop (for ROK and the US are political allies) as an instrument for peaceful evolution

against the Chinese socialism. They cited the example of J-pop in Japan (another important ally of the US) originating from Johnny & Associates, a talent agency started by American-born Japanese businessman Johnny Kitagawa. Kitagawa is claimed to have colluded with the CIA to weaken the male temperament of Japanese society (Hawkins, 2019), which had turned Japanese males from Samurais to "flower boys", resulting in Japan's loss of sovereignty facing the United States in the international political arena. The author recommends future researchers determine whether 'the gender of culture' could be forged by cultural infiltration and the existence of a necessary correlation between inter-cultural communication and the alleged political agenda.

Conclusion

This research is intended to determine the significance of the impact of the perceived portrayal of masculinity by K-pop idols on TV/online TV upon the perception of masculinity in Chinese society.

The literature review concentrated on the perceived portrayal of K-pop idols and the progressive development of its impact on Chinese society. It was found that the difference in the perception of masculinity impacted by K-pop idols' media portrayal between different generations was not questioned by past studies.

Taking into consideration the audience of K-pop culture in China, the Millennials (born in 1982-1987) and Gen Zs (born in 2002-2007) were chosen as the sample of this research. The quantitative approach was used and the data were collected by spreading online questionnaires via the most popular social media in China: WeChat. A number of 425 valid results from the sample consisting of 330 Millennials and 95 Gen Zs were yielded to conduct the quantitative analysis and hypothesis testing with SPSS.

Based on the survey results, a linear regression analysis revealed that the perceived portrayal of masculinity by K-pop idols on television/online television has a significant impact on the perception of masculinity in Chinese society. Meanwhile, an independent t-test showed a significant difference in the perception of masculinity between Millennials and Gen Z. The Millennials strongly agreed with the impact of the perceived portrayal of masculinity by K-pop idols on TV/online TV on the perception of masculinity in Chinese society, while the Gen Z disagreed with the impact of the perceived portrayal of masculinity by K-pop idols on TV/online TV on the perception of masculinity in Chinese society.

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The Roles of Local Employment and Environmental Sustainability on Business Performance: The Mediating Role of Brand Image in The Modern Trade Business in Rural Areas in Thailand

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Abstract

The concept of Sustainable Development Goals (SDGs) has been raised and highlighted in many industries to help build society's sustainable prosperity. In particular, the modern trade business is among Thailand's sectors that have begun incorporating SDGs in business activities. However, whether the SDGs adopted by the modern trade business affect the company image and performance is still an issue that needs to be explored. In response to these research questions, this study aims to investigate the influence of modern trade businesses' local employment and environmental sustainability practices on the brand image and business performance perceived by customers. In this research, stratified random sampling was employed for sample selection. Survey data were collected from customers of modern trade stores located in rural areas of five cities in the central region of Thailand, namely Nakorn Pathom, Samut Songkhram, Ayudhaya, Kanchanaburi, and Lop Buri. The data were derived from 557 customers and 52 managers from 52 stores. Partial least squares structural equation modeling will be used in the data analysis. The PLS-SEM results showed that local employment ($\beta=0.087$; $p=0.018$) and environmental responsibility ($\beta=0.132$; $p<0.001$) could directly promote business performance. Sobel's test results demonstrated that business performance could also be indirectly promoted by fostering brand image through both local employment ($t=6.359$; $p<0.001$) and environmental responsibility ($t=6.324$; $p<0.001$). This research contributed new and additional knowledge and expanded the concept of the Corporate social responsibility (CSR) theory to the context of the modern trade business that was still underexplored.

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บทบาทของการจ้างงานในท้องถิ่นและความยั่งยืนของสิ่งแวดล้อมต่อผลการดำเนินธุรกิจ: บทบาทสื่อกลางของภาพลักษณ์ของแบรนด์ในธุรกิจการค้าสมัยใหม่ในพื้นที่ชนบทของประเทศไทย

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บทคัดย่อ

แนวคิดของเป้าหมายการพัฒนาที่ยั่งยืน (SDGs) ได้รับการหยิบยกและให้ความสำคัญในหลายอุตสาหกรรมเพื่อช่วยสร้างความเจริญรุ่งเรืองอย่างยั่งยืนให้กับสังคม โดยเฉพาะอย่างยิ่งธุรกิจการค้าสมัยใหม่เป็นหนึ่งในภาคส่วนของประเทศไทยที่เริ่มนำ SDGs ไปใช้กับกิจกรรมทางธุรกิจ อย่างไรก็ตาม SDGs ที่ธุรกิจการค้าสมัยใหม่นำมาใช้จะส่งผลกระทบต่อภาพลักษณ์และผลประกอบการของบริษัทหรือไม่นั้นยังคงเป็นประเด็นที่ต้องติดตามกันต่อไป เพื่อตอบคำถามการวิจัยเหล่านี้ การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาอิทธิพลของการจ้างงานในท้องถิ่นของธุรกิจการค้าสมัยใหม่และแนวทางปฏิบัติด้านความยั่งยืนด้านสิ่งแวดล้อมที่มีต่อภาพลักษณ์ของแบรนด์และผลการดำเนินงานทางธุรกิจที่ลูกค้ารับรู้ ในการวิจัยครั้งนี้ใช้การสุ่มแบบแบ่งชั้นภูมิในการคัดเลือกตัวอย่าง ข้อมูลการสำรวจรวบรวมจากลูกค้าของร้านค้าสมัยใหม่ที่ตั้งอยู่ในพื้นที่ชนบทของ 5 เมืองในภาคกลางของประเทศไทย ได้แก่ นครปฐม สมุทรสงคราม อยุธยา กาญจนบุรี และลพบุรี ข้อมูลได้มาจากลูกค้า 557 รายและผู้จัดการ 52 รายจาก 52 ร้านค้า Partial least squares structural equation modeling (PLS-SEM) ถูกนำมาใช้ในการวิเคราะห์ข้อมูล ผลลัพธ์ของ PLS-SEM แสดงให้เห็นว่าการจ้างงานในท้องถิ่น (β=0.087; p=0.018) และความรับผิดชอบต่อสิ่งแวดล้อม (β=0.132; p<0.001) สามารถส่งเสริมผลการดำเนินงานทางธุรกิจได้โดยตรง ผลของ Sobel Test แสดงให้เห็นว่าผลการดำเนินงานทางธุรกิจสามารถถูกส่งเสริมทางอ้อมได้ด้วยการส่งเสริมภาพลักษณ์ของแบรนด์ผ่านการจ้างงานในท้องถิ่น (t=6.359; p<0.001) และความรับผิดชอบต่อสิ่งแวดล้อม (t=6.324; p<0.001) งานวิจัยนี้ก่อให้เกิดความรู้ใหม่และเพิ่มเติมและขยายแนวคิดของทฤษฎีความรับผิดชอบต่อสังคม (CSR) ไปสู่บริบทของธุรกิจการค้าสมัยใหม่ที่ยังไม่ถูกศึกษา

คำสำคัญ: ความรับผิดชอบต่อสังคมขององค์กร (CSR) การจ้างงานในท้องถิ่น ความรับผิดชอบต่อสิ่งแวดล้อม ผลการดำเนินงาน ภาพลักษณ์ของแบรนด์ ธุรกิจโมเดิร์นเทรด

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Introduction

The growing interest in healthy and sustainable living and environmental concerns, such as food security, global warming, and climate change, have collective impacts on the living of humans and animals (Hák, Janoušková, & Moldan, 2016; Moyer & Hedden, 2020). A topic that has often been raised and draws attention from scholars is how to achieve the sustainable development goals (SDGs) promoted by the United Nations (UN) in 2015 to gain a better and more sustainable future for all humanity (Hák et al., 2016; Sachs et al., 2019). The concept of SDGs is the integration of 17 goals with 69 targets and 232 specific indicators signaling a paradigm shift for all humanity and the world in human, social, and environmental development, which are 1) no poverty, 2) zero hunger, 3) good health and well-being, 4) quality education, 5) gender equality, 6) clean water and sanitation, 7) affordable and clean energy, 8) decent work and economic growth, 9) industry, innovation, and infrastructure, 10) reduced inequality, 11) sustainable cities and communities, 12) responsible consumption and production, 13) climate action, 14) life below water, 15) life on land, 16) peace, justice, and strong institutions, 17) partnerships for the goals (Salvia, Leal Filho, Brandli, & Griebeler, 2019; Stafford-Smith et al., 2017). The concept of SDGs has drawn not only the interest of governments and their agents but also businesses worldwide. Since consumers have become more sophisticated and responsible for their society and the surrounding environment, firms cannot escape from developing specific actions and campaigns to facilitate their concerns about their communities and surrounding natural environments (Pawaskar, Raut, & Gardas, 2018). These corporates' actions and campaigns maximize their customers' satisfaction allowing them to achieve lasting business success (Pizzi, Rosati, & Venturelli, 2021; Rosati & Faria, 2019). Firms use various environmental and social-friendly actions as marketing strategies to develop consumers' positive attitudes and emotions, leading to long-term relationships and support for their businesses (Fatima & Elbanna, 2022; Ratasuk, 2021). In Thailand, modern trade businesses, such as department stores, discount stores, supermarkets, and convenience stores, like other businesses, employ environmentally and socially beneficial practices as their tools to create a good brand reputation and image to gain support from consumers, which is essential to their success (Wagner, Bicen, & Hall, 2008). Thailand's modern trade industry has grown significantly in the past years and remains in the 1st place among ASEAN nations in terms of market size, margin, and store ratio to population (Francois, Kuijpers, Potia, & Razdan, 2022; Ratasuk, 2021; Tunpaiboon, 2021).According to Tunpaiboon (2021),

the modern trade business in Thailand generated a total value of 2.8 trillion baht increasing 7.7% from the year before, accounting for 16.5% of the country's GDP in 2019, and continued to grow in the following years, despite the impact of the COVID-19 pandemic. Since modern trade businesses expand not only in urban but also in rural areas throughout the country, they need significant support from local communities where their stores are located, particularly in rural areas where people tend to have a closer relationship with their community (Chipp et al., 2011; Fun, Chiun, Songan, & Nair, 2014). Among social-friendly activities used by modern trade businesses, promoting economic benefits and the well-being of society by creating decent jobs and addressing environmental concerns are often used as effective CSR strategies to encourage a good relationship with local communities (Moisescu, 2015). These activities are harmonized with several goals of the SDGs. For example, their local employment and job creation accommodate several goals: no poverty, zero hunger, good health and well-being, quality education, gender equality, decent work and economic growth, reduced inequality, and sustainable cities and communities (Barbier & Burgess, 2020; Dantas et al., 2021; Leal Filho et al., 2019). The environmental sustainability activities also address many goals, such as good health and well-being, clean water and sanitation, affordable and clean energy, responsible consumption and production, climate action, life below water, and life on land (Elder & Olsen, 2019; Omisore, 2018; Parmentola, Petrillo, Tutore, & De Felice, 2022).

However, it is still skeptical whether the practices can boost their business performance because, even though there is research on the impact of corporate environmental sustainability practices on business performance, it is still limited in the context of the modern trade business, particularly in rural areas in Thailand. Also, research on local corporate employment in the literature is still limited, particularly in its contributions to business performance in the modern trade business context.

Therefore, this study aimed to investigate the roles of local corporate employment and environmental sustainability in promoting business performance in the modern trade business in rural areas. The mediating roles of the brand image were added to the research model to be studied as the mechanism of the proposed relationships. The corporate social responsibility (CSR) concept was also employed to explain the proposed relationships. The results are expected to provide insightful knowledge to verify whether business sustainable development practices are beneficial in the context of modern trade business. The results are expected to provide some guidelines for modern trade businesses to improve their brand image and business performance through SDGs practices.

Literature Review

This study investigated the impacts of local employment and environmental responsibility actions of modern trade businesses in rural areas in Thailand on their business performance and the mediating roles of their brand image on corporate social responsibility (CSR).

Theories of Corporate Social Responsibility

Corporate Social Responsibility (CSR) refers to activities, practices, and the status of businesses that are linked to their obligations to their stakeholders and the society and communities they operate (Currás-Pérez, Dolz-Dolz, Miquel-Romero, & Sánchez-García, 2018; Mohammed & Rashid, 2018). The main idea is that a company should not only make a profit but do more than legal requirements to ethically benefit the surrounding community (McWilliams & Siegel, 2001). It is a management concept whereby firms integrate social and environmental concerns into their business operations and respond to their stakeholders, who are more than their shareholders. The Stakeholder Theory found by Freeman (2001), focusing on the relationships between a business and all its stakeholders, such as customers, investors, employees, suppliers, and communities, argues that a firm should create value for all stakeholders, not just shareholders. Many studies describe CSR in multidimensional terms. For example, Carroll (1991) viewed CSR as a four-leveled pyramid consisting of economic, legal, environmental, and philanthropic dimensions from the bottom to the top of the pyramid, and the higher levels cannot be performed unless the lower level is achieved. The economic extent is the firms' economic responsibilities to their stakeholders, for example, making a return on investment to shareholders, creating economic growth and decent jobs for society, and offering innovative and quality products to customers, while the legal dimension is their responsibilities to always comply with the laws on whatever they do and wherever they go (Carroll, 1991; Mohammed & Rashid, 2018). The environmental or ethical dimension is their responsibility to perform more than legal requirements, for example, using clean energy in their operations and stopping providing environmentally unfriendly packaging, and finally, the philanthropic dimension is their responsibility to promote social welfare (Carroll, 1991; Mohammed & Rashid, 2018). There are still many other CSR-related theories. For example, the instrumental theory explains that corporates achieve monetary objectives by conducting social activities as marketing tools to satisfy and value shareholders long-term (Garriga & Melé, 2004). And the political theory highlights businesses' reasonable social power exploitation in the political fields (Frynas & Stephens, 2015).

In the modern trade business, consumers tend to blame modern retailers for potential harm to the natural environment and that their operations and production create waste and pollution, despite their compliance with the laws, causing concerns about how businesses take responsibility for local communities economically (Wagner et al., 2008). Besides, they are allegedly blamed for forcing local companies to go out of business, which negatively impacts their image and needs to be addressed (Coe & Wrigley, 2017; Talari, 2017; Wagner et al., 2008). To address this issue, modern trade businesses campaign for economic development in all communities they go, which means not only responding to the benefits and commitments to shareholders, but also the development of the economy in which a company operates, for example investing in infrastructure, creating jobs, and providing skills development to local labor (Jonikas, 2014).

Business Performance

Business Performance (BPM) is a set of metrics indicating the efficiency and effectiveness of the operations of businesses as a whole, reflecting how well they exploit their resources to achieve their goals (Anabila, 2020; Marr & Schiuma, 2003; Pathiranage, 2019). BPM, as a complex variable, can be measured in several dimensions, such as financial and non-finance performance, marketing performance, innovation performance, quality performance, customer satisfaction, market share, sales growth, and profitability (Kafetzopoulos, Psomas, & Skalkos, 2019; Nabass & Abdallah, 2018). It is the desired outcome for all businesses that have been studied broadly on what can be its potential antecedents (Kafetzopoulos et al., 2019; Pathiranage, 2019; Ribeiro-Navarrete, Botella-Carrubi, Palacios-Marqués, & Orero-Blat, 2021). For example, Pathiranage (2019) argued that organizational culture could positively influence business performance. Bakator, Petrović, Borić, and Đalić (2019) also argued that human resource management has a positive impact on overall business performance. According to Akintimehin et al. (2019), social capital significantly affected the business performance of businesses in the Nigerian informal sector. In addition, Abushaikha, Salhieh, and Towers (2018) found an indirect relationship between warehouse waste reduction and business performance via warehouse operational and distribution performance.

Local Employment

Local employment refers to a business practice that employs people living in the communities where their businesses operate (Tackie, Chen, Ahakwa, Atingabili, & Ansah, 2022; Tang, 2010). This business practice promotes the local economy by not only bringing in investment but also creating jobs and developing human resources in local communities, which support the local economy and improve the standard of living of local people (Chen, 2021; Tackie et al., 2022). The study by Tackie et al. (2022) found that local employment significantly reduces poverty in Ghana Tang (2010) studied the roles of local employment of Chinese companies in Angola and the Democratic Republic of the Congo and found that local employment not only creates jobs for local people but also promotes the development of local human resources. Many businesses use local employment as a critical economic responsibility which is a crucial part of their CSR strategies to create positive emotions and attitudes toward their companies, brands, and products for business support (Fox, 2004; Luetkenhorst, 2004; MacGregor, Espinach, & Fontrodona, 2007; Madrakhimova, 2013; Mohammed & Rashid, 2018).

Environmental Sustainability

Environmental sustainability refers to the responsibility for conserving natural resources and protecting global ecosystems by supporting health and well-being, now and in the future (Dantas et al., 2021; Kopnina, 2020; Kour et al., 2020). In this case, it refers to the responsibility of corporates to sustain the environment and natural surroundings in the communities where they do business. Thus, the concept of corporate environmental responsibility has been chosen and investigated as environmental sustainability in this study. Corporate Environmental Responsibility (CER) refers to business practices that represent the commitment of firms to conduct their businesses in environment-friendly ways and minimize damages and effects to surrounding natural environments that come from their operations (DesJardins, 1998; Lenzen & Murray, 2010). According to the SDGs concept, profit and environmental responsibility should go together to achieve business and social sustainability (Li, Liao, & Albitar, 2020; Qin, Harrison, & Chen, 2019). Companies employ it as an essential part of CSR campaigns to enhance several positive business outcomes since profit maximization is no longer the only goal they must achieve (Babiak & Trendafilova, 2011; Holtbrügge & Dögl, 2012; Ratasuk, 2021). Wu, Liang, and Zhang (2020) found that CER positively affects Chinese firms' innovation performance. According to Xu, Lu, Lin, and Li (2021), CER was found to have a positive

impact on the financial performance, such as Return of Equity (ROE) and Economic Added Value (EVA), of firms in the architecture, engineering, and construction (AEC) industry.

Brand Image

Brand image refers to the perception of brands in the mind of customers associated with their direct and indirect experience with products and services and other brand associations, such as advertising and promotion, packaging, who use the brand, and which occasions and situations the brand is used (Patterson, 1999; Prabowo, 2019; Ratasuk, 2021; Wijaya, 2013). Previous research shows that brand image significantly influences several desired business outcomes, for example, perceived value, customer satisfaction, and customer repurchase intentions (Konuk, 2018; Mohammed & Rashid, 2018; Ratasuk & Gajesanand, 2020). Ratasuk and Buranasompob (2021) found a positive contribution of brand image on customer repurchase intentions in convenience-store coffee shops in Bangkok. The study by L.-C. Huang, Gao, and Hsu (2019) showed significant positive effects of brand image on perceived value and repurchase intention in ecotourism. And DAM and DAM (2021) revealed a positive influence of brand image on customer satisfaction of customers of supermarkets in Ho Chi Minh City, Vietnam.

Hypotheses Development

All hypotheses were developed on the ground of the CSR theory as follows:

Local employment and business performance

As an economic CSR practice, local corporate employment is expected to promote community economic well-being, enhancing customers' positive attitudes toward businesses (De Grosbois, 2012; Mohammed & Rashid, 2018; Ndubisi, Zhai, & Lai, 2021). According to the CSR theories, once positive attitudes and emotions of stakeholders are developed, they tend to support the businesses. Customers, a major stakeholder of businesses, are willing and continue to support businesses when their pleasant emotion develops, leading to better business performance, mainly marketing and financial performance (J.-W. Huang, Li, & Yen, 2016; Waheed & Zhang, 2020). Thus, the following hypothesis was proposed.

H1: Local employment positively affects business performance

Environmental responsibility and business performance

Among several corporate practices that are compatible with the concept of sustainable development goals (SDGs), corporate environmental responsibility is one of the most common ones that is widely adopted by businesses in many industries worldwide (Dahlmann, Stubbs, Griggs, & Morrell, 2019; Rashed & Shah, 2021). The primary purpose of taking environmental responsibility actions is to create positive attitudes and emotions toward their businesses which are essential for achieving several preferred business outcomes, such as repurchase intentions, brand loyalty, customer trust, and customer satisfaction, indicating the performance of their businesses (Bacinello, Tontini, & Alberton, 2020; Battisti & Perry, 2011; Ngwakwe, 2009; Shabbir & Wisdom, 2020). Shabbir and Wisdom (2020) found that environmental responsibility positively influences the financial performance of Nigerian manufacturing firms, although it is insignificant and positively and significantly affects their profitability. The study by Halme, Rintamäki, Knudsen, Lankoski, and Kuisma (2020) revealed a significant positive effect of environmental performance on business competitiveness. Hence, the following hypothesis was proposed.

H2: Environmental responsibility positively affects business performance

The mediation of brand image on the impacts of local employment and environmental responsibility on business performance

Given that local corporate employment and environmental responsibility can be used as CSR practices, they are expected to enhance the brand image of businesses (Bashir & Amir, 2019; Lu, Ren, Zhang, Wang, et al., 2020; Ratasuk, 2021). And a good brand image should promote business performance by fostering desired business outcomes, for example, customer trust, customer satisfaction, customer repurchase intentions, and brand loyalty, which are known to be good indicators of business performance (Bashir & Amir, 2019; Mohammed & Rashid, 2018; Ratasuk, 2021). According to Negara, Mantikei, Christa, and Sintani (2020), brand image and reputation significantly impact logistics companies' business performance. Bashir and Amir (2019) revealed evidence of the mediating role of brand image on the relationship between economic CSR activities and customer satisfaction in hotels in Pakistan. Moreover, Lu, Ren, Zhang, Rong, et al. (2020) found a significant mediation of corporate image on the association between CSR dimensions and SMEs' organizational performance. Thereby, the following hypotheses were proposed.

H3: Brand image positively mediates the relationship between local employment and business performance

H4: Brand image positively mediates the relationship between environmental responsibility and business performance

Methodology

Sample and data collection procedure

Since the context of this study focuses on customers of modern trade businesses in rural areas in Thailand, survey data were collected from customers and managers of modern trade stores located in rural areas of five cities in the central region of Thailand, namely Nakorn Pathom, Samut Songkhram, Ayudhaya, Kanchanaburi, and Lopburi. The samples were selected using a stratified random sampling method. Ten modern trade stores were randomly selected in each city, and in each selected store, a manager was asked to participate in the study, and 12 customers of each store were randomly approached. Therefore, there was a total of 50 managers and 600 customers approached in this study. Self-administered questionnaires were distributed to at least ten modern trade stores in each city. A set of questionnaires was employed in a modern trade store, including a questionnaire for a store manager and twelve questionnaires for customers. The questionnaires include a cover letter stating clearly the research objectives and instructions. Both questionnaires for managers and customers contain two main parts: participants' characteristics and question sets measuring participants' attitudes toward latent variables in the research model. Customers measured local employment, environmental responsibility, and brand image, while store managers measured business performance. The survey was voluntary, and the collected data were held anonymously.

Measurements

All variables were measured using scales adapted from previous studies that have been proven valid and reliable. All question items measuring each variable were rated on a five-point Likert scale, including (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree.

Local employment was measured by customers using the four-item scale adapted from Moisescu (2015). Sample question items are "This business increases employment in local communities" and " This business replaces existing jobs with higher wage jobs in local communities." Environmental responsibility was assessed by customers using the four-item scale adapted from Wang, Hu, and Zhang (2020). Sample question items are "This business performs energy saving." and "This business releases carbon emission."

Brand image was measured by customers using the four-item scale adapted from Alguacil, García-Fernández, Calabuig, and Gálvez-Ruiz (2021). Sample question items are " Brand Name ethically does business." and "This brand is persuasive and shrewd."

Store managers measured business performance using the four-item scale adapted from Anabila (2020). Sample items are " Market share of our business unit has increased in last three years" and "Sales of our business unit have increased in last three years."

Control Variables

Five control variables, namely gender, age, education, income, period of residence, and local familiarity, were included in this study. Scholars widely employ these demographic variables to affect consumer behaviors in business and management contexts.

Data analysis

The data collected from managers and customers of each store were computed before structural equation modeling analysis. This study employed partial least square structural equation modeling (PLS-SEM) to examine the proposed research model. PLS integrates a principal component analysis (PCA), path analysis, and a set of regressions to estimate the model's paths standardized regression coefficients, and measurement items' factor loadings (Chin, 1998; Lin et al., 2020). Unlike others, PLS effectively produces more accurate results when the data is from a small sample or not normally distributed than other structural equation modeling techniques (Joe F Hair, Sarstedt, Ringle, & Mena, 2012). WarpPLS 8.0 program is selected because it is the latest version that has been improved from previous versions in many functions. Before the PLS-SEM proceeds, descriptive statistics, validity and reliability tests, normality tests, multicollinearity tests, and model-fit indices are used to evaluate the model quality.

Results

A total of 557 valid completed customer and 50 valid completed manager questionnaires were returned, accounting for a 100% and a 92.83 % response rate, respectively. The descriptive statistics of customer characteristics and behaviors, including gender, age, education, income, residential period, community familiarity, and store visit, are reported in Table 1. The sample includes 179 male participants (32.14%), 75 female participants (13.46%), and 303 LGBT (54.40%). Three hundred sixty-two participants (64.99%) are 18 to 25 years old, and 113 (20.29%) are 26 to 35. Three hundred

sixty participants (64.63%) have an undergraduate degree, and 104 (18.67%) have a high school diploma. Two hundred twenty-eight participants (40.93%) earn less than 10,000 Baht per month, and 210 (37.70%) earn between 10,001 to 20,000 Baht per month. A hundred seventy-six participants (31.60%) have resided in their communities for 2 to 5 years, and 135 (24.24%) have resided in the community for 1 to 2 years. Two hundred fifty-one participants (45.06%) have an average level of community familiarity, and 117 (21.01%) have a high level of community familiarity. Two hundred and six participants (36.98%) visit modern trade stores 2 to 3 times a week, and 145 (26.03%) visit modern trade stores more than five times a week.

Table 1: Sample characteristics

Characteristics		Descriptive Statistics
Gender	Male	179 (32.14%)
	Female	75 (13.46%)
	LGBT	303 (54.40%)
Age	18 to 25 years old	362 (64.99%)
	26 to 35 years old	113 (20.29%)
	36 to 45 years old	61 (10.95%)
	46 to 60 years old	20 (3.59%)
	61 years old and older	1 (0.18%)
Education	Lower than high school	26 (4.67%)
	High school	104 (18.67%)
	Associate degree	49 (8.80%)
	Undergraduate degree	360 (64.63%)
	Master degree	14 (2.51%)
	Doctoral degree	4 (0.72%)
Income	Less than 10,000 Baht	228 (40.93%)
(per month)	10,001 to 20,000 Baht	210 (37.70%)
	20,001 to 30,000 Baht	84 (15.08%)
	30,001 to 40,000 Baht	21 (3.77%)
	40,001 to 50,000 Baht	6 (1.08%)
	More than 50,000 Baht	8 (1.44%)
Residential period	Less than one year	97 (17.41%)

Table 1: Sample characteristics (Continue)

		Descriptive Statistics
	1 to 2 years	135 (24.24%)
	2 to 5 years	176 (31.60%)
	5 to 10 years	82 (14.72%)
	10 to 20 years	36 (6.46%)
	Longer than 20 years	31 (5.57%)
Community familiarity	Very low	59 (10.59%)
	low	86 (15.44%)
	Average	251 (45.06%)
	high	117 (21.01%)
	Very high	44 (7.90%)
Store visit	Less than once a week	42 (7.54%)
	One time a week	54 (9.69%)
	2 to 3 times a week	206 (36.98%)
	4 to 5 times a week	110 (19.75%)
	More than five times a week	145 (26.03%)

The overall model quality was tested in various dimensions to ensure qualified data for running PLS-SEM: Firstly, the convergent validity was tested using factor loading values. It is ideal if the values are at least 0.7 (Kock, 2015). Table 2 shows that none of the latent variables' factor loadings was lower than 0.7, which means the model's convergent validity was ideal.

Table 2: Indicator loadings and cross-loadings of latent variables

	BPM	Local	CER	BI
BPM 1	(0.768)	0.008	0.118	-0.110
BPM 2	(0.864)	0.020	0.029	0.027
BPM 3	(0.884)	0.008	-0.077	0.021
BPM 4	(0.869)	-0.035	-0.056	0.050
Local 1	-0.043	(0.808)	0.060	0.058
Local 2	0.006	(0.955)	-0.036	-0.011
Local 3	0.038	(0.856)	0.024	-0.039
Local 4	-0.004	(0.955)	-0.037	-0.003

Table 2: Indicator loadings and cross-loadings of latent variables (Continue)

	BPM	Local	CER	BI
CER 1	0.141	-0.081	(0.815)	-0.187
CER 2	-0.199	-0.066	(0.808)	0.247
CER 3	0.003	0.069	(0.864)	-0.023
CER 4	0.051	0.069	(0.854)	-0.032
BI 1	-0.070	0.031	0.038	(0.857)
BI 2	-0.005	0.025	-0.028	(0.840)
BI 3	0.041	-0.050	0.041	(0.846)
BI 4	0.035	-0.007	-0.053	(0.836)

Note: BPM= business performance, Local= local employment, CER= corporate environmental responsibility, and BI=brand image.

Secondly, the discriminant validity was also tested by comparing each variable' s square root of average variance extracted (AVE) with its correlations with other variables. According to Kock (2015) , its discriminant validity is satisfactory as long as each variable' s square root of average variance extracted (AVE) is higher than all correlations with other variables. Table 3 shows that the square root values of all variables' AVEs are higher than their other correlations indicating an acceptable level of discriminant validity (J.F. Hair, Sarstedt, Ringle, & Gudergan, 2017). Thirdly, the reliability was tested using Cronbach' s alpha and composite reliability coefficients, which are suggested to be acceptable when they are no less than 0.7 (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014; McNeish, 2018) . As presented in table 3, none of Cronbach' s alpha and composite reliability coefficients were lower than 0. 7, which means the reliability was satisfactory. Fourthly, the multicollinearity was tested using the full variance inflation factor (VIF) values, which should not be over 3. 3 to be ideal and 5 to be acceptable (Kock & Lynn, 2012; Senaviratna & Cooray, 2019) . Table 3 shows that none of the full VIF reaches 3. 3, indicating no sign of a severe multicollinearity issue. Lastly, all of the full VIF values are lower than 3.3 can also indicate that common method bias (CMB)is not a serious issue (J.F. Hair et al., 2017; Kock, 2017).

Table 3: Variables' correlations and reliability

	BPM	Local	CER	BI	Gender	Age	Edu	Income	Period	Fam	Visit
BPM	(0.848)										
Local	0.370 **	(0.896)									

Table 3: Variables' correlations and reliability (Continue)

	BPM	Local	CER	BI	Gender	Age	Edu	Income	Period	Fam	Visit
CER	0.387**	0.545**	(0.836)								
BI	0.518**	0.518**	0.525**	(0.845)							
Gender	-0.072	-0.016	-0.036	-0.090	(1.000)						
Age	0.006	0.091**	0.096**	0.042	0.053	(1.000)					
Edu	0.050	-0.027	0.019	0.014	-0.117**	-0.134**	(1.000)				
Income	0.005	0.054*	0.074**	0.002	0.051	0.516**	0.153**	(1.000)			
Period	0.041	0.133*	0.025	0.077*	0.041	0.337**	-0.191**	0.159**	(1.000)		
Fam	0.102*	0.224**	0.158**	0.132**	0.046	0.273**	-0.161**	0.201**	0.527**	(1.000)	
Visit	0.044	0.172**	0.130**	0.208**	-0.063	0.129**	-0.066	0.163**	0.281**	0.315**	(1.000)
Composite Reliability	0.911	0.942	0.902	0.909	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cronbach's alpha	0.868	0.916	0.856	0.866	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Full Collin. VIF	1.433	1.650	1.661	1.837	1.036	1.577	1.154	1.516	1.532	1.532	1.206

Note: ** and * mean a p-value of <0.01 and ≤0.05, respectively; BPM=business performance, Local=local employment, CER=corporate environmental responsibility, BI=brand image, Gender=gender, Age=age, Edu=education, Income=income, Period=residential period, Fam=community familiarity, and Visit=store visit.

Table 4 shows the normality test results presenting that not all variables were normally distributed, which confirm that PLS-SEM is appropriate for this research as recommended by Sarstedt, Hair Jr, Cheah, Becker, and Ringle (2019)

Table 4: Normality Test Results

	BPM	Local	CER	BI	Gender	Age	Edu	Income	Period	Fam	Visit
Normal-JB	Yes	No	Yes	Yes	No	No	No	No	No	Yes	No
Normal-RJB	Yes	No	Yes	No	No	No	No	No	No	No	No

Note: BPM=business performance, Local=local employment, CER=corporate environmental responsibility, BI=brand image, Gender=gender, Age=age, Edu=education, Income=income, Period=residential period, Fam=community familiarity, and Visit=store visit.

Furthermore, the model's overall quality was tested using the ten model-fit indices shown in Table 5 (Kock, 2017). The results show that all indices were satisfactory, indicating that this research model has sufficient quality.

Table 5: PLS-SEM's model fit indices

Model fit indices	Coefficient	Result
Average path coefficient (APC)	0.133**	Significant
Average R-square (ARS)	0.349**	Significant
Average adjusted R-square (AARS)	0.342**	Significant
Average variance inflation factor (AVIF)	1.326	Ideally
Average full variance inflation factor (AFVIF)	1.467	Ideally
Tenenhaus GoF index (GoF)	0.562	Large
Simpson's paradox ratio (SPR)	0.917	Acceptable
R-square contribution ratio (RSCR)	1.000	Ideally
Statistical suppression ratio (SSR)	1.000	Acceptable
Nonlinear bivariate causality direction ratio (NLBCDR)	0.833	Acceptable

Note: ** means a p-value of ≤0.01
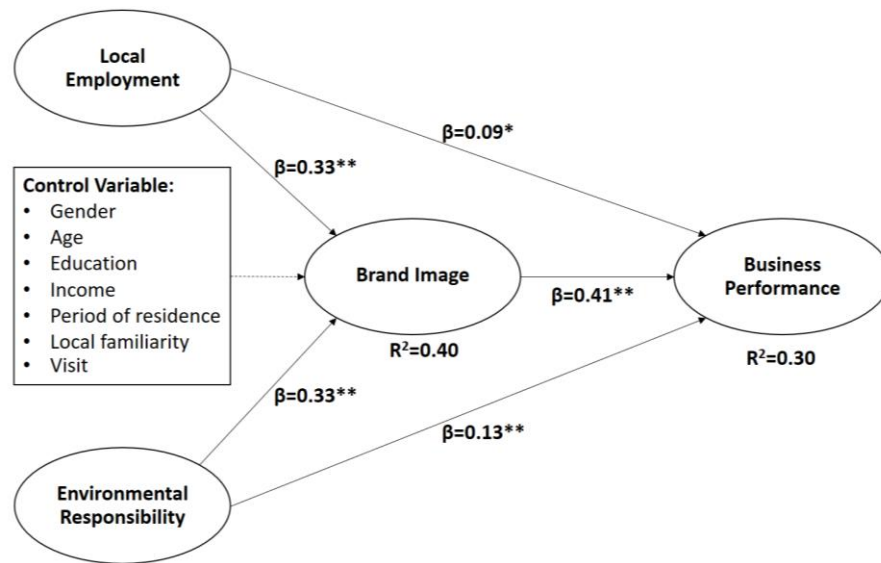
Figure 1: Structural equation model results

Note: ** and * mean a p-value of ≤0.01 and ≤0.05, respectively.

Table 6: Path Coefficient

	Local	Envi	Image	Gender	Age	Edu	Income	Period	Fam	Visit
BPM	0.087	0.132	0.407							
Image	0.087	0.132	0.407	0.087	0.132	0.407	0.087	0.132	0.407	0.087

Note: BPM= business performance, Local= local employment, CER= corporate environmental responsibility, BI= brand image, Gender= gender, Age= age, Edu= education, Income= income, Period=residential period, Fam=community familiarity, and Visit=store visit.

Table 7: Standard Errors

	Local	Envi	Image	Gender	Age	Edu	Income	Period	Fam	Visit
BPM	0.042	0.041	0.040							
Image	0.041	0.041		0.042	0.042	0.042	0.042	0.042	0.042	0.042

Note: BPM= business performance, Local= local employment, CER= corporate environmental responsibility, BI= brand image, Gender= gender, Age= age, Edu= education, Income= income, Period=residential period, Fam=community familiarity, and Visit=store visit.

Table 8: P-Value

	Local	**Envi**	**Image**	**Gender**	**Age**	**Edu**	**Income**	**Period**	**Fam**	**Visit**
BPM	0.018	<0.001	<0.001							
Image	<0.001	<0.001		0.096	0.490	0.015	0.442	0.256	0.308	0.006

Note: BPM=business performance, Local=local employment, CER=corporate environmental responsibility, BI=brand image, Gender=gender, Age=age, Edu=education, Income=income, Period=residential period, Fam=community familiarity, and Visit=store visit.

The PLS-SEM results are presented in figure 2 and explained in detail as follows:

Hypothesis 1: Local employment is positively associated with business performance. The results showed a significant positive association between the two variables (β=0.087; p=0.018). Thereby, hypothesis 1 was supported.

Hypothesis 2: Environmental responsibility is positively associated with business performance. The results showed a significant positive association between the two variables (β=0.132; p<0.001). Thereby, hypothesis 2 was supported.

Hypothesis 3: Brand image positively mediates the relationship between local employment and business performance. The results revealed a significant positive relationship between local employment and brand image (β=0.334; p<0.001) and a significant positive relationship between brand image and business performance (β=0.407; p<0.001). Also, according to the results from the Sobel test suggested by Hayes and Preacher (2014), brand image has significant positive mediation on the relationship (t=6.359; p<0.001). As a result, referring to hypothesis 1 and the Sobel test result, this can be concluded that brand image partially mediates the relationship between local employment and business performance. Therefore, hypothesis 3 was confirmed.

Hypothesis 4: Brand image positively mediates the relationship between environmental responsibility and business performance. The results revealed a significant positive relationship between environmental responsibility and brand image (β=0.331; p<0.001) and a significant positive relationship between brand image and business performance (β=0.407; p<0.001). Also, according to the results from the Sobel test suggested by Hayes and Preacher (2014), brand image has significant positive mediation on the relationship (t=6.324; p<0.001). As a result, referring to hypothesis 2 and the Sobel test result, this can be concluded that brand image partially mediates the relationship between environmental responsibility and business performance. Therefore, hypothesis 4 was confirmed.

Moreover, the effects of control variables on the brand image were also reported. The findings of all seven control variables showed that only education (β=0.090; p=0.015) and store visits (β=0.104; p=0.006) are positively and significantly associated with brand image.

Discussion and Conclusion

This study examined the impacts of business practices employed by modern trade businesses as CSR strategies, including local employment and environmental responsibility, which are expected to respond to the need for SDGs trends on business performance and the mediating role of brand image on the ground of a CSR theory like the stakeholder theory.

The results showed that local employment and environmental responsibility could affect business performance, as explained by the theory, which can be interpreted in modern trade stores where customers perceive higher levels of local corporate employment and environmental responsibility tend to achieve higher business performance. The reason behind this may be that local employment and eco-friendly practices benefit their communities economically and environmentally by providing decent jobs to people in their communities, improving their economic well-being, and saving and sustaining their natural environments.

The benefits of local employment are in correspondence with several SDGs, including no poverty, zero hunger, good health and well-being, quality education, gender equality, decent work and economic growth, reduced inequality, and sustainable cities and communities, as mentioned earlier (Barbier & Burgess, 2020; Dantas et al., 2021; Leal Filho et al., 2019). The benefits of environmental sustainability practices are also concurrent with good health and well-being, clean water and sanitation, affordable and clean energy, responsible consumption and production, climate action, life below water, and life on land (Elder & Olsen, 2019; Omisore, 2018; Parmentola, Petrillo, Tutore, & De Felice, 2022).

As a result, customers' positive attitudes and emotions toward the businesses are fostered and lead to sustainable business support, as explained by CSR. These two direct relationships are aligned with prior research (Long & Lin, 2018; Shabbir & Wisdom, 2020). For example, Torugsa, O'Donohue, and Hecker (2013) found that the economic dimension of CSR, including local employment, is essential to sustainable long-term financial success for Australian SMEs. The study by Li et al. (2020) revealed a positive impact of environmental responsibility on Chinese firms' competitive advantages, innovation, and business value.

The positive mediating roles of the brand image reflect the importance of local corporate employment and environmental responsibility in creating customers' satisfaction and positive attitudes and emotions toward businesses and their brands, leading to continuing to support the companies, which may lead to other preferred outcomes, such as repurchase intentions and brand loyalty that take part in accelerating businesses' performance. This phenomenon is consistent with several prior CSR studies (Mohammed & Rashid, 2018; Ratasuk, 2021; Xu et al., 2021). For example, Mohammed and Rashid (2018) found that economic CSR, which includes corporation job creation or local employment and other activities that promote economic welfare, and ethical CSR, which consists of all corporate environmental responsibility practices, enhance businesses' brand image. Ratasuk (2021) also found a positive impact of the no-plastic bag campaign on the brand image of modern trade businesses in Bangkok. Moreover, J.-W. Huang et al. (2016) revealed the positive mediating role of brand image on the relationship between green innovation and business performance in Taiwan's quick-service restaurant business.

Theoretical contributions

The research's findings provide a meaningful theoretical contribution and expansion to the literature on SDGs, CSR, and business performance studies, particularly in the modern trade business. From the theoretical perspective, the findings of this research are as predicted by the CSR theories. The corporates' activities benefit several stakeholders, particularly customers and their communities, leading to many preferred business outcomes other than profit maximization (Currás-Pérez et al., 2018; McWilliams & Siegel, 2001; Mohammed & Rashid, 2018). Corporate local employment, as an economic CSR practice, and environmental responsibility, as environmental CSR, are beneficial to communities where businesses are operating and their customers live, promoting their local economy and maintaining their natural environment nurturing communities' sustainable development goals (SDGs) (Carroll, 1991; Mohammed & Rashid, 2018; Sachs et al., 2019). In return, businesses earn their customers' positive attitudes and emotions toward themselves and their brands and receive support from them and their communities. These findings provide additional evidence of the roles of local corporate employment, as an economy CSR practice, on brand image and business performance, which is still limited. Likewise, the findings also provided the roles of corporate environmental responsibility in the modern trade business in rural areas in Thailand, which needed to be explored.

Practical contributions and suggestions

The research findings provide practical benefits to modern trade businesses' management and marketing teams since they can be employed as a guideline to foster their business performance and promote their brand image. According to the findings, the management and marketing teams should focus on practices that enhance their brand image to stimulate their business performance. Hiring local people in the community where their businesses are located is a must. Besides, they should support communities in other ways that can help grow the local economy, such as providing fair employment with decent pay and compensation, supporting education and needed skill training in the communities, supporting local businesses by selling their products and partnering up with them to strengthen the local economy. In addition, they should highlight eco-friendly business practices by using natural energy, such as solar and wind power, in their store operation to limit releasing carbon footprints, such as avoiding providing plastic containers, bags, and straws that cannot be recycled. Instead, they should provide eco-friendly products.

Limitations and recommendations for future studies

Even though this research contributes to various new knowledge and evidence supporting the existing CSR literature, particularly in modern business, there are still limitations that should be addressed. First, the data were collected in only five cities which may not be a good representative of all rural areas in Thailand, prohibiting the generalizability of the results. To ensure generalizability, future research is suggested to collect data in other cities in different regions or parts of the country. Secondly, this research managed data cross-sectionally causing difficulty in confirming causal relationships and directions; instead, the findings could only be explained in terms of correlation. A future study is suggested to plan a more extended period for data collection. Finally, only two CSR strategies were investigated, while many other interesting CSR actions have not been explored as keys to business success. Hence future research is suggested to include other potential CSR actions that businesses often employ in the study model to expand the knowledge of CSR and SDGs.

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Interrelations of the Sustainable Development Goals in Ierms of Alignments and Conflicts between Each Pair of Goals.

Vesarach Aumeboonsuke[*]

Abstract

The purpose of this research was to investigate the Sustainable Development Goals (SDGs) by analyzing the interrelations and the possible conflicts among each pair of goals. Since there are 17 Sustainable development Goals (SDG1 - SDG17) in different aspects such as economics, subjective well-being, environmental concern, some pairs of goals might be complementing while some goals might be achieved at the expense of other goals. The results that were obtained based on the data during the COVID 19 pandemic (2020-2021). Data of all goals during the year 2020-2021 from countries in European region were collected from the Sustainable Development database. The nonparametric Spearman's rank correlation (ρ) analysis was employed to examine the monotonic associations between all possible combinations of the unique goal data pairs. The evidence from this study was beneficial for policy makers to form optimal strategies aimed to achieve the overall SDGs or to be aware of any possible conflicts among goals and develop some mechanisms to reconcile these existing conflicts. In addition, it also revealed the dynamic of interrelations and conflicts among SDGs during the crisis interval compared to the long-term span.

Keywords: Sustainable Development Goals, Economic Growth, Spearman Rank Correlation Analysis

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ความสัมพันธ์ระหว่าง SDGs ในด้านที่ไปในทิศทางเดียวกันและตรงกันข้ามกัน

เวสารัช เอื้อมบุญสุข*

บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อตรวจสอบเป้าหมายการพัฒนาที่ยั่งยืน (SDGs) โดยการวิเคราะห์ความสัมพันธ์และความขัดแย้งที่เป็นไปได้ในแต่ละคู่ของเป้าหมาย เนื่องจากมีเป้าหมายการพัฒนาที่ยั่งยืนมี 17 ประการ (SDG1 - SDG17) ในด้านต่างๆ เช่น เศรษฐศาสตร์ ความเป็นอยู่ที่ดี ด้านสิ่งแวดล้อม เป้าหมายบางคู่จึงอาจช่วยเสริมได้ ในขณะที่บางเป้าหมายอาจทำได้สำเร็จโดยมีความขัดแย้งกับเป้าหมายอื่น ผลลัพธ์ที่ได้มาจากข้อมูลในช่วงการระบาดของ COVID 19 (2020-2021) ข้อมูลเป้าหมายทั้งหมดระหว่างปี 2563-2564 จากประเทศต่างๆ ในภูมิภาคยุโรป รวบรวมจากฐานข้อมูลการพัฒนาที่ยั่งยืน การวิเคราะห์อันดับสหสัมพันธ์ (ρ) ของ Spearman แบบไม่อิงพารามิเตอร์ถูกนำมาใช้เพื่อตรวจสอบความสัมพันธ์แบบโมโนโทนิก ระหว่างชุดค่าผสมที่เป็นไปได้ทั้งหมดของคู่ข้อมูลเป้าหมายที่ไม่ซ้ำกัน หลักฐานจากการศึกษานี้เป็นประโยชน์สำหรับผู้กำหนดนโยบายในการสร้างกลยุทธ์ที่เหมาะสมที่สุดโดยมีเป้าหมายเพื่อให้บรรลุเป้าหมาย SDG โดยรวม หรือเพื่อรับทราบข้อขัดแย้งที่อาจเกิดขึ้นระหว่างเป้าหมาย และพัฒนากลไกบางอย่างเพื่อประนีประนอมความขัดแย้งที่มีอยู่เหล่านี้ นอกจากนี้ ยังเผยให้เห็นไดนามิกของความสัมพันธ์และความขัดแย้งระหว่าง SDGs ในช่วงวิกฤตเมื่อเทียบกับช่วงระยะยาว

คำสำคัญ: เป้าหมายการพัฒนาที่ยั่งยืน การเติบโตทางเศรษฐกิจ การวิเคราะห์สหสัมพันธ์อันดับแบบ Spearman

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Introduction

Recently, sustainable development has gained value as a concept to an achievement of human development goals that consider as well the sustainability in natural environments. The desirable outcome for sustainable development is a society where human necessities can be continuously satisfied in term of living standards and required resources at the same time, not having to impair the moral and stability of the natural system. The notion of sustainable development has been emphasizing not just economic development, but also social development and environmental preservation as important components of the overall process. In 2015, the UN General Assembly approved the 2030 Agenda for Sustainable Development, which was endorsed by 193 of its members. The UNGA established a framework for sustainable development planning and programming at the national, regional, and global levels over the following 15 years, until 2030, in order to meet the global Sustainable Development Goals (SDGs). The structure had 17 overall goals, 169 specific targets, and 232 measurable indicators. In 2016 led to the establishment of the SDGs framework's implementation. A worldwide agreement to eradicate poverty had a list of goals to defend all that makes the world habitable and assure that everyone would be able to gain peace and prosperity in the present and future generations. The SDGs recognized that the world needed a substantially more sustainable approach. The aims gave a well-researched framework that was adequate, scientifically, politically acceptable, and intuitive to the public. In addition, the goals offered the best opportunity to ensure the essential collaboration and alignment in the execution of global approaches pertinent to a just, healthy, and prosperous future for people, their children, and grandchildren. As part of the Global Transformation for Sustainable Development, the 2030 Agenda presented the concepts and agreements for a more equal and sustainable future for all people. The Sustainable Development Goals included SDG1 (No poverty), SDG2 (Zero hunger), SDG3 (Good health and well-being), SDG4 (Equality of education), SDG5 (Gender equality), SDG6 (Clean water and sanitation), SDG7 (Affordable clean energy), SDG8 (Decent work and economic development), SDG9 (Industry, innovation, and infrastructure), SDG10 (Reduce inequalities), SDG11 (Sustainable cities and communities), SDG12 (Responsible consumption and production), SDG13 (Climate action), SDG14 (Life below water), SDG15 (Life on land), SDG16 (Peace, justice and strong institutions), and SDG17 (Partnerships to achieve the goals).

For this reason, we will look at how the Sustainable Development Goals (SDGs) interact with one another, as well as any potential conflicts that may arise between them. The following sections are the literature review, the data and methodology section, the discussion of the results section, and the conclusion section.

Literature Review

The concept of sustainable development has been in an attention for more than two decades. Bossel (1999) provided a thorough explanation for sustainable development in his book including the different definitions, prerequisite for sustainable development, concepts, constraints, and suggested indicators to measure sustainable development. Whereas the Member States of the United Nations adopted a new universal agenda for sustainable development in September of 2015, there has been an increase in the number of efforts being made to gain a better understanding of the linkages and interrelationships among the Sustainable Development Goals. This has resulted in an increase in the number of people working toward this goal. The 2030 Agenda for Sustainable Development is the target of these activities, which focused at attaining it (SDGs). As a consequence of this, many individuals are of the opinion that it is of the highest significance to build integrated plans and strategies that take into account the possibility of conflicts and trade-offs among various goals, while also fostering synergies across a broad range of objectives.

The International Council for Science (ICSU) and the International Social Science Council (ISSC) have recently collaborated on a paper in which they discuss the manner in which each of the Sustainable Development Goal objectives are related to other goals (ICSU & ISSC, 2015). The United Nations Global Sustainable Development Study for 2015 and 2016 embraced the Sustainable Development Goals (SDGs) as a linked network of goals as the major basis for the report. This report was published in 2015 and 2016. (United Nations, 2015, 2016). SDG6 (UN-Water, 2016) and SDG4 (Vladimirova & Le Blanc, 2016) have both produced detailed lists of relationships between the aims of one SDG and those of other SDGs. Work of a similar kind is now being done in other SDG domains. Generic network maps of the Sustainable Development Goals were suggested in Le Blanc (2015). (ICSU, 2017). The International Resource Panel has conducted research into the links that exist between the Sustainable Development Goals and natural resources (UNEP, 2015).

Ngankam (2019) examines positive associations between each pair of SDGs from countries in South Africa, noting that researchers are mostly in agreement that the SDGs are connected. Unsurprisingly, his research found that there was a correlation between SDG7 (which focuses on

affordable and clean energy) and SDG13, which focuses on ending poverty (climate action). In addition, the research found a further point of convergence between SDG8 (achievement of decent employment and economic growth) and SDG13 (climate action). These evidences of correlation were particularly noteworthy due to the fact that economic expansion equals higher industrial progress.

Likewise, Nilsson et al. (2016) make the same observation: The SDG logic implies that the objectives are interdependent, even though there was no clear explanation precisely how. For example, it was underlined that SDG4 (Equal access to education) should improve SDG3 (Good health and well-being) and SDG1 (No poverty), SDG5 (Gender equality), and a part of SDG8 (economic growth). Additionally, Nilsson et al. (2016) discuss characteristics of SDGs associations, such as interaction intensity, uni- vs. bi-directionality, and if an association was synergistic (or positively correlated) or antagonistic (or negatively correlated). In specific, it was often believed that the relationship between poverty and hunger was strong, bidirectional, and synergistic. Pradhan et al. (2017) noted a lack of data-driven analyses of connections across SDGs indicators while arguing that the SDGs were inherently linked. Positive correlations were interpreted as synergies and negative correlations as tradeoffs between indicator pairs within across the SDGs. Spearman's rho (ρ) > +0.6 indicates synergy between two SDG metrics, while -0.6 indicates that tradeoffs must be evaluated. In the recent research work by Pradhan et al. (2017), it was shown that SDG1 (Zero poverty) had a substantial positive link with SDG5, which aims to ensure that no one lives in extreme poverty (Gender equality). Although they are not among the top ten realized synergies, SDG1 (No poverty) and SDG2 (Zero hunger), as well as SDG5 (Gender equality) and SDG2 (Zero hunger), have significant synergistic relationships. However, there were both synergies and tradeoffs between SDG13 (climate action) and SDG2 (Zero hunger). Larson and Larson (2019) The results confirm significant interrelationships between the sustainable development goals (SDGs); particular, SDG1 (No poverty), SDG2 (Zero hunger), SDG5 (Gender equality), and SDG13 (climate change). No poverty, fostering gender equality, and environmental goal appeared to step in the direction of eliminating world hunger.

According to Le Blanc et al. (2017) it is evident that there are considerable interdependencies between the goals. However, the "real-world" repercussions of what is done in one target zone on other regions are frequently unanticipated and can be either useful or detrimental. This is because the "real-world" effects can come from either positive or negative actions. In addition, a number of targets are primarily the recipients of interlinkages, meaning they are impacted by a significant number of other targets.

Data and Methodology

The index score of 17 SDG goals from 46 countries in Europe during the year 2019-2020 were collected from the online database for the Europe Sustainable Development Report 2021 by Sachs et al. (2021). The dimension of data set was 17 goals x 46 countries x 2 years. The data contained the SDG Index Score calculated over time using the indicator sets for each goal. For example, SDG1: No poverty index score was calculated based on three indicator sets which were (1) people at risk of income poverty after social transfer in percentage, (2) severely materially deprived people in percentage, and (3) poverty headcount ratio at $5.50 per day in percentage (Indicator sets for each goal was available in the Appendix). In each country, each of the 17 goals in the year 2020 was categorized into 4 layers namely (1) goal achieved, (2) challenges remain, (3) significant challenges, and (4) major challenges. According to the time series of the index score during the year 2019-2020, the goal was categorized into 4 layers namely (1) on track or maintaining achievement, (2) moderately increasing, (3) stagnating, and (4) decreasing.

The nonparametric Spearman's rank correlation (ρ) analysis was employed to examine the monotonic associations between each pair of all the SDG goal index scores. Spearman's correlation coefficient (ρ) was developed by Spearman (1904) as a measurement for estimating how strong an association was between two variables. According to Hauke & Kossowski (2011), Spearman's correlation method was superior to the Pearson's correlation due to its relative less sensitivity to outliers and its ability to capture the nonlinear association between the two variables. Spearman's rank correlation was extensively applied to evaluate nonlinear association between two variables in wide ranges of disciplines including biology (Zhang, 2015), fuel engineering (Andriani et al., 2020), and finance and economics (Bilan et al., 2019).

The Spearman's rank correlation analysis was performed on the data pairs that contained more than three data points in order to avoid the probability of false findings of complementing or controverting as a consequence of an inadequate amount of data. The correlation value would be considered as a strongly significant association when its p-value was less than 0.01 (***), a moderately significant association when its p-value was less than 0.05 (**), and a weakly significant association when its p-value was less than 0.1(*).

An association between each pair of SDG index scores was specified into three categories as followed (1) complementing goals, (2) controverting goals, and (3) unclassified.

Discussion of Results

Selecting 2 from all of the 17 SDG index scores resulted in 272 permutations. The values of Spearman's rank correlation and related statistics were reported in Table 1:

Table 1: Statistical Results

	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9
SDG1	-0.2104	-0.2181	0.0397	0.1154	0.0346	0.1392	0.4525	0.5048
	-1.3945	-1.3778	0.2575	0.7438	0.2218	0.9325	3.3273	3.7442
	0.1705	0.1763	0.7981	0.4612	0.8256	0.3562	0.0018	0.0006
							***	***
SDG2		-0.0275	-0.1098	0.0000	0.0880	-0.1729	-0.4046	0.0873
		-0.1780	-0.6813	0.0000	0.5655	-1.1243	-2.9345	0.5745
		0.8595	0.4998	1.0000	0.5748	0.2674	0.0053	0.5686
							***	
SDG3			0.1518	0.1932	-0.0839	0.2331	-0.0889	0.0045
			0.9952	1.3060	-0.5584	1.5903	-0.5920	0.0297
			0.3253	0.1994	0.5795	0.1195	0.5571	0.9765
SDG4				0.3027	0.2153	0.0894	0.0252	0.0794
				2.0340	1.4621	0.5888	0.1613	0.5222
				0.0485	0.1508	0.5591	0.8726	0.6042
				**				
SDG5					-0.0359	0.3466	0.1349	0.5614
					-0.2383	2.4228	0.8718	4.4491
					0.8128	0.0197	0.3884	0.0001
						**		***
SDG6						-0.0718	-0.0861	0.0868
						-0.4723	-0.5532	0.5711
						0.6391	0.5831	0.5709

Table 1: Statistical Results (Continue)

	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9
SDG7							0.4007	0.3000
							2.8001	2.0621
							0.0078	0.0453
							***	**
SDG8								0.1001
								0.6598
								0.5129

Note: The three numbers for each pair of SDG index scores were the Spearman's correlation value, the t-value, and the p-value. *** indicated significance at 1%, ** indicated significance at 5%, and * indicated significance at 10%.

Table 2: Statistical Results (Continue)

	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
SDG1	0.2906	0.1776	-0.1615	-0.1564	0.1262	0.1881	0.0429	-0.2615
	1.9912	1.1271	-1.0479	-1.0506	0.8438	1.1170	0.2846	-1.7768
	0.0528	0.2666	0.3008	0.2992	0.4034	0.2718	0.7773	0.0827
								*
SDG2	-0.2073	-0.0367	0.3555	0.0103	0.0990	-0.4821	-0.1449	0.0412
	-1.3571	-0.2411	2.3755	0.0657	0.6597	-3.6504	-0.8542	0.2735
	0.1822	0.8106	0.0225	0.9479	0.5129	0.0007	0.3990	0.7858
			**			***		
SDG3	-0.1231	0.1351	0.0693	0.1615	-0.2249	0.0426	0.0156	0.1542
	-0.8229	0.9048	0.4609	1.0852	-1.5308	0.2828	0.1036	1.0355
	0.4151	0.3709	0.6472	0.2845	0.1335	0.7787	0.9180	0.3077
SDG4	0.3561	0.0724	-0.2136	-0.0089	0.0592	-0.0100	0.2554	-0.0209
	2.3799	0.4648	-1.4501	-0.0591	0.3456	-0.0660	1.7321	-0.1369
	0.0223	0.6445	0.1541	0.9531	0.7318	0.9477	0.0904	0.8917
	**						*	
SDG5	0.2083	0.0094	0.0036	0.1597	-0.3127	0.0303	0.3623	0.1133

Table 2: Statistical Results (Continue)

	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
	1.3298	0.0599	0.0241	1.0729	-1.9199	0.2011	2.5487	0.7476
	0.1913	0.9525	0.9809	0.2892	0.0633	0.8415	0.0145	0.4588
				*			**	
SDG6	0.0532	0.4221	-0.2286	-0.2152	-0.0237	0.1946	0.2624	-0.3273
	0.3330	2.9811	-1.5579	-1.4617	-0.1381	1.3163	1.7835	-2.2716
	0.7409	0.0048	0.1264	0.1509	0.8910	0.1949	0.0816	0.0282
		***					*	**
SDG7	0.1815	0.2176	-0.2558	0.0607	0.3847	0.2319	0.1732	-0.1332
	1.1525	1.4273	-1.7549	0.4035	2.4301	1.5812	1.1530	-0.8816
	0.2561	0.1611	0.0862	0.6886	0.0205	0.1210	0.2553	0.3829
			*		**			
SDG8	0.2759	0.2979	-0.2854	-0.0621	0.2350	0.3567	0.3481	-0.3839
	1.7923	1.9984	-1.9750	-0.4126	1.4097	2.5330	2.4347	-2.7261
	0.0808	0.0523	0.0546	0.6819	0.1677	0.0150	0.0191	0.0092
	*	*	*			**	**	***
SDG9	0.0844	0.3584	-0.0644	0.0000	-0.0115	0.1200	0.2969	-0.1231
	0.5287	2.4578	-0.4282	0.0000	-0.0669	0.8020	2.0387	-0.8132
	0.6000	0.0183	0.6706	1.0000	0.9471	0.4269	0.0477	0.4206
		**					**	
SDG10		0.1039	-0.0876	0.0170	-0.0016	-0.1527	0.0820	-0.0176
		0.6688	-0.5832	0.1128	-0.0093	-1.0250	0.5396	-0.1152
		0.5074	0.5627	0.9107	0.9926	0.3109	0.5923	0.9088
SDG11			-0.2977	-0.4389	-0.0385	0.1914	0.3365	-0.3612
			-2.0689	-3.2397	-0.2249	1.2935	2.3433	-2.5400
			0.0445	0.0023	0.8234	0.2026	0.0238	0.0148
			**	***			**	**
SDG12				0.3338	-0.2025	-0.4117	-0.5011	0.1740
				2.3486	-1.2054	-2.9963	-3.7975	1.1585

Table 2: Statistical Results (Continue)

	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
				0.0234	0.2364	0.0045	0.0005	0.2530
				**		***	***	
SDG13					-0.1679	-0.0962	-0.4313	0.3227
					-0.9933	-0.6413	-3.1347	2.2361
					0.3276	0.5247	0.0031	0.0306
							***	**
SDG14						0.1357	0.1870	-0.0767
						0.9088	1.2481	-0.5046
						0.3684	0.2188	0.6164
SDG15							0.3294	-0.2091
							2.2880	-1.4022
							0.0271	0.1680
							**	
SDG16								-0.2450
								-1.6570
								0.1048

Note: The three numbers for each pair of SDG index scores were the Spearman's correlation value, the t-value, and the p-value. *** indicated significance at 1%, ** indicated significance at 5%, and * indicated significance at 10%.

SDG5 (gender equality) and SDG9 (industry innovation and infrastructure): OECD (2022) agreed that with the development of industrialization and infrastructure, woman would be equipped with more capability to access the necessary services and to raise economic opportunities therefore the industrialization and infrastructure development were critical for gender equality.

SDG6 (clean water and sanitation) and SDG11 (sustainable cities and communities): This finding implied that improving the quality of water and sanitation contributed to sustainable cities and communities. It was in according to Ismayilova et al. (2019) who stated that to create the smart and sustainable cities, it required an effective and efficient water management system.

SDG7 (affordable and clean energy) and SDG8 (decent work and economic growth): This synergy had been criticized by several contradicting findings observed in different regions of the world. Gogu et al. (2021) reported that based on the empirical study conducted during the year 2000-2019 on 28 European Union countries, affordable and clean energy was a significant determination for the sustainable economic growth in the European Union. However, Ahmed et al. (2021) revealed that these two goals were tradeoff because research conducted in Japan found that an increased in carbon dioxide was triggered by economic growth.

The other pairs of SDGs that were *positively and moderately associated* were:

- SDG2 (no hunger) and SDG12 (responsible consumption and production)
- SDG4 (quality education) and SDG5 (gender equality)
- SDG4 (quality education) and SDG10 (reduced equalities)
- SDG5 (gender equality) and SDG7 (affordable and clean energy)
- SDG5 (gender equality) and SDG16 (peace, justice, and strong institutions)
- SDG7 (affordable and clean energy) and SDG9 (industry innovation and infrastructure)
- SDG7 (affordable and clean energy) and SDG14 (life below water)
- SDG8 (decent work and economic growth) and SDG15 (life on land)
- SDG8 (decent work and economic growth) and SDG16 (peace, justice, and strong institutions)
- SDG9 (industry innovation and infrastructure) and SDG11 (sustainable cities and communities)
- SDG9 (industry innovation and infrastructure) and SDG16 (peace, justice, and strong institutions)
- SDG11 (sustainable cities and communities) and SDG16 (peace, justice, and strong institutions)
- SDG12 (responsible consumption and production) and SDG13 (climate action)
- SDG13 (climate action) and SDG17 (partnerships for the goals)
- SDG15 (life on land) and SDG16 (peace, justice, and strong institutions)

The synergistic goals were summarized in Figure 1.
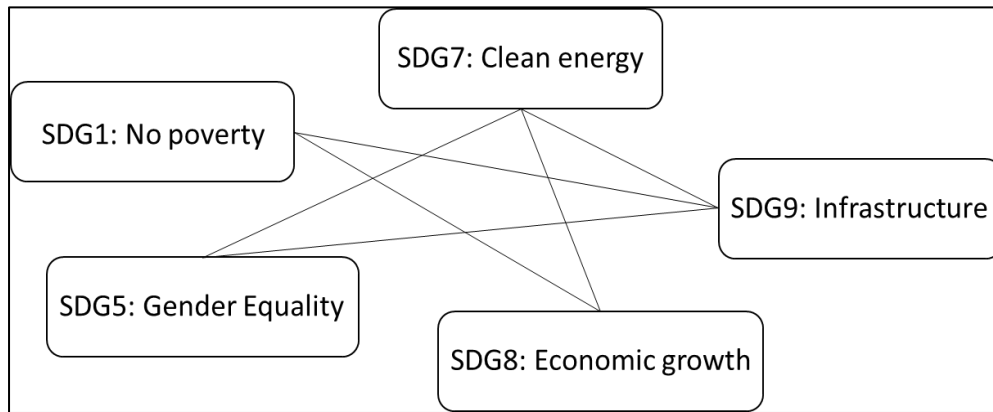
Figure 1: The interrelation among synergistic goals

The goals that were positively correlated or having synergies could be relatively easier to manage. For this reason, we should be more interested in the goals that were negatively correlated or having conflicting directions. According to Table 1,

The essential pairs of SDGs that were *negatively and strongly associated* included:

SDG2 (no hunger) and SDG8 (decent work and economic growth): At the first glance, it might seem that economic growth would reduce no hunger. However, the result implied that hunger problem could not be solved by fostering economic growth (ρ = -0.4046, p-value = 0.0053). This evidence could be explained by McGuire (2013)'s study on the state of food insecurity in the world. In McGuire (2013), the economic growth measured by the gross domestic product (GDP) and per-capita income were investigated with the indicators of hunger and malnutrition. The results concluded that an improvement in economic growth did not essentially decrease food shortage and malnutrition in all people particularly the very poor ones. The explanation was that the poorest regularly had neither the financial resources to buy sufficient amount of food nor the non-financial resources to produce it. Furthermore, although the fiscal benefits of economic expansion did stretch to the poor, other psychological or habitual factors such as a persistent propensity to not purchase good nutrient foods could diminish their potentially nutritional position. As a result, advancement of economic growth that worsen the gap between the rich and the poor might therefore deteriorate the goal of no hunger.

SDG2 (no hunger) and SDG15 (life on land): The result revealed that the association between SDG2 and SGD 15 was ρ = -0.4821, p-value = 0.0007. The strong trade-off between no hunger and life on land was also mentioned by Zhang et al. (2021). However, Zhang et al. (2021) also provided mechanism to reconcile these two competing goals by using spatial optimization that aimed to

minimize conservation costs given a threshold level of biodiversity targets or alternatively to maximize biodiversity gains with the provided conservation budget.

SDG11 (sustainable cities and communities) and SDG13 (climate action): This evidence (ρ = -0. 4389, p-value = 0.0023) was against the study by Pradhan et al. (2017) that reported positive correlation between these two goals. However, Pradhan et al. (2017) also mentioned that the associations under past might not hold for the future due to changing paradigms in term of technology and economic condition.

The other strong conflicts found were tradeoff between SDG12 (responsible consumption and production) and SDG15 (life on land), SDG12 (responsible consumption and production) and SDG16 (peace, justice, and strong institutions), and SDG13 (climate action) and SDG16 (peace, justice, and strong institutions)

The pairs of SDGs that were *negatively and moderately associated* included SDG6 (clean water and sanitation) and SDG17 (partnerships for the goals), SDG11 (sustainable cities and communities) and SDG12 (Responsible Consumption and Production), and lastly, SDG11 (sustainable cities and communities) and SDG17 (partnerships for the goals)
The conflicting goals were summarized in Figure 2.
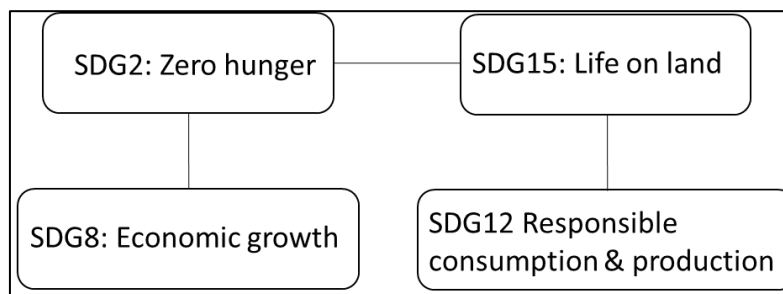
Figure 2: The interrelation among conflicting goals

The only one SDG that was insignificant (neither complementing nor contradicting with all of the other goals) was SDG3 (Good health and well-being). This goal comprised of 18 indicators, some of these included the life expectancy at birth, percentage of population with good or very good perceived health, gap in self-reported health by income, suicide rate, mortality rate under the age of five, people killed in road accidents, percentage of surviving infants who received two WHO-recommended vaccines, and subjective wellbeing. Based on the result that it was not statistically significantly associated with other goals; it could be the easiest goal to manage without having to

consider its effect that might be contradicting with any other goals. Researcher proposed that well-being might be more associated with internal or psychological factors.

Conclusion

The analysis of results revealed that there existed several synergistic goals as well as conflicting goals in the European Countries. The goals that were found to have the most positive associations with other goals were SDG8 (decent work and economic growth) and SDG16 (peace, justice, and strong institutions). In particular, an economic growth was positively associated with the other six goals including SDG1 (no poverty), SDG7 (affordable and clean energy), SDG10 (reduced inequalities), SDG11 (sustainable cities and communities), SDG15 (life on land), and SDG16 (peace, justice, and strong institutions). This evidence confirmed an important role of decent work and economic growth on the other aspects of sustainable development regarding environmental and societal aspects. Policy makers could gain the benefits from strategies aiming to achieve a goal of decent work and economic growth that focusing on such indicators namely protection of fundamental labor rights, gross disposable income, youth not in employment, education, or training, unemployment rate, people killed in accidents at work, in work at-risk-of-poverty rate, and fatal work-related accidents embodied in imports which would contribute to an enhancement of the other synergistic goals. Nevertheless, an association might not imply causal influence, therefore, further investigations are needed to confirm whether there is any original root cause of these synergistic goals or whether any goal is the determinant of the others.

More remarkably, the goals that were found to have the most negative correlation with the other goals were SDG12 (responsible consumption and production) and SDG17 (partnerships for the goals). In specific, the strongest negative statistical significance was detected between SDG17 (partnerships for the goals) and SDG8 (economic growth). Therefore, policy makers may need to investigate the indicators in SDG17 including official development assistance, shifted profits of multinationals, corporate tax haven score, and statistical performance index and it could be further explored some mechanisms to reconcile these tradeoffs.

Limitations and suggestions for future research include firstly, due to data limitation, the research focused on countries in European region which may not be a good representative for other regions with different technological and economical paradigms. Further studies could be conduct to examine whether there is a different or similar association between each pair of goals in different

regions of the world, or across regions with different paradigms. Secondly, the results of associations were based on the historical data and it might be changing across time due to changing in paradigms as well. Thirdly, this study conducted exploration on associations between each pair of goals by employing correlation measure. For policy implementations, future studies maybe needed to further investigate on the causal effects between these goals, identifying the other common causes that influence the indicators in each pair of conflicting goals, studying the goal alignments and conflicts along the different time span, analyzing the association among goals that may differ across countries, and examining the possibility that the findings may change with other economic factors such as the per capita GDP or the real economic growth.

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Appendix

Appendix 1: Indicator sets for each goal

Goal	Indicator sets
SDG1: No poverty	People at risk of income poverty after social transfers (%)
	Severely materially deprived people (%)
	Poverty headcount ratio at $5.50/day (%)
SDG2: No hunger	Prevalence of obesity, BMI ≥ 30 (% of adult population)
	Human Trophic Level (best 2–3 worst)
	Yield gap closure (%)
	Gross nitrogen balance on agricultural land (kg/hectare)
	Ammonia emissions from agriculture (kg/hectare)
	Exports of pesticides banned in the EU (kg per 1,000 population)
SDG3: Good Health and well-being	Life expectancy at birth (years)
	Gap in life expectancy at birth among regions (years)
	Population with good or very good perceived health (% of population aged 16 or over)
	Gap in self-reported health, by income (p.p.)
	Gap in self-reported unmet need for medical examination and care, by income (p.p.)
	New reported cases of tuberculosis (per 100,000 population)
	Standardised preventable and treatable mortality (per 100,000 persons aged less than 75)
	Suicide rate (per 100,000 population)
	Age-standardised death rate attributable to household air pollution and ambient air pollution (per 100,000 population)
	Mortality rate, under-5 (per 1,000 live births)
	People killed in road accidents (per 100,000 population)
	Surviving infants who received 2 WHO-recommended vaccines (%)
	Population engaging in heavy, episodic drinking at least once a week (%)

Appendix 1: Indicator sets for each goal

Goal	Indicator sets
	Smoking prevalence (%)
	People covered by health insurance for a core set of services (%)
	Share of total health spending financed by out-of-pocket payments (%)
	Subjective Wellbeing (average ladder score, worst 0–10 best)
	Individuals that use the internet to make appointments with a practicioner (%)
SDG4: Quality education	Participation in early childhood education (% of children between age of 3 and starting age of compulsory primary education)
	Early leavers from education and training (% of population aged 18 to 24)
	PISA score (worst 0–600 best)
	Underachievers in science (% of population aged 15)
	Variation in science performance explained by students' socio-economic status (%)
	Tertiary educational attainment (% of population aged 25 to 34)
	Adult participation in learning (%)
SDG5: Gender equality	Unadjusted gender pay gap (% of gross male earnings)
	Gender employment gap (p.p.)
	Population inactive due to caring responsibilities (% of population aged 20 to 64)
	Seats held by women in national parliaments (%)
	Positions held by women in senior management positions (%)
	Proportion of ICT specialists that are women (%)
SDG6: Clean water and sanitation	Population having neither a bath, nor a shower, nor indoor flushing flushing toilet in their household (%)
	Population connected to at least secondary wastewater treatment (%)
	Freshwater abstraction (% of long-term average available water)

Appendix 1: Indicator sets for each goal

Goal	Indicator sets
	Scarce water consumption embodied in imports (m³/capita)
	Population using safely managed water services (%)
	Population using safely managed sanitation services (%)
SDG7: Affordable and clean energy	Population unable to keep home adequately warm (%)
	Share of renewable energy in gross final energy consumption (%)
	CO2 emissions from fuel combustion per electricity output (MtCO2/TWh)
SDG8: Decent work and economic growth	Protection of fundamental labor rights (worst 0–1 best)
	Gross disposable income (€/capita)
	Youth not in employment, education or training (NEET) (% of population aged 15 to 29)
	Unemployment Rate (% labor force)
	People killed in accidents at work (per 100,000 population)
	In work at-risk-of-poverty rate (%)
	Fatal work-related accidents embodied in imports (per 100,000 population)
SDG9: Industry, Innovation, and Infrastructure	Gross domestic expenditure on R&D (% of GDP)
	R&D personnel (% of active population)
	Patent applications to the European Patent Office (per 1,000,000 population)
	Households with broadband access (%)
	Gap in internet access, urban vs rural areas (p.p.)
	Individuals aged 55 to 74 years old who have basic or above basic digital skills (%)
	Logistics performance index: Quality of trade and transport-related infrastructure (worst 1–5 best)

Appendix 1: Indicator sets for each goal

Goal	Indicator sets
	The Times Higher Education Universities Ranking:
	Average score of top 3 universities (worst 0–100 best)
	Average score of top 3 universities (worst 0–100 best)
	Scientific and technical journal articles (per 1,000 population)
SDG10: Reduced inequalities	Gini Coefficient
	Palma ratio
SDG11: Sustainable cities and communities	Urban population without access to green urban areas in their neighborhood (%)
	Overcrowding rate among people living with below 60% of median equivalized income (%)
	Recycling rate of municipal waste (%)
	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor (%)
	Exposure to air pollution: PM2.5 in urban areas ($\mu g/m3$)
SDG12: responsible consumption and production	Circular material use rate (%)
	Gross value added in environmental goods and services sector (% of GDP)
	Production-based SO_2 emissions (kg/capita)
	Imported SO_2 emissions (kg/capita)
	Production-based emissions of reactive nitrogen (kg/capita)
	Imported emissions of reactive nitrogen (kg/capita)
SDG13: Climate action	CO_2 emissions from fossil fuel combustion and cement production (tCO2/capita)
	CO_2 emissions embodied in imports (tCO_2/capita)
	CO_2 emissions embodied in fossil fuel exports (kg/capita)

Appendix 1: Indicator sets for each goal

Goal	Indicator sets
	Bathing sites of excellent quality (%)
	Fish caught from overexploited or collapsed stocks (% of total catch)
	Fish caught by bottom trawling or dredging (%)
	Fish caught that are then discarded (%)
	Marine biodiversity threats embodied in imports (per million population)
	Mean area that is protected in marine sites important to biodiversity (%)
SDG15: Life on land	Mean area that is protected in terrestrial sites important to biodiversity (%)
	Mean area that is protected in freshwater sites important to biodiversity (%)
	Biochemical oxygen demand in rivers (mg O2/litre)
	Nitrate in groundwater (mg NO3/litre)
	Red List Index of species survival (worst 0–1 best)
	Terrestrial and freshwater biodiversity threats embodied in imports (per million population)
SDG16: Peace, Justice, and strong institutions	Death rate due to homicide (per 100,000 population)
	Population reporting crime in their area (%)
	Gap in population reporting crime in their area, by income (p.p.)
	Access to justice (worst 0–1 best)
	Timeliness of administrative proceedings (worst 0–1 best)
	Constraints on government power (worst 0–1 best)
	Corruption Perceptions Index (worst 0–100 best)
	Unsentenced detainees (% of prison population)
	Exports of major conventional weapons (TIV constant 1990 million USD per 100,000 population)
	Press Freedom Index (best 0–100 worst)

Appendix 1: Indicator sets for each goal

Goal	Indicator sets
SDG17: Partnerships for the goals	Official development assistance (% of GNI)
	Shifted profits of multinationals (billion USD)
	Corporate Tax Haven Score (best 0–100 worst)
	Statistical Performance Index (worst 0-100 best)

Source: Lafortune, G., Cortés Puch, M., Mosnier, A., Fuller, G., Diaz, M., Riccaboni, A., Kloke-Lesch, A., Zachariadis, T., Carli, E. Oger, A., (2021). Europe Sustainable Development Report 2021: Transforming the European Union to achieve the Sustainable Development Goals. SDSN, SDSN Europe and IEEP. France: Paris.

Understanding Plastic Bag Consumers' Use Behavior After The Plastic Bag Ban Policy in Major Retail Stores in Bangkok

Aweewan Panyagometh[*] and Angkana Keeratiratanalak[**]

Abstract

This study aims to understand the effectiveness of the campaign and the behavior changes of consumers after the campaign. This study estimated number of plastic bag use in Bangkok and develop the knowledge, attitude and practice (KAP) model to investigate plastic bag consumption behaviors among Bangkok consumers. The results showed that the campaign is effective especially in the super market and convenient stores. The number of plastic bags use per visit are approximately 1.9 and 1.7 bags. According to the survey results, fresh market, restaurant, and food delivery are the major sources of plastic bag consumption, on average 3.7, 3.1, and 2.8 bags per visit. On average people in Bangkok use approximately 1.2 bags/person/day. According to the KAP model, knowledge about environmental impact of plastics does not only have a positive effect on attitudes towards plastic bag usage and plastic waste but it also has a direct effect on behaviors in using plastic bags and sorting waste. It is important to continuously communicate about environmental impact of plastics to emphasize proper knowledge and attitudes towards plastic bags among people and to bring out cooperative behaviors in reducing the use of plastic bags and sorting waste for a better environment.

Keywords: Plastic Bag Ban Policy, Plastic Waste Management, Policy Evaluation

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การเข้าใจพฤติกรรมการใช้ถุงพลาสติกของผู้บริโภคหลังนโยบายห้ามใช้ถุงพลาสติกในร้านค้าปลีกขนาดใหญ่ในกรุงเทพมหานคร

อาวีวรรณ ปัญญาโกเมศ* และ อังคณา กีรติรัตนลักษณ์**

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อทำความเข้าใจประสิทธิภาพมาตรการรณรงค์งดแจกถุงพลาสติกแบบบางตามร้านค้า การศึกษานี้เป็นการประมาณจำนวนการใช้ถุงพลาสติกในกรุงเทพมหานคร และพัฒนาแบบจำลองความรู้ ทัศนคติ และแนวปฏิบัติ (knowledge, attitude, practices, KAP) ผลปรากฏศึกษาพบว่ามาตรการดังกล่าวได้ผลดีโดยเฉพาะในซุปเปอร์มาร์เก็ตและร้านสะดวกซื้อ จำนวนการใช้ถุงพลาสติกต่อครั้งของผู้บริโภคอยู่ที่ประมาณ 1.9 และ 1.7 ถุง/คน/ครั้ง จากผลการสำรวจพบว่า ตลาดสด ร้านอาหาร และบริการส่งอาหารเป็นแหล่งบริโภคถุงพลาสติกที่สำคัญ เฉลี่ย 3.7, 3.1 และ 2.8 ถุงต่อครั้ง จากผลการศึกษาตามแบบจำลอง KAP ความรู้เกี่ยวกับผลกระทบต่อสิ่งแวดล้อมของพลาสติกไม่เพียงแต่ส่งผลดีต่อทัศนคติต่อการใช้ถุงพลาสติกและขยะพลาสติกเท่านั้น แต่ยังมีผลโดยตรงต่อพฤติกรรมการใช้ถุงพลาสติกและการคัดแยกขยะอีกด้วย สิ่งสำคัญคือต้องมีการสื่อสารเกี่ยวกับผลกระทบต่อสิ่งแวดล้อมของพลาสติกอย่างต่อเนื่อง เพื่อเน้นย้ำความรู้และทัศนคติที่ถูกต้องต่อการใช้ถุงพลาสติกของประชาชน และเพื่อรณรงค์ขอความร่วมมือในการลดและคัดแยกขยะเพื่อสิ่งแวดล้อมที่ดีขึ้น

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Introduction

The government has campaigned to refrain from voluntarily handing out plastic bags. Seventy-five Thai retailers have joined this campaign since January 1, 2020. Those convenience stores and supermarkets are, for example, 7-Eleven, Big C Supercenter, Makro, Foodland Supermarket, Max value, Family Mart and Index Living Mall.

One of the main challenges of this policy is the lack of enforcement conditions that may prevent the intended goal from being achieved. According to the policy, Natural Resources and Environment Minister   expected a decrease of 0.78 million tons of plastic waste. The Pollution Control Department hopes that the pilot program will reduce the use of 13.5 billion plastic bags, or 30 percent of the yearly use of plastic bags (Pollution Control Department, 2021). Therefore, it is important to verify the information and a model was made to assess the consumers' behavior used plastic bags before and after the campaign.

This study applied knowledge, attitude and practice (KAP) model to investigate plastic bag consumption behaviors among Thai consumers. Due to its simplicity and effectively enhance an understanding about behaviors, KAP model has been applied by many researchers to in various areas. The objectives are to 1) develop a model to estimate the use of plastic bags and plastic waste management in Bangkok 2) investigate plastic bag consumption behaviors among consumers based on knowledge, attitude and practice (KAP) model, and 3) provide policy recommendations for reducing plastic bag waste.

This research benefits for policy makers to better understanding the attitudes and behavior of consumer towards the use of plastic bag. The policy makers can reformulate the 13-year plastic management roadmap suitable for the situations. In addition, the results reflect the challenges on the change of people's attitudes and behaviors towards using plastic bags.

Literature Reviews

The amount of plastic consumption and plastic waste in Bangkok

According to data in 2017, the domestic plastic pellet consumption was approximately 8.518 million tons. The total plastic waste was generated 1.93 million tons/ year which are plastic bag 1.11 million tons, plastic bottles 0.4 million tons, cups and plastic boxes 0.23 million tons, plastic cup 0.05 million tons, plastic forks and spoons 0.03 million tons, straw 0.003 million tons, net 0.10 million tons, and shoes 0.009 million tons.

However, on average, only 0.39 million tons of plastic waste is recycled, accounted for 20 percent of all plastic waste. The remaining 1.51 million tons of waste is not recycled, and 0.03 million tons were leaked into the environment (Pollution Control Department, 2019).

The waste situation in Bangkok has an increasing trend, with the amount of waste 10,526 tons per day in 2017 increasing from 9,748 tons per day from 2012 and 8,719 tons per day from 2007 (Office of the Environment Bangkok, 2019). There are many reasons causing increasing number of wastes e.g., increasing number of people from the expansion of the city in the outer and inner areas, especially the areas near the subway routes, the increase of tourists, foreign workers and the population who come to work from the perimeter as shown in Figure 1.
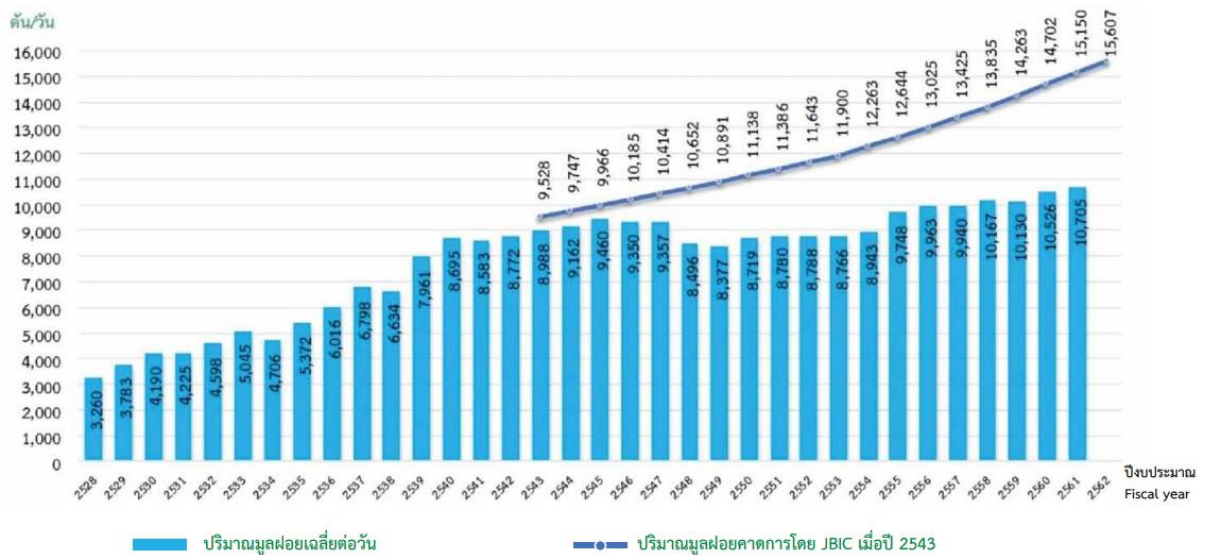
Figure 1: The amount of waste in Bangkok during the fiscal year 2528-2562 B.E. (1985 – 2018 A.D.)

Source: Policy and Planning Division Office of the Environment
(Office of the Environment Bangkok, 2019)

During the Covid-19 pandemic, the overall waste generation in Bangkok was slightly dropped from 10,560 tons per day to 9,370 tons per day (11 percent reduction). However, the proportion of plastic waste was still increased especially from food delivery and test kits, causing plastic waste to increase for more than 60 percent in Bangkok (Simachaya, V., 2020) see Table 1

Table 1: Estimated volume of plastic waste generation in Bangkok

Types of plastic	2019 (ton/day)	2020 (ton/day)	Increased volume (tons) in comparison to 2019	Increased percentage in comparison to 2019
Total Plastic Waste	2,120	3,440	1,320	62
Recycled Plastic Waste	495	660	165	33
Contaminated Plastic Waste	1,630	2,780	1,150	71

Source: Vicharn Simachaya (2020)

Plastic Waste Management Action Plan (2018-2027)

　　　　Regarding the waste management, Thailand has Plastic waste management action plan 2018-2027. This action plan has been proposed by the Pollution Control Department Ministry of Natural Resources and Environment. The government has a plan to reduce and stop using 1) plastic cap seals, 2) oxo-containing plastic products, and 3) microbead plastic by 2019. In addition, by 2022, four other types of plastics are planned to 100 percent eliminated which are thin plastic bags with the thickness less than 36 microns, foam boxes for food packaging, single use thin plastic cup and plastic straw. The goal is to ban plastic bag with thickness less than 36 microns by 2022 and to recycle 100% of plastic waste by 2027 (Table 2). The government plans to implement 4 mechanisms to achieve the Plastic Waste Management Plan which are 1. building knowledge and understanding with relevant agencies. 2. Promoting public relations through online media 3. using appropriate tools and mechanisms such as behavior change in all sectors and 4. accelerating the issuance of relevant laws/regulations (Pollution control department, 2021).

Table 2: Plastic Waste Management Plan (2018-2027)

Target	2018	2019	2020	2021	2022	2027
1. Target for reuse/recycle plastic waste	22%	25%	30%	40%	50%	100%
2. Target for reduce and ban the use of plastic with other environmentally friendly material						
2.1 plastic microbeads 2.2 cap seals 2.3 Oxo plastic		100% 100% 100%				
2.4 Thin plastic bag which its thinness is less than < 36 micron 2.5 Foam for food container		25% 25% 25%	50% 50% 50%	75% 75% 75%	100% 100% 100%	

Table 2: Plastic Waste Management Plan (2018-2027) (Continue)

Target	2018	2019	2020	2021	2022	2027
2.6 Single use plastic cup		25%	50%	75%	100%	
2.7 Plastic straw						

Related research articles

The KAP model process is originated from learning theory (Bandura, 1976) and diffusion of innovation theory (Roger, 1995) cited in

A KAP aims to elicit what is known (knowledge), believed (attitude), and done (practiced) in the context of the topic of interest e.g., in health, environment (Gölemerz et al., 2021; Manika, Papagiannidis, Bourlakis, & Clarke, 2021; Oguge, Oremo, & Adhiambo, 2021). This KAP model is simple and easy to apply in various cases and it has been used by many researchers to study the pro-environmental behavior.

Oguge et al. (2021) studied pro-environmental behavior on plastic bag in Kenya. Kenya has made many attempts to regulate the production of single-use plastics through partial bans and the imposition of hefty taxes. This study set out to investigate knowledge and attitudes towards single-use plastics among youths in Nairobi, Kenya. This was a mixed study approach, where both qualitative and quantitative data were derived. The results showed that youths perceive single-use plastics as a serious environmental and health issue. Most respondents expressed willingness to switch to reusable alternatives if provided with financial incentives. In addition, the results showed stronger support for enhanced awareness campaigns and plastic recycling infrastructure. Social media was the most preferred channel to disseminate plastic pollution messaging among the youth. These findings are important in policy development for intensifying awareness and targeting a range of communication and financial support to reduce single-use plastic pollution (Oguge et al., 2021).

Otsyina, Nguhiu-Mwangi, Mogoa, Mbuthia, and Ogara (2018) evaluated knowledge, attitudes, and practices of people in the Nairobi and Kajiado Counties, Kenya, on the usage, disposal, and effect of plastic waste on sheep and goats (shoats). A semi-structured questionnaire was conducted to collect data from 384 respondents in four communities in the two counties. Most of the people irrespective of their age, occupation, and educational status used plastic bags of some type on a daily basis. A high proportion of the respondents (37.0 percent, 142) used plastic bags because of the low cost. Approximately, 79.1 percent or 304 respondents disposed used plastic bags in open dumps. A total of 147 (38.3 percent) households kept shoats. Out of these, 38.1% (56) purchased feed and also allowed their animals to roam. Most of them (45.3%, 174) thought that lack of feed for the animals was the main reason why shoats roam and scavenge at refuse dump sites and road sides. A large proportion of

the respondents (44.5%, 143) mentioned death of animals as the ultimate consequence of ingestion of waste plastic bags. Though, the respondents were aware that indiscriminate disposal of used plastic bags could result in death of the animals from which they derive their livelihoods, they nevertheless continued with the practice. There is a need for a paradigm shift in the way and manner plastic bags are used and disposed. (Otsyina et al., 2018)

Vassanadumrongdee, Hoontrakool, and Marks (2020) studied perception and acceptance level of university students towards plastic bag charging program in their campuses based on the theory of planned behavior. The researchers investigated the factors influencing intention and behavior and changes in students' attitude from 2017–2019. Results showed that students' reusable/cloth bags use behavior and charge acceptance have increased over time. The most influences consumers' intention is perceived behavior control, which itself is determined by waste impact knowledge level and the perceived convenience of carrying reusable bag. In addition, the finding showed that charging schemes are effective in breaking the habit of using plastic which will lead a behavioral change. Therefore, policymakers should implement plastic bag charging regulations in Thailand (Vassanadumrongdee et al., 2020).

Manika et al. (2021) extended the KAP model within an environmental sustainability policy (ESP) context on the UK's single-use bag charge policy, specifically. Based on a cross-sectional survey with 568 British participants, the researchers illustrated the key role of objective knowledge for ESP compliance/behavioral intentions, while subjective knowledge is key for ESP information receptivity. Objective knowledge refers to how much an individual actually knows about a product). Subjective knowledge refers how much an individual thinks he/she knows about a product.

The need for different marketing tactics to promote 'policy products' for sustainable success was illustrated by identifying three distinct segments: the Knowledgeable and Compliant (first to comply, need to maintain information receptivity); the Unknowledgeable But Compliant (need to reduce subjective knowledge); and the Unknowledgeable, Non-compliant, but Receptive (need objective information the most) (Manika et al., 2021).

Conceptual model

This study includes two sets of the KAP model as shown in Figure 2. Attitude towards the uses of plastic bags and plastic waste shows degree of agreement respondents feel about plastic bags and behaviors of using plastic bags in relation with the environmental care.   The knowledge about the impact of plastic water on the environment means the collective numbers of general knowledge

that respondents know regarding environmental impact from plastic wastes. Attitude towards government campaign on a ban of plastic bags means how strong respondents agree on current plastic bag ban at supermarkets and convenience stores as well as its future implementation at fresh market and food delivery. Behavior explains how often respondents behave in taking and using plastic bags as well as sorting wastes. Knowledge about the existence of relevant government campaign represents number of government campaigns about plastic waste that respondents know about.
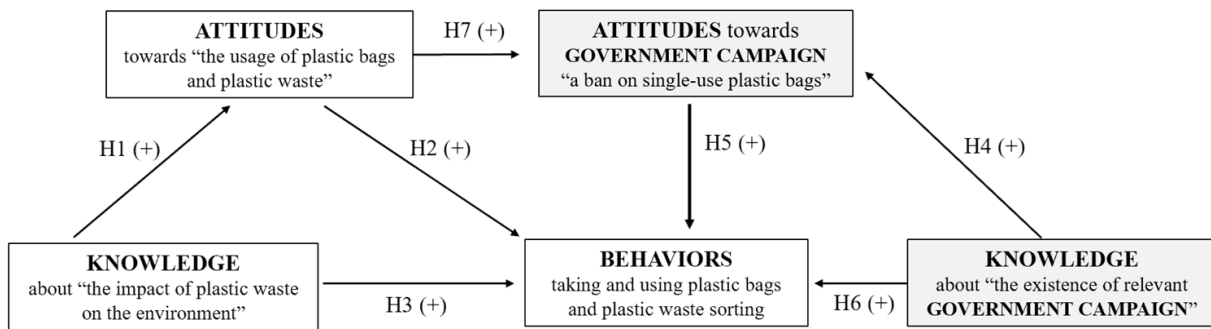
Figure 2: Conceptual Model

On the left part of the conceptual model, hypotheses 1 to 3 refer to KAP model explaining relationships among knowledge about the environmental impact of plastics, attitudes towards plastic bags and plastic waste, and the behaviors of plastic bags consuming and waste sorting, as well as the mediating effect of the attitude towards plastic bags and plastic waste. Similarly, the right part of the model contains hypotheses 4 to 6 referred to KAP model in explaining the influence of government campaigns through the relationships among the knowledge on the existence of government's environmental care campaigns, attitudes towards no single-use plastic bag campaign of the government, and behaviors of plastic bags consuming and waste sorting, together with the mediating effect of attitudes towards no single-use plastic bag campaign of the government. The hypotheses are established as follows.

Research hypothesis

H1: Knowledge about the environmental impact of plastics has a positive influence on environmentally friendly attitudes towards plastic bags

H2: Attitudes towards plastic bag and plastic waste has a positive influence on behaviors of plastic bags consuming and waste sorting.

H3: Knowledge about the environmental impact of plastics directly influences behaviors of plastic bags consuming and waste sorting.

H4: Knowledge about the existence of government's environmental care campaigns has a positive influence on attitudes towards no single-use plastic bag campaign of the government.

H5: Attitudes towards no single-use plastic bag campaign of the government has a positive influence on behaviors of plastic bags consuming and waste sorting.

H6: Knowledge about the existence of government's environmental care campaigns directly influences behaviors of plastic bags consuming and waste sorting.

H7: Attitudes towards plastic bag and plastic waste has a positive influence on attitudes towards no single-use plastic bag campaign of the government.

Methodology

To answer these objectives, quantitative method was applied. Researcher developed survey questions to understand consumers behavior on using plastic bags. The questionnaire was developed into 3 sections which were 1. General information, 2. Implementation of the Plastic Waste Management Action Plan 2018 – 2027, and 3. Suggestions for operation, review and improvement. The survey consists of 35 questions. The questionnaire was written in Thai and questionnaires were reviewed by Institutional Review Board and experts in the field for research ethic and content validity. Convenient sampling method was conducted for this study. The questionnaire was distributed via both online and offline and approximately 803 respondents were replied. For the offline, the research team visited the public areas which are parks, supermarket, and fresh markets. The respondents received compensation 50 THB. For the online, respondents randomly choose to receive 300-500 THB gift voucher. The results from the survey were collected to develop estimation model of number of plastic bag use. The uncertainty and sensitivity analysis were applied using @Risk software. The SPSS was used to develop multiple regression to find the relationship between the dependent and independent variables.

Results

Estimated number of plastic bag use

A majority of total respondents were female (63 percent). For age groups, about a half of overall respondents were 23-39 years old (50 percent). Moreover, fifty percent of all respondents had three to four members in their families. Fifty three percent of respondents hold bachelor's degree. Bangkok residents tended to have higher levels of incomes. The top two monthly income ranges of Bangkok respondents were equally distributed including below 20,000 THB and between 20,001 to 40,000 THB, at 37.2 percent and 37.6 percent, respectively, see Table 3.

Table 3: Respondents demography

Gender		Bangkok (803 samples)	
Male	275 (34%)		
Female	508 (63%)		
Other	20 (2%)	**Field of education**	
Age		None	187
<23 yrs. old	67 (8%)	Business management	160
23-39 yrs. old	401 (50%)	Finance/account	73
40-55 yrs. old	257 (32%)	Marketing	48
>=56 yrs. old	78(10%)	Communication	31
Family members		Arts	61
1-2	144 (18%)	Sciences	14
3-4	400(50%)	Others	229
5-6	203(25%)	**Income**	
7-8	38(5%)	Below 20,000	299
>=9	18(2%)	20,001-40,000	302
Education		40,001-60,000	95
Below bachelor	217 (34%)	60,001-80,000	36
Bachelor	427 (66%)	80,001-100,000	26
Master	143	100,001-120,000	16
Doctoral	16	Over 120,000	29

From the questionnaire, the estimated number from plastic bag use per week was summarized in Table 4.

Table 4: Estimated number of plastic bags used in Bangkok (after the plastic bag ban campaign)

How frequency you go for shopping per week?						
Per week	*Fresh market*	*Supermarket*	*Convenient store*	*Grocery store*	*Restaurant*	*Food delivery*
Never	108	117	56	235	84	244
1-2	273	327	180	275	236	203
3-4	160	216	188	135	225	169
5-6	133	101	173	90	140	109
7-10	129	42	206	68	118	78
AVG shopping/wk.	3.5	2.7	4.5	2.4	3.6	2.7
Total	803	803	803	803	803	803
How many plastics bag received for each visit?						
No of Bags per visit	*Fresh market*	*Supermarket*	*Convenient store*	*Grocery store*	*Restaurant*	*Food delivery*
Never	108	371	364	217	107	217
1-2	216	203	263	335	312	255
3-4	205	118	77	108	184	132
5-6	140	61	46	66	109	98
7-8	74	27	25	44	49	52
9-12	60	23	28	33	42	49
Total	803	803	803	803	803	803
AVG bags/visit	3.7	1.9	1.7	2.4	3.1	2.8
Plastic bags/wk.	13.0	5.0	7.9	5.8	11.4	7.7

From the Table 4, people in Bangkok seems to visit convenient store and restaurant and fresh market on average 4.5, 3.6, and 3.5 times a week, respectively. Fresh market, restaurant, and food delivery are the major sources of plastic bag consumption, on average 3.7, 3.1, and 2.8 bags per visit. From this data, the uncertainty analysis was developed as showed in Figure 3. The average plastic bag used per person per day was estimated in a range of 0.9-1.4 bags/person/day with the average of 1.2 bags/person/day.
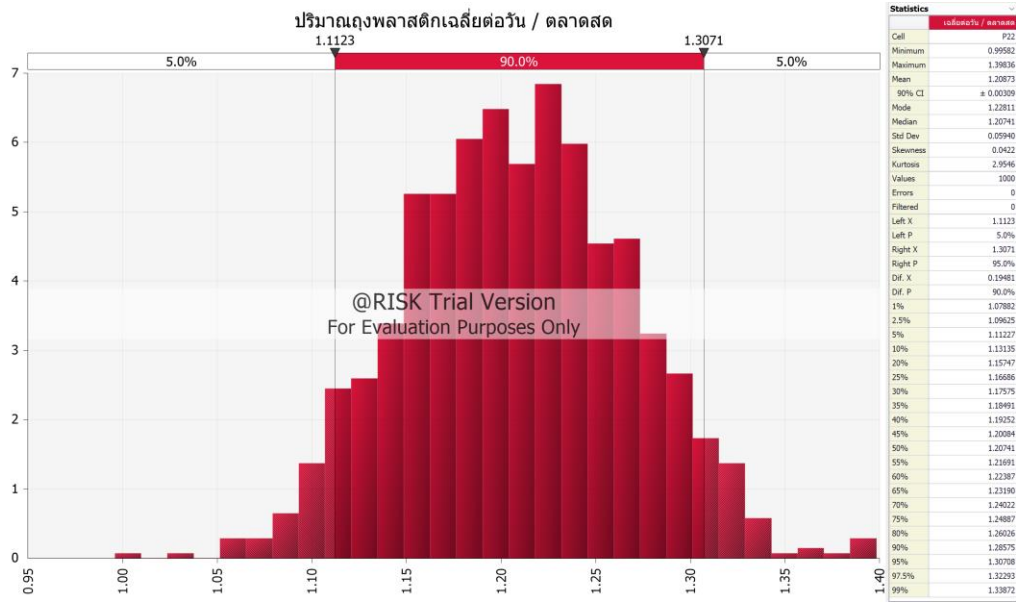
Figure 3: The distribution of plastic bag consumption per person per day

Figure 4: showed the wide range of plastic bag used per person per day from 0 to 10.2 bags/person/day.
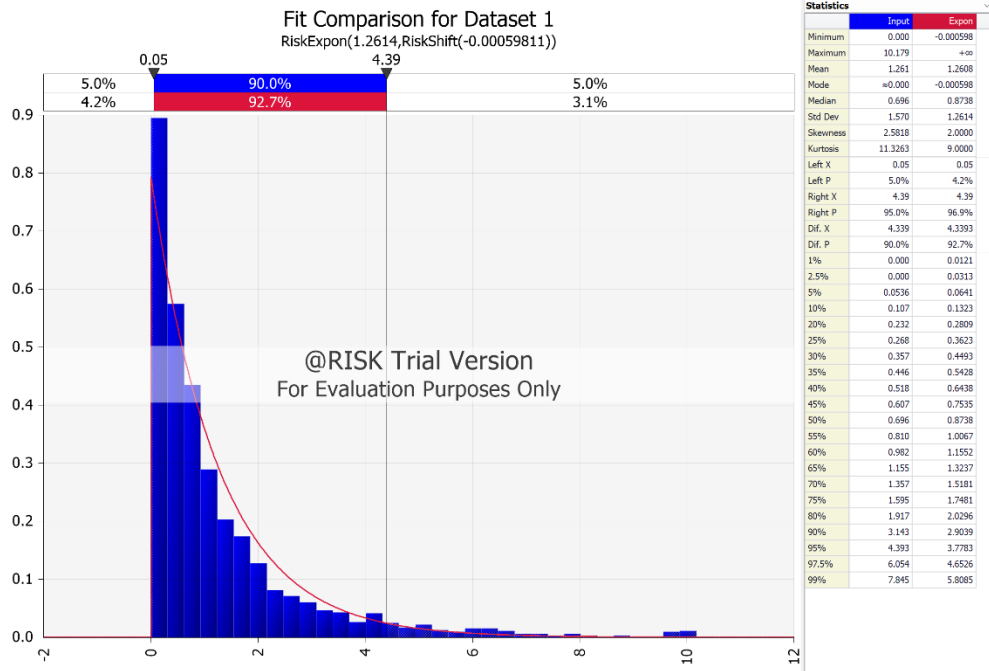

Figure 4: The ranges of min and max of plastic bag use per person per day

KAP towards plastic bag usage behavior

Construct reliability of each scale was separately assessed by using Cronbach's alpha coefficient value. As shown in Table 5, all scales confirmed the reliability with the Cronbach's alpha coefficient value over 0.70. The scale reliabilities of plastic bag consumption behavior as well as attitudes towards plastic bags and plastic waste were improved after removing the items as suggested by Cronbach's alpha coefficient analysis. However, since both of knowledge about the impact of plastic waste on the environment and knowledge about the existence of relevant government policy are single-item scale, these two constructs were not included in this Cronbach's alpha coefficient value assessment, see Table 5.

Table 5: Cronbach's alpha coefficient value

Attitudes *towards the usage of plastic bags and plastic waste*	**Attitudes** *towards* **Government Campaign** *"A ban on single-use plastic bag"*	**Behaviors** *Taking and using plastic bags and plastic waste sorting*
0.707	0.832	0.820

Table 6: Descriptive statistics and correlations

Variables	**KNOWLEDGE** *about "the impact of plastic waste on the environment"*	**ATTITUDES** *towards "the usage of plastic bags and plastic waste"*	**KNOWLEDGE** *about "the existence of relevant* **GOVERNMENT CAMPAIGN"**	**ATTITUDES** *towards* **GOVERNMENT CAMPAIGN** *"a ban on single-use plastic bags"*	**BEHAVIORS** *taking and using plastic bags and plastic waste sorting*	*Mean*	*SD*
KNOWLEDGE *about "the impact of plastic waste on the environment"*	1	0.326***	0.501***	0.148***	0.286***	3.190	1.446
ATTITUDES *towards "the usage of plastic bags and plastic waste"*		1	0.124***	0.470***	0.482***	4.114	0.634
KNOWLEDGE *about "the existence of relevant* **GOVERNMENT CAMPAIGN"**			1	0.086***	0.214***	3.230	2.358
ATTITUDES *towards* **GOVERNMENT CAMPAIGN** *"a ban on single-use plastic bags"*				1	0.355***	3.806	1.094
BEHAVIORS *taking and using plastic bags*					1	3.493	0.923

Remarks: ***p-value<0.001, **p-value<0.01 and *p-value<0.05

All five variables are significantly correlated with one another across the table. For instances, knowledge about the impact of plastic waste on the environment is significantly correlated with knowledge about the existence of relevant government campaign ($\beta = 0.501$, p<0.001), and with both of attitude towards the usage of plastic bags and attitudes towards no single-use plastic bag campaign of the government ($\beta = 0.326$, p<0.001 and $\beta = 0.148$, p<0.001 respectively). Likewise, plastic bag

consuming and waste sorting behaviors is not only significantly correlated with both of knowledge towards the impact of plastic bags on the environment (β = 0.286, p<0.001) and knowledge towards the existence of relevant government campaigns (β = 0.214, p<0.001), but also it statistically correlates with both of attitude towards the usage of plastic bags (β = 0.482, p<0.001) and attitudes towards government campaign (β = 0.355, p<0.001).
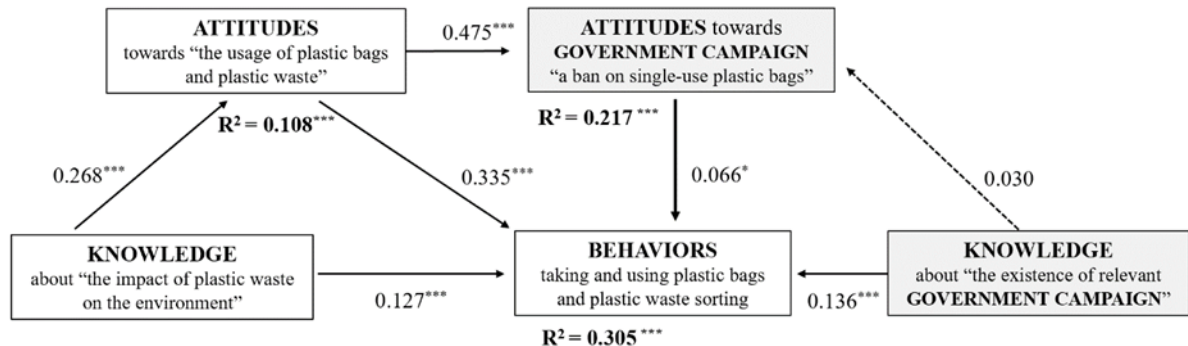
Figure 5: Regression Analysis (Bangkok, 803 respondents)

Remarks: ***p-value<0.001, **p-value<0.01 and *p-value<0.05; and dash line means no statistically significant value.

As shown in the Figure 5, the results demonstrate statistic significant relationships across hypotheses 1, 2, and 3, which are in the first set of KAP model on the left of the conceptual model. Hypothesis 1 proposes a positive relationship between knowledge about the environmental impact of plastics and attitudes towards plastic bags and plastic waste among Thai consumers. The result shows a statistically significant (β = 0.268, p<0.001) and supports this hypothesis. By this, stronger knowledge about environmental impact of plastics would lead to higher attitudes of environmental care regarding plastic bags and plastic waste. Hypothesis 2, which proposes a positive influence of attitudes towards plastic bag and plastic waste on behaviors of plastic bags consuming and waste sorting, is also statistically supported (β = 0.335, p<0.001). This means people with higher environmental care attitudes tend to behave in more environmentally friendly ways by avoiding receiving plastic bags and sorting waste at home. Moreover, hypothesis 3 also shows that knowledge and the environmental impact of plastics on behaviors of plastic bags consuming and waste sorting is significantly supported (β = 0.127, p<0.001). People with good knowledge about environmental impact of plastics would behave well for the sake of better environment. Similarly, hypothesis 5 indicates a positive relationship between the attitudes towards the governmental ban on single-use

plastic bag campaign and behavior in consuming plastic bags consuming and sorting waste which is statistically supported ($\beta = 0.066$, $p < 0.05$). Thus, it is significant to encourage positive attitudes towards governmental campaigns in order to bring out cooperative behaviors among citizens.

Hypothesis 6 showed that the knowledge related to the existence of government's environmental campaigns on behaviors of plastic bags consuming and waste sorting is positively related and significantly supported ($\beta = 0.136$, $p < 0.001$).

Hypothesis 7 shows a positive influence and statistically supported of attitudes towards plastic bags and plastic waste on attitudes towards no single-use plastic bag campaign of the government ($\beta = 0.475$, $p < 0.001$). People with good attitudes towards environmental impact of plastics seem to have good attitudes towards no single-use plastic bag campaign of the government too.

However, hypothesis 4 is not statically supported. This means even though people may highly aware of the existences of government campaigns about environmental care, this knowledge might not affect their attitudes towards governmental campaign.

According to Table 7, the standardized beta coefficients reported three different p-values according to three dependent constructs. Model no.1 represents hypothesis1 that there is a direct effect of knowledge about the environmental impact of plastics on attitudes towards plastic bags and plastic waste which is significantly supported. Model no.2 represents hypotheses 4 and 7. Hypothesis 4 explains the relationship between knowledge about the existence of government's environmental campaigns and attitudes towards the government campaign on plastic bag ban. However, it is not significantly supported. While the direct effect of attitudes on the use of plastic bag towards the attitude on the government campaign (representing hypothesis 7) is supported.

Lastly, model no.3 includes hypotheses 2, 3, 5 and 6 showing significant relationship between all four variables – attitudes towards the usage of plastic bags and plastic waste, knowledge about the environmental impact of plastics, attitudes towards governmental campaign, and knowledge about the existence of relevant governmental campaigns - and behaviors of taking and using plastic bags and plastic waste sorting. These four hypotheses in model no. 3 are all significantly supported.

Table 7: Regression results of direct effects by models, in relation to hypotheses

BANGKOK (803 Respondents)	Model 1 **Attitudes** *Plastic Bag/Waste*		Model 2 **Attitudes** *Government Campaign (No Single-Use Plastic Bag)*		Model 3 **Behaviors** *Taking/Using Plastic Bag & Plastic Waste Sorting*	
	β	VIF	β	VIF	β	VIF
Intercept						
Independent Variables						
KNOWLEDGE about "the impact of plastic waste on the environment"	0.268***	1.087			0.127***	1.560
ATTITUDES towards "the usage of plastic bags and plastic waste"			0.475***	1.081	0.335***	1.427
KNOWLEDGE about "the existence of relevant **GOVERNMENT CAMPAIGN"**			0.030	1.055	0.136***	1.411
ATTITUDES towards **GOVERNMENT CAMPAIGN** "a ban on single-use plastic bags"					0.066*	1.290
Control Variables						
Gender *(Male = 1, Female = 2, LGBTQ+ = 3)*	0.078*	1.036	-0.015	1.042	0.132***	1.043
Age *(<23yrs old=1, 23-39yrs old=2, 40-55yrs old=3, ≥56yrs old=4)*	0.057	1.048	-0.048	1.056	0.110***	1.059
Family Members *(1-2people=1, 3-4people=2, 5-6people=3, 7-8people=4, ≥9people=5)*	-0.076*	1.006	0.030	1.012	-0.067*	1.015
Education *(<Bachelor=1, Bachelor=2, Master=3, Doctoral= 4)*	0.115**	1.331	-0.041	1.299	0.076*	1.349
Personal Income *(<20k=1; 20,001-40,000=2; 40,001-60,000=3; 60,001-80,000=4; 80,001-100,000=5; 100,001-120,000=6; >120,001=7)*	-0.059	1.278	-0.012	1.288	-0.046	1.290
Model Fit Indices						
R^2	0.108***		0.217***		0.305***	
No. of respondents	803		803		803	

Remarks: ***p-value<0.001, **p-value<0.01, *p-value<0.05, and standardized beta coefficients are reported.

Among five control variables, gender, age and education show positive and statistically significant relationship on behaviors in using plastic bags waste sorting. In other words, male seems to show less pro-environmental behavior comparing to other genders. In addition, older and higher educated people tend to be more pro-environmental behavior regarding the use of plastic bags. On the other hand, number of family members has a negative effect on behaviors which means smaller family or lower household members seems to receive more plastic bags. It might be interpreted that they may consume more food deliveries and/or food hawkers which makes them receive a greater number of plastic bags. This is opposite to big families who rather go shopping at supermarket or fresh market for home cooking and thus receive less or even do not use plastic bag.

To indicate multicollinearity, the variance inflation factor (VIF) is applied. As summarized in Table 7, the highest VIF value is 1.560 across all variables in the regression analysis. This is much lower than 10 which is the maximum criterion. Thus, the multicollinearity is definitely not a concern in this research.

Additionally, there are three R-square values (R^2) of the regression reported by three analysis models in the Table 7. In the regression of the model no.1, knowledge about environmental impact of plastics can explain attitudes towards plastic bags and waste at 10.8 percent. This means that the knowledge about environmental impact of plastics alone is not sufficient for the explanation of the attitudes towards plastic bags and waste. For the regression of the model no. 2, to predict attitudes towards a ban of single-use plastic bag campaign of the government, an addition of knowledge about available environmental campaigns of the governments on top of attitudes towards environmental impact of plastics can explain at 21.7 percent. There are other important variables not included in this study. Importantly, in the regression model no.3, a synergy of two sets of knowledge and attitudes – environmental impact of plastics and government campaigns – can explain behaviors of plastic bags consuming and waste sorting at 30.5 percent.

The attitudes towards the usage of plastic bags and waste, and behaviors in receiving and using plastic bags and sorting waste is significant according to KAP theory in both of their direct relationship and mediating role of attitudes. However, the KAP relationship of governmental campaign only shows a direct effect of knowledge about relevant governmental campaigns and attitudes about the ban of plastic bags of governmental campaign on the behaviors in receiving and using plastics bags. However, there is no moderating role of attitudes towards a ban of plastic bags between knowledge of existence of relevant governmental campaigns and the behaviors.

Conclusions

As results of plastic bag ban policy form the major retail stores since 2020, the number of plastic bags use in convenient stores and supermarket dropped significantly. According to our survey results, fresh market, restaurant, and food delivery are the major sources of plastic bag consumption, on average 3.7, 3.1, and 2.8 bags per visit. On average people in Bangkok use approximately 1.2 bags/person/day.

According to the KAP model, knowledge about environmental impact of plastics does not only have a positive effect on attitudes towards plastic bag usage and plastic waste but it also has a direct effect on behaviors in using plastic bags and sorting waste. In addition, the attitudes towards plastic bags and waste moderates the relationship between knowledge and behaviors. Thus, it is important to continuously communicate about environmental impact of plastics to emphasize proper knowledge and attitudes towards plastic bags among Bangkok people and to bring out cooperative behaviors in avoiding plastic bags and sorting waste for better environment.

Moreover, this strong attitudes towards the usage of plastic bags would have a positive impact on attitudes towards a ban of plastic bags of governmental campaign as well. This is crucial since the attitudes towards a ban of plastic bags of governmental campaign has a direct effect on behaviors in receiving and using plastic bags but the attitudes here is not influenced by the knowledge about existence of relevant governmental campaigns. However, the knowledge about governmental campaign itself has a direct effect on behaviors in receiving and using plastic bags. Therefore, communication remains an important factor for relevant government sectors to promote existing governmental campaigns together with the information of environmental impact of plastics in order to achieve cooperative behaviors in reducing plastic bag usage in Bangkok successfully at the end. Similarly, to the recommendation from Oguge et al., (2021) suggested to continusly communiate via social media to disseminate plastic pollution messaging among the youth.

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The Impact of PM2.5 on Socio-Economic of Thailand: The Perception Based on The Survey Data

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Abstract

The current fine particulate matter (PM2.5) situation in Thailand becomes urgent as a national issue. The impacts from dust do not be limited only dust particle itself but it also carried various toxins. Many studies have determined that PM2.5 contains various heavy metals that result in health problems. The health dimensions that could be affected by PM2.5 include respiratory tract diseases, mental health, well-being, etc. These impacts affect working people, as well as society in various living conditions covered urban and rural setting. This paper aims to investigate PM2.5, focusing on its health and economic impacts. The data has been collected by using questionnaire which was

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distributed in all province of Thailand Kingdom. The perceptions of Thai people regarding impacts from PM2.5, including economic, social, and environmental impacts, have been determined using a mathematical model to interpret as empirical values for perception levels among different groups of factors studied. The study used the Multiple Indicator and Multiple Cause (MIMIC) model to analyze the data in such a way that the variables could be observed. Multiple observed variables can predict or affect latent variables. According to the findings, people are more likely to focus on PM2.5 when they are middle-aged or older, when they have more knowledge and experience, and people with families are more aware of PM2.5 dust, which not only affects health but also has a significant social and economic impact, especially massive social impact.

Keywords: PM2.5, Socio-Economy, Mental Health, Well-being

ผลกระทบของ PM๒๕ ต่อเศรษฐกิจและสังคมของประเทศไทย: การรับรู้จากข้อมูลการสำรวจ

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บทคัดย่อ

สถานการณ์ฝุ่นละอองขนาดเล็ก (PM2.5) ในประเทศไทยในปัจจุบันกลายเป็นประเด็นเร่งด่วนระดับชาติ ผลกระทบจากฝุ่นไม่ได้จำกัดเพียงอนุภาคฝุ่นเท่านั้น แต่ยังนำพาสารพิษต่างๆ อีกด้วย งานวิจัยหลายชิ้นระบุว่า PM2.5 มีโลหะหนักหลายชนิดส่งผลให้เกิดปัญหา มิติด้านสุขภาพที่อาจได้รับผลกระทบจาก PM2.5 ได้แก่ โรคทางเดินหายใจ สุขภาพจิต และ ชีวิตความเป็นอยู่ที่ดี ผลกระทบเหล่านี้ส่งผลต่อการงานตลอดจนสังคมในสภาพความเป็นอยู่ที่ หลากหลายครอบคลุมทั้งในเมืองและในชนบท บทความนี้มีวัตถุประสงค์เพื่อตรวจสอบ PM2.5 โดยเน้นที่ผลกระทบ

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ด้านสุขภาพ สังคม และ เศรษฐกิจ ในการศึกษาครั้งนี้ ได้รวบรวมข้อมูลโดยใช้แบบสอบถามในการเก็บข้อมูลในประเทศไทย การรับรู้ของคนไทยเกี่ยวกับผลกระทบจาก PM2.5 ทั้งผลกระทบทางเศรษฐกิจ สังคม และสิ่งแวดล้อม การศึกษาครั้งนี้กำหนดขึ้นโดยใช้แบบจำลองทางคณิตศาสตร์ เพื่อตีความเชิงประจักษ์สำหรับระดับการรับรู้ด้าน PM2.5 กับกลุ่มปัจจัยต่างๆ ที่มีผลต่อระดับการรับรู้ด้าน PM2.5 ซึ่งในการศึกษาครั้งนี้ได้ใช้แบบจำลอง MIMIC ใน การวิเคราะห์ข้อมูลในลักษณะที่สามารถวิเคราะห์ตัวแปรตามได้หลายตัว และยังสามารถทำนายตัวแปรตามดังกล่าว จากผลกระทบของตัวแปรแฝง หรือ ตัวแปรอิสระอื่น ๆ ได้ จากผลการวิจัยพบว่า คนไทยมีแนวโน้มที่จะให้ความสำคัญกับ PM2.5 มากขึ้นเมื่อพวกเขาเริ่มเข้าสู่วัยกลางคนขึ้นไป ซึ่งบ่งชี้ว่าเมื่อพวกเขามีความรู้และประสบการณ์มากขึ้นเขา จะให้ความสำคัญในเรื่อง PM 2.5 มากขึ้น มากกว่านั้นคนไทยที่มีครอบครัวจะตระหนักถึงผลร้ายของฝุ่น PM2.5 มากกว่ากลุ่มอื่น ๆ โดยตระหนักว่า PM 2.5 ไม่เพียงแต่ส่งผลต่อสุขภาพเท่านั้น แต่ยังมีผลกระทบต่อสังคมเศรษฐกิจ โดยเฉพาะอย่างยิ่งตระหนักว่าด้านสังคมได้รับผลกระทบอย่างมากจาก PM 2.5

คำสำคัญ: PM2.5 สังคม-เศรษฐกิจ สุขภาพ ชีวิตความเป็นอยู่ที่ดี

Introduction

The current fine particulate matter (PM2.5) situation in Thailand becomes urgent as a national issue. The impacts from dust do not be limited only dust particle itself but it also carried various toxins. Studies (Luo, H., 2020) have determined that the PM2.5 contains various heavy metals, which result in health problems. The health dimensions that could be affected by PM2.5 include respiratory tract diseases, mental health, well-being, etc. These impacts affect working people, as well as society in various living conditions in urban and rural settings, because when there is a problem with PM2.5 dust, it will result in being unable to travel. Or unable to go out to do outside activities like it used to be and affecting the people working because when the dust problem occurs Working people will be affected, especially those who work outdoors. This paper aim to investigate the impact of PM2.5, focusing on health and economic impacts. The data has been collected by using questionnaire which was distributed in all province of Thailand Kingdom. The perceptions of Thai people regarding impacts from PM2.5, including economic, social, and environment have been determined using a mathematical model which is a multiple regression model. The model used is better than general multiple regression, which is a model with only one variable, latency The latent factor was influenced by several externally observed variables. and many internal variables in other words, it is a multi-causal model of latent traits and measured by multiple indicators and interpreted as empirical values for perception levels among different groups of factors studied. which were the expected results of the study. To know how much Thai people are aware of or are aware of the problem of PM2.5 dust and extent are they aware of their health impacts level.

Literature review

Air Quality of PM2.5

Human health of PM2.5

The deterioration of air quality, raising worldwide concerns. PM2.5 (particles less than 2.5 micrometers in diameter) can penetrate deeply into the lung, irritate and corrode the alveolar wall, and consequently (Liu, C., Chen, 2019). In the analysis of PM2.5, we observed an increase of 0.68% in all-cause mortality per 10-μg-per-cubic-meter increase in PM2.5 concentration and found that the associations of mortality with PM concentrations were slightly stronger with PM2.5 than with PM10 in most countries and regions, which added to the evidence that PM2.5 accounted for a larger proportion of the effects of PM10 and PM2.5 combined. And the stronger effects of PM2.5 may also

be supported by the abundant evidence that this particulate fraction contains more small particles that can absorb toxic components from the air and penetrate deep into the lungs that penetrates and settles deep into the alveoli and can result in damage to the respiratory system (Liao, Q.,2020). Moreover, the issue of viral disease outbreaks, some of which may be linked to air pollution, cannot be overlooked. Several studies have reported a link between air pollution and the spread of viral infections, as viruses can be suspended in the air by attaching to sputum particles or the particulate matters in the air (Cao et al, 2014; Su et al, 2019). It was found that if the levels of PM10 and PM2.5 increased, it would result in a higher rate of viral infection and case fatality from infection has increased accordingly (Comunian et al, 2020; Fattorini and Regoli, 2020; Li et al, 2020; Yao et al, 2020). Air pollution has become a global health problem. However, there are many obstacles to eliminating air pollution because of the large number of air pollutants, insufficient funding for monitoring and reduction programs, and the political and social challenges in determining policies to limit emissions (Xie, Dai, Dong, 2016)

Perception

Economics Impact from PM2.5

The health-related economic loss caused by PM2.5 pollution accounted for a high proportion in the GDP, highlighting the severity of the health effects caused by PM2.5 pollution (Adams, M.D., 2016). In areas with high concentrations of PM2.5, PM2.5 pollution-related diseases cause additional medical expenses, work time loss and GDP loss (Yang, Y., Fang, 2021)

Social Impact from PM2.

Pregnant women or those who are physically susceptible to exposure to dust or air pollution will have a significant adverse effect on their health compared to the general population. And according to the article, there is a Clean Air Act category for the prevention of PM2.5 dust-risk groups to protect pregnant women. and vulnerable groups that have been affected by such situations and groups whose populations have poverty problems are protected as well. which has helped these people (Koman, P. D., Hogan, 2018)

Environmental Urban Impact from PM2.5

Smog and air pollution have fast become significant environmental problems and are attributed to rapid global industrialization and urbanization (Liu, S., Chiang, 2018) when the city expands more Resulting in the problem of PM2.5 dust, which has a negative impact on the community and on the urban environment (Martins, N. R, 2018) PM2.5 particulate matter is a pollutant found in

every area. Every environment whether in the city or in the countryside Most of them are caused by Transportation. And domestic fuel combustion which significantly affects the health of people living in the city (Han, L., Zhou, 2015)

Environmental Rural Impact from PM2.5

PM2.5-related deaths were found to be significant in both urban and rural areas due to inhalation. and there is exposure in California (Garcia, C. A., 2015)

Methodology

This study used the Multiple Indicator and Multiple Cause (MMIC) model to analyze the data in such a way that the variables could be observed so that multiple observed variables could predict or affect latent variables. The simplest MIMIC model has observable variables (x-variables). Multiple variables can be predicted, or they can affect one latent variable (Eta), where latent variables are measured by indicators. (y-variables) with many variables in which this characteristic analysis reveals the results of observable variables. Each variable has a distinct effect on the latent variable.

The conceptual framework of MIMIC model

MIMIC model Equation Form which can be viewed in full as follows: (Jöreskog and Goldberger, 1975):

$$y *= \alpha'x + \epsilon \quad (1)$$

$$y = \beta y * + u \quad (2)$$

Where $y = (y1, y2, ..., y_p)'$ are indicators of the latent variable y^* and $x = (x1, x2, ..., x_p)'$ are causes of y^*.

This model is based on (Jöreskog and Goldberger, 1975):

$$E(\epsilon u') = 0', E(\epsilon^2) = \sigma^2, E(uu') = \Theta^2 \quad (3)$$

MIMIC models, typically, also make distributional assumptions, for example that the joint distribution of the variables is Gaussian, the relation is linear, and each measured variable and each latent common cause has specific sources of variance that are independent of the sources of variance specific to other variables. If x and y are in an endogenous relationship, for example, if both have an influence on each other (so-called reverse causality), the assumptions in (3) are refuted. In this case,

it is also impossible to identify the relationships in (1) and (2). Deriving from (1) and (2), the reduced form model and formula for variance-covariance matrix is described in (Jöreskog and Goldberger, 1975): In equation 4. y is Economics, Environmental rural, Environmental urban, Health, Social. Can see table 1

$$y = \beta(\alpha'x + \epsilon) + u = \Pi'x + v \quad (4)$$

$$\Pi = \alpha\beta' \qquad\qquad (5)$$

$$v = \beta\epsilon + u \qquad\qquad (6)$$

$$\Omega = E(vv') = E[(\beta\epsilon + u)(\beta\epsilon + u)'] = \sigma^2\beta\beta' + \Theta^2 \quad (7)$$

The formulas for the MIMIC parameters (α, β, Θ) cannot be expressed in closed form. Implicit forms can be derived following as: In Equation 8 to 10 $\hat{\alpha}, \hat{\beta}, \hat{P}$ are parameter to estimate for MIMIC model and Equation 11 to 13 in a term of X can see table 1

$$\hat{\alpha} = (\tfrac{1}{\hat{\kappa}2})P\hat{\Omega}^{-1}\hat{\beta} = (\tfrac{1}{\hat{\pi}2})\hat{P}\Theta - 2\hat{\beta} \qquad (8)$$

$$[S + (\tfrac{1}{\hat{\kappa}2})Q]\hat{\Omega}^{-1}\hat{\beta} = (1 + \hat{\rho}^2)\hat{\beta} \qquad (9)$$

$$\pi^2 = \beta'\Theta^{-2}\beta, \kappa^2 = \beta'\Omega^{-1}\beta = \frac{\pi2}{(1 + \pi2)} \,(10)$$

$$P = (X'PXX)^{-1}X'PXY, Q = Y'XP \qquad (11)$$

$$S = (Y - XPXP)')(Y - XPXP) = Y'(I - XPX(X'PXX) - 1PXX')Y \,(12)$$

$$PX = X(X'X) - 1X' \qquad\qquad (13)$$

To derive the properties of a new estimator able to correct for the violation of the assumptions in (3) due to endogeneity in the model, we use the method of the analysis of covariance structures and the proposal from to transform the MIMIC model into a covariance structure modelling framework. develops a general covariance structure model for a multivariate normal vector z as:

$$E(z'z) = \Sigma = B(\Lambda\Phi\Lambda' + \Psi2)B' + \Theta^2 \qquad (14)$$

$$E(z) = A\Xi P \qquad\qquad (15)$$

where $E(z'z)$ is the covariance matrix of MIMIC model and also $E(z)$ is the variance matrix of MIMIC model.

Where A is an N×g matrix of rank g and P is a h×p matrix of rank h, both being fixed matrices with g≤N and h≤p; Ξ, B, Λ, the symmetric matrix Φ, and the diagonal matrices Ψ and Θ are parameter matrices.

Based on the model in (14) and (15), Jöreskog derives the log-likelihood function as: In an equation 16 is the log-likelihood function of all parameters in MIMIC model need to estimate by maximum likelihood estimator *(*MLE*)*. The equation 17 is a covariance of error term for MIMIC model.

$$\text{logL} = -\frac{1}{2}\text{pNlog}(2\pi) - \frac{1}{2}\text{Nlog}|\Sigma| - \frac{1}{2}\sum_{a=1}^{n}\sum_{i=1}^{p}\sum_{j=1}^{p}(x_{ai} - \mu_{ai})\,\sigma^{ij}\left(x_{aj} - \mu_{aj}\right) \text{ (16)}$$

where μ_{ai} and σ^{ij} are elements of $E(X) = A\Xi P$ and Σ^{-1}, respectively. Writing

$$T = \frac{1}{N}(X - A\Xi P)'(X - A\Xi P) \text{ (17)}$$

we can readily see that maximizing log$L$ is equivalent to minimizing in equation 18

$$F = \log|\Sigma| + \text{tr}(T\Sigma^{-1}) \text{ (18)}$$

For MIMIC model, taking $z = (x', y')$ we have in the random case in equation 19

$$\Sigma = \begin{pmatrix} \Phi & \Phi\alpha\beta' \\ \beta\alpha'\Phi & (1+\rho^2)\beta\beta' + \Theta^2 \end{pmatrix} \text{ (19)}$$

This covariance structure of MIMIC model may be specified in terms of Jöreskog's model by setting follow equation 20

$$B = \begin{pmatrix} Ik \times k & 0k \times 1 \\ 0m \times k & \beta m \times 1 \end{pmatrix}, \Lambda = \begin{pmatrix} Ik \times k \\ \alpha'_{1\times k} \end{pmatrix},$$

$$\Psi = \begin{pmatrix} 0_{k\times k} & 0_{k\times 1} \\ 0_1 \times k & \beta_{m\times 1} \end{pmatrix}, \Theta = \begin{pmatrix} 0_{kxk} & 0_{kxm} \\ 0_{mxk} & \Theta_{mxm} \end{pmatrix} \text{ (20)}$$

and taking Φ free (Jöreskog and Goldberger, *1975).*

As our parameters and estimator cannot be expressed in closed form, we adopt a solution from (Jöreskog and Sorbom, 1993) to estimate equations from the latent variable model

This research design was cross sectional survey to explore the perception of Thai people regarding to PM2.5 impacts. The survey has been implemented in all province with sample number calculated and using random sampling technique to reach the sample. The research was done during April - August 2021

Sampling technique

The sample number was calculated by calculating the number of unknown cases of W.G. Cochran, 1953 with a 95 percent confidence level and a 5% error level defined.

Formula
$$n = \frac{P(1-P)(Z)^2}{d^2}$$

by   n is the required number of samples

P is the proportion of the population.

Z is the specified level of confidence or the level of statistical significance.

d is the proportion of the tolerance that can occur.

Substituting
$$n = \frac{0.5(1-0.5)(0.95)^2}{0.5^2}$$
$$= \frac{0.9025}{0.0025}$$
$$n = 361$$

The sample size required to collect data was 361 samples, but the researcher collected all 521 samples to facilitate the analysis.

Research tool

The questionnaire was developed to be used for data collection. The first draft of questionnaire was validated by experts in the fields of economics, health, social sciences and environmental sciences. The questions were adjusted in according to the comments obtained before using.

Conceptual model and analysis

This study seeks to quantify the influence of PM 2.5 on Thailand's socioeconomics using the MIMIC (Multiple Indicator Multiple Cause) methodology. The approach and conceptual framework were developed based on this following paradigm. (See more details in figure 1 and in topic 5.1)
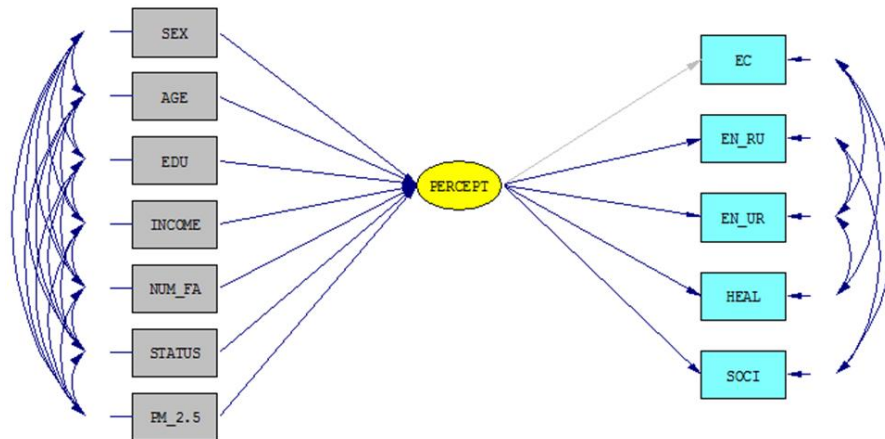
Figure 1: Display the conceptual framework of MIMIC (multiple indicator multiple cause) model to quantify the perception of The Impact of PM2.5 on Socio-Economic of Thailand

The Multiple Indicators and Multiple Causes (MIMIC) model is the analysis of data in such a way that many observed variables can predict or affect latent variables. Latent variable the simplest form of the MIMIC model is observable variables. x-variables where the variable x is sex, age, education, income, number of children, status, and PM2.5, which these variables can predict or affect one latent variable (Eta), where latent variables are measured by indicators. Multiple variables (y-variables) are defined. The Y variables are economics (EC), environmental rural (EN_RU), environmental urban (EN_UR), health (HEAL), and social (SOCI). See table 1

Table 1: Variable and Definition

X variables	
Variable name	**Definition**
SEX	Men, Women
AGE	Age
EDU	Education
INCOME	Income
NUM_FA	Number of family
STATUS	Status
PM_2.5	Perception PM2.5
Y variables	
Variable name	**Definition**
EC	Economic
EN_RU	Environmental rural
EN_UR	Environmental urban
HEAL	Health
SOCI	Social

Results and discussions

Characteristic of respondents

The characteristics of respondents described by descriptive statistics was presented in Table 2. The max-min values of aging were 78 and 14 years old respectively, with the average age was 31 years old. The average income was 22,860 Baht/month whereas the maximum income reported was 300,000 Baht/month which revealed the high standard deviation (27,902). Some samples reported that they had no income. The mean number of families is 3.32, the maximum value is 15, and the lowest value is 1. The male was accounting for 176 whereas female was accounting for 345 of the total number of respondents. Most of the respondents graduated a bachelor's degree, which was 256, postgraduate was 107, high school was 95, and vocational certificate was 6 persons, respectively.

Table 2: Descriptive statistics of respondents.

Variable	Count	Max	Min	Mean	STD
Age	520	78	14	30.5	11
Income	521	300000	0	22860	27902
Num_Family	519	15	1	3.33	1.62
	Description	Count	Proportion		
Sex	Men	176	33.78%		
	Women	345	66.22%		
Status	Have a family	155	29.75%		
	No family	366	70.25%		
Education	High school or equivalent	95	18.23%		
	Diploma/High Vocational	63	12.09%		
	Bachelor's degree	256	49.13%		
	Postgraduate	107	20.53%		
PM2.5 Impact	very little	3	0.61%		
	little	9	1.83%		
	moderate	98	20.00%		
	high	212	43.26%		
	highest	168	34.29%		

Based on the questionnaire response, the number of respondents who has no family was 366 whereas 155 is respondent married or have a family. The perception level regarding the severity of PM2.5 Impact was 4 to 5 (from 5 of full scale). The frequency of perception levels at 4 (high) and 5 (highest) were 212 and 168 respectively.

The perspective of respondents regarding PM 2.5 impacts

as shown in Table 3, the majority of respondents indicated that the impact of PM2.5 on health was greatest (level 5), accounting for 39.5% of the total 458 respondents.

Table 3: The perception levels of impacts from PM2.5

	Description	Count	Proportion
Health_Impact	very little	4	0.87%
	little	17	3.71%
	moderate	109	23.80%
	high	147	32.10%
	highest	181	39.52%
Economic_Impact	very little	18	4.15%
	little	57	13.16%
	moderate	163	37.64%
	high	118	27.25%
	highest	77	17.80%
Social_Impact	very little	6	1.31%
	little	34	7.42%
	moderate	140	30.56%
	high	173	37.77%
	highest	105	22.92%
Envi_Rural_Impact	very little	5	1.07%
	little	15	3.23%
	moderate	144	31.03%
	high	182	39.22%
	highest	118	25.43%
Envi_Urban_Impact	very little	3	0.62%
	little	6	1.25%
	moderate	102	21.25%
	high	178	37.08%
	highest	191	39.80%

While the perception of health impacts from PM2.5 has mostly fallen to its highest level, most respondents perceived that the severity of the impact of PM2.5 on the economy was 3. The number was 163, which accounted for 37.6% of the total samples from the 433 respondents. The level of social impact in most Thais' perceptions was 4 (173, or 39.2% of the total 458 respondents). The perceptions regarding the environmental impact of PM2.5 in rural and urban areas were 4 and 5, respectively, which reflect the critical problem in an urban context. 39.2% respondents from total 464 respondents. mentioned that the severity level in rural area was 4 while the urban area has been facing more critical with perception level at 5 from 191 responses which account 39.8% of total 480 respondents.

The empirical result of estimation of MIMIC model

The results of empirical analysis show that the variable x is defined, which is the initial variable. Several variables were defined, namely sex, age, education, income, Num family, status, and

PM2.5, of which seven variables influenced perceptions, which values were the most influenced or the values that people perceived most, see figure 2.

Chi-Square=53.02, df=22, P-value=0.00023, RMSEA=0.052
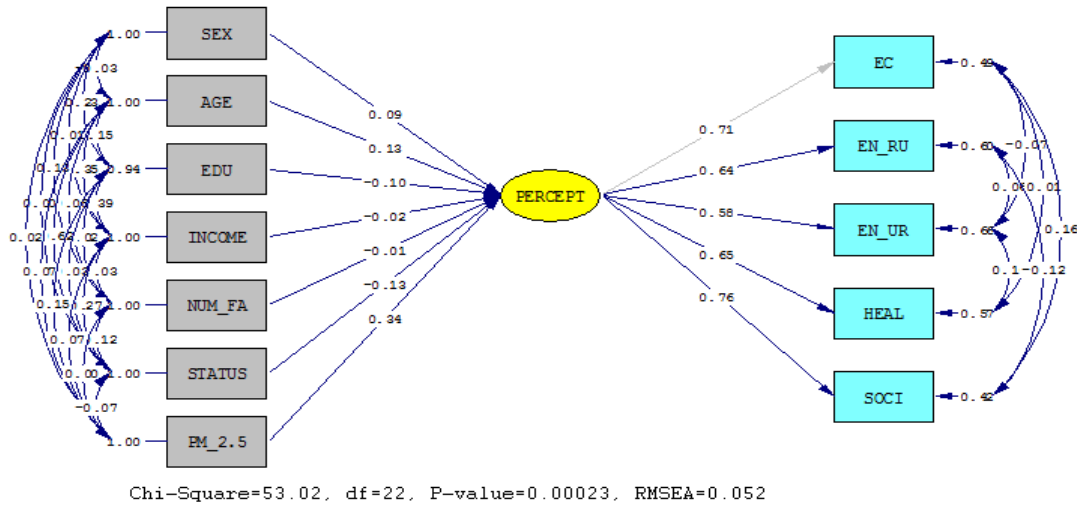
Figure 2: Result of MIMIC (multiple indicator multiple cause) model to quantify the perception of The Impact of PM2.5 on Socio-Economic of Thailand

The factors include perception of PM2.5, which is 0.34, followed by age, which is 0.13, and sex is 0.09, and Num family is -0.01, where income is -0.02, education is -0.10, and status is -0.13 respectively. For the Y variable analysis, Percept selected Social with the highest value, which was 0.76, Economics was 0.71, Health was 0.65, and Environmental rural was 0.64, and Environmental urban was 0.58, respectively. The analysis of the Y variable showed that people were first interested in social issues, followed by economic and health issues, and the rural environment and the environment within the city, respectively. The above data reflects that people are aware of the rural environment that needs to be clean without any pollution. This may be because the countryside is a peaceful area, which should not have dust problems.

Chi-Square=53.02, df=22, P-value=0.00023, RMSEA=0.052
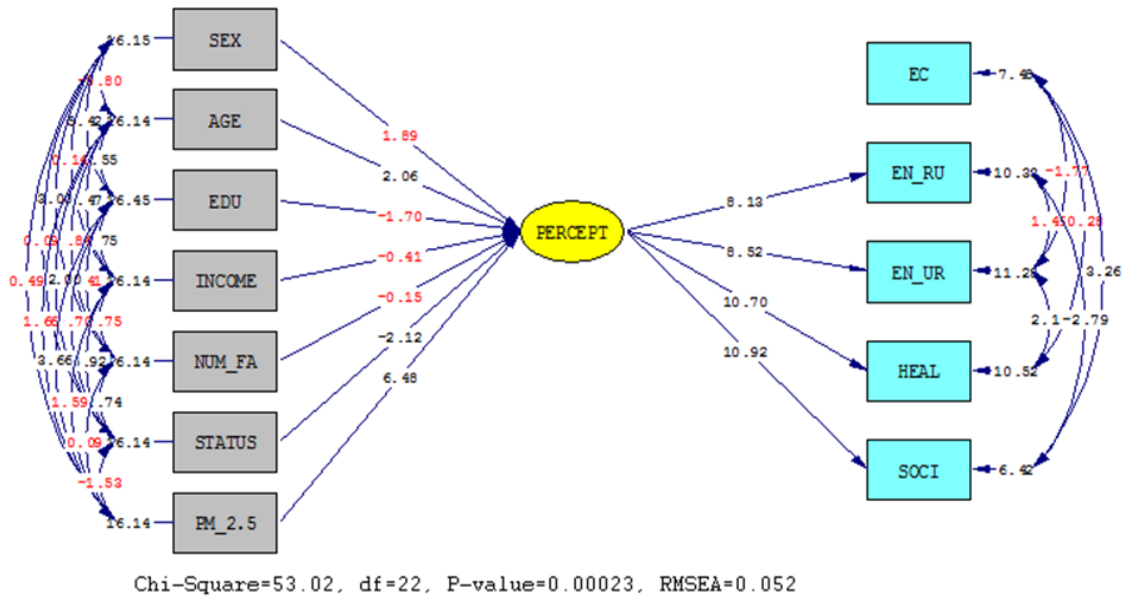
Figure 3: Result t-value of MIMIC (multiple indicator multiple cause) model

Table 4: The estimation results for the parameters and t-value in the MIMIC model.

X-Variables	β	t
SEX	0.09	1.89
AGE	0.13	2.06
EDU	0.10	-1.70
INCOME	-0.02	-0.41
NUM_FA	-0.01	-0.15
STATUS	-0.13	-2.12
PM2.5	0.34	6.48
Y-Variables	**Perception**	
	β	t
EC	0.71	-
EN_RU	0.64	8.13
EN_UR	0.58	8.52
HEAL	0.65	10.70
SOCI	0.76	10.92

χ^2=53.02, df=22, RMSEA=0.052, RMR=0.036, SRMR=0.036, GFI=0.98, AGFI=0.94, NFI=0.97

From the analysis of the t-value (See Figue3), it is evident that there were three main significant variables: PM2.5 was 6.48, the highest value, and AGE was 2.06, and Status was -2.12, respectively. High is the perception of PM2.5, which is related to age. As people get older, people are significantly more interested in PM2.5. The data shows that the status of the person has a family will be interested and aware of the problem of dust more than those who are single.

Conclusions

The problem of PM2.5 dust has a significant impact on health and on society and the economy. Based on the MIMIC analysis, it is revealed that people are aware of and value social, economic, and health issues. From the MIMIC model analysis results, it is clear that people focus and focus on PM2.5 during the age of middle-aged people or people who are old, who may have knowledge and experience, and people with families will be more aware of PM2.5 dust than single people, which from perception means that people are interested in social impact problems first. This may be because if there is a problem with dust, it may cause social turmoil and leave no livable scenery. The second one that raises awareness is problems affecting the economy and problems affecting health. which not only affects health but also has a significant social and economic impact. These three factors It is a factor that the government and related agencies should raise awareness about to take part in solving the problem of dust.

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Exploring Xenophobia in South Africa through Sociocultural Len

Aung Mya Soe[*]

Abstract

This paper addresses the problem of Xenophobia in South Africa. The purpose of this paper is to find out the factors that caused Xenophobia, the challenges, and solutions for rebuilding social cohesion and reducing inequality in South Africa. The research is based upon theoretical concepts of social identity by Henri Tajfel and John Turner, relative deprivation of Runciman, Galtung's violence and conflict triangle, and the scapegoating hypothesis of Duncan. The library research method was used and literature, reports, and documents were analyzed. The preliminary findings are the social problems such as unemployment, lack of housing, and prejudice over business rival immigrants, and the cultural factors comprising language, clothing, music, and traditions of black immigrants; the driving factors causing Xenophobia. This paper concludes that public sector commitment to engage in skill development for employment, administering the provision of affordable housing, and promoting cultural diversity with structural transformation, can help heal Xenophobia, alleviate discrimination, and promote equality in divided South Africa.

Keywords: Social Identity, MA Kwerekwere, Xenophobia, Scapegoating Hypothesis, Structural Transformation

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สำรวจภาวะเกลียดชังชาวต่างชาติผ่านเลนส์สังคมวัฒนธรรมแอฟริกาใต้

อึง มียา โซ*

บทคัดย่อ

บทความนี้กล่าวถึงประเด็นปัญหาเรื่องภาวะเกลียดชังชาวต่างชาติในประเทศแอฟริกาใต้ วัตถุประสงค์ของบทความคือ เพื่อหาปัจจัยที่ก่อให้เกิดภาวะเกลียดชังชาวต่างชาติ ความท้าทายและแนวทางการแก้ปัญหาเพื่อฟื้นฟูความเชื่อมแน่นทางสังคมและลดความเหลื่อมล้ำในประเทศแอฟริกาใต้ โดยใช้แนวคิดวิจัยเรื่อง อัตลักษณ์ทางสังคมของเฮนรี ทาจเฟลและจอห์น เทอร์เนอร์ ประกอบกับความขาดแคลนเชิงสัมพันธ์ของรันซิแมน สามเหลี่ยมความรุนแรงและความขัดแย้งของกัลตุง และสมมุติฐานเรื่องแพะรับบาปของดังแคน ทั้งนี้เป็นการวิจัยเอกสารร่วมกับการวิเคราะห์วรรณกรรม รายงานและเอกสาร โดยผลการวิจัยหลักที่พบคือ ปัญหาสังคม เช่น การว่างงาน การขาดที่อยู่อาศัย อคติต่อผู้ย้ายถิ่นที่เป็นคู่แข่งทางธุรกิจ อีกทั้งปัจจัยทางวัฒนธรรม ได้แก่ ภาษา การแต่งตัว ดนตรีและประเพณีของผู้ย้ายถิ่นผิวดำ ล้วนแต่เป็นปัจจัยผลักดันให้เกิดภาวะเกลียดชังชาวต่างชาติ โดยสรุปคือ ความพยายามจากภาครัฐในการพัฒนาทักษะเพื่อการทำงาน บริหาร การจัดที่อยู่อาศัยราคาประหยัด และส่งเสริมความหลายหลายทางวัฒนธรรม ด้วยการเปลี่ยนแปลงโครงสร้าง จะสามารถลดภาวะเกลียดชังชาวต่างชาติ บรรเทาการเลือกปฏิบัติและส่งเสริมความเท่าเทียมกันจากการแบ่งแยกภายในประเทศแอฟริกาได้

คำสำคัญ: อัตลักษณ์ทางสังคม มาเควียรี่ เควียรี่ ภาวะเกลียดชังชาวต่างชาติ แพะรับบาป สมมุติฐานการเปลี่ยนแปลงโครงสร้าง

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มหาวิทยาลัยพายัพ (เขตแม่คาว) ถนนซุปเปอร์ไฮเวย์เชียงใหม่-ลำปาง อำเภอเมือง จังหวัดเชียงใหม่ 50000
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Problem statement

South Africa in 1994 emerged as a new democratic nation with multiculturalism and ethnic diversity, the post-apartheid society. Intra-regional armed conflicts within Africa; the 60s and 70s civil war in Nigeria, the Congo war, the Rwandan genocide in the 90s, and the Ethiopian and Eritrean war in 1999, all fostered human mobility in the region. (Bakken & Rustad, 2018). Political instability, security threats, and governance challenges exacerbate poverty, leading people to desert their place of origin in search of a more secure destination. (Kaziboni, 2019). Being an emerging nation with constitutions anchored in the rules of law, respect for human rights, and a better economy, South Africa appealed to most migrants to move in. It has become the highest recipient of migrants in the region. (Chikalogwa, 2018)

Escalating urban development introduced rapid industrialization which resulted in urbanization and labor migration. As in any developing country, industrialization in South Africa attracted migrant laborers from neighboring countries in search of better employment. Black foreigners competing with locals in the job market contributed to serious social tension. The massive influx of people into the cities created housing problems. Increased migration legal or illegally placed pressure on people fighting for scarce resources, resulting in increased unemployment and impoverishment in the dislocated communities. Social intolerance of immigration from other African countries has been rising, creating a growing rate of physical violence and crime in big cities. Inter-ethnic and interracial tension worsened in South Africa.

The attitudes towards non-nationals, especially black foreigners living and working in South Africa were heavily influenced by the ideology of **Makwerekwere,** the non-belonging. The cultural differences are consequently perceived as otherness rooted in prejudice, inflated contempt, and bred violence. The fear of migrants taking jobs, housing, and retail businesses caused hostility toward foreigners. The anti-immigrant movement started in 2000, however, the evening of 11 May 2008 in Alexandra township of Johannesburg intensified to the stage of aggression and violence, spreading all over the region, causing severe destruction, deaths, and displacement. The Xenophobic violence in South Africa was the most harmful and damaging in history and persists.

Research questions

There are push and pull factors ranging from social, economic, structural, institutional, political, and cultural as root causes of Xenophobia. The research looked at the problem from a sociocultural aspect and explored the two answers for the following;

1. What are the sociocultural factors and challenges causing Xenophobia in South Africa?
2. What are the solutions for rebuilding a cohesive society in South Africa?

Research purpose

The main purpose of the research is to identify the factors of xenophobia from the sociocultural dimension. Economic factors have mainly been studied to respond to the problem, however, the sociocultural dimension is critical if the challenges are to be comprehensively analyzed, and solutions to strengthen social cohesion in South Africa to be completely addressed.

Analytical framework

Various documents are approached and data analysis is carried out examining the root causes of xenophobia in South Africa and how it affects the society. Solutions for rebuilding a cohesive society are induced through the interpretation and assessment of the collected information. The research is conducted applying the following analytical framework.
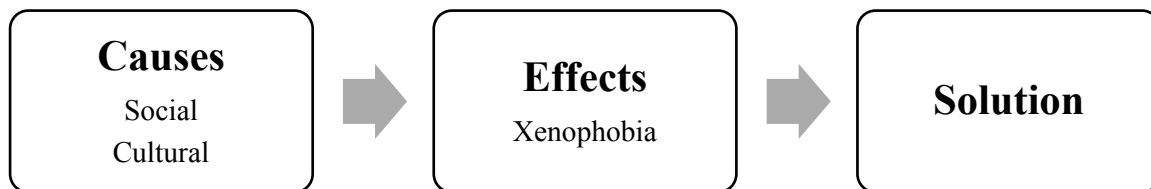

Figure 1: Cause, Effect and Solution

Definition of terms

The followings explain the terms; Social identity, MA kwerekwere, Xenophobia, Scapegoating hypothesis, Structural transformation

Social identity is a term proposed by Henri Tajfel (1970) to refer to a person's cognitive perception of who they are and which group they belong to in terms of physical, social, and mental characteristics in a society. The perception gives a person a sense of belonging regarding social standing and it plays an important role in shaping the attitude and behavior of that particular person. Belonging facilitates valuational significance to the member and sometimes enforces negative aspects of the other group, to enhance their social image.

Makwerekwere is a derogatory expression referring to black immigrants in South Africa regarded as strangers, foreigners, and non-belonging. The locals considered them the out-groups, treated and excluded them as foreigners who did not have the rights to formal and informal benefits of citizenship. The expression identified foreignness, the specific strange sounds of foreign languages, especially languages spoken by African foreigners in South Africa, and has become an indication of social differentiation and discrimination.   (Isike, 2013, p. 95)

Xenophobia originally is a Greek word combined with Xenos which means strangers or guests and Phobo meaning fear or panic. It is the dislike of or prejudice against people of other countries. It is an extreme feeling towards people considered to be strangers and the intense disapproval of their customs, and cultures unusual and unknown to the locals. The Xenophobic effect is the avoidance and rejection of anyone considered an outsider. The superiority perceived by the locals condescended to people of other cultures or countries negatively. Xenophobia is not just a sentiment but also entails acts of violence physical, as well as psychological, and social (Merriam-Webster Dictionary, 2022)

Scapegoating hypothesis explains the anger and hatred of the local population directed towards the black foreigners blaming them as the primary cause of all the hardship and difficulties they suffer. The sentiment of the South African is that the African immigrants have nothing to offer to the country and have only come to take out and cause problems. The growing unemployment rates, inequality in income among the blacks, and endemic impoverishment evoke hostility towards foreigners in the belief that one is getting less than one feels entitled to. The poverty-stricken urban informal settlements left the marginalized indigenous population with the perception of being deprived of the social benefits they are entitled to. (Duncan, 2012, p.107)

Structural transformation in the case of Xenophobia in South Africa refers to the changes required of the political, economic, and social structure causing inequality and discrimination. As the county was heading toward a globalized and highly internationalized economy, the development of institutions, organizations, and governance is critical. Insufficient capabilities, development in

technology and digitalization, and lack of well-designed and effective industrial and economic policies resulted in power asymmetries. The focus of this paper is on the sociocultural dimension, however, interlocking impacts such as increased corruption and maladministration were founded to have rooted resentment giving rise to Xenophobia.

Literature review

Social identity theory; the cause of conflict

The social identity theory of Tajfel and Turner uncovered the dimension that causes xenophobic violence in South Africa. Social psychologists Henri Tajfel and John Turner in the 1970s formulated social identity theory in which individuals define their own identities by the social group they belong to. The groups have become their source of pride and self-esteem. The belief, values, and practices of the in-group have a great influence on the members, they tend to behave uniformly adjusting to the group members. Appropriate behavior, manner, and character are defined by the norms of the group. With the identification, arise the segregation of in-group and out-group. The emphasis has been centered on the differences the out-group holds. The negative consequences lead to social categorization where people are judged based on the group rather than as an individual. The in-group usually looks for the negative aspects of the out-group to enhance their superiority. The similarities share in the in-group becomes favorable social standing to discriminate and breed prejudice over the out-group.

Social identification invested self-esteem in the group member and maintains positive favoritism of their group and against the out-group. Members usually adopt the identity of the social group they categorize themselves to belong to and conform to the norm of the group. People tend to think positively about the group they belong to and that leads to rejection and hostility towards the out-group. The social comparison often perceives the in-group as having a higher social status viewing the out-group as inferior and significantly marginalizing the out-group to derogate them. The in-group identifies the out-group as a rival and begins to see them as competitors. Especially when viewing oneself as having lower social status in comparison to the out-group, the social competition becomes intense. The prejudice may turn into extreme resentment and hatred; the negative attitude is triggered into violent acts. The discrimination resulting from stereotyping and self-protection escalates further to hostility and conflicts. (Tajfel & Turner 1978, p 40)
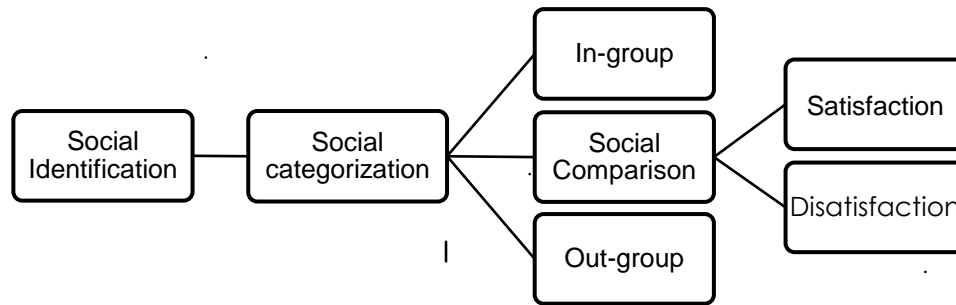
Figure 2: Social Identity Theory

Source: Tajfel & Turner. The social identity theory of intergroup behavior. (1978, pp 9-24)

The impact of Relative Deprivation in society

The xenophobic attacks in South Africa have always been associated with social comparison between locals and fellow African immigrants. The social comparison can further be linked to the theory of relative deprivation. The discomfort and dissatisfaction in life, pressure a person to compare one's relative situation to that of the other. The perception is that the person may feel he or she deserves to have the good thing in life as those others enjoy. The feeling of inability and exclusion to access the good things in life was expressed in the theory of relative deprivation by sociologist Runciman (1966). It is a judgment that one is deprived of social requirements in contrast to the standards some others possess resulting in anger and resentment. The impact of relative deprivation is so influential on attitudes and behavior that it tends to produce unwanted stress and aggressiveness. People upwardly compare themselves to the other group and perceive the disadvantages and assert it as unfair. The subjective evaluation leads to frustration, anger, and hostility. Relative deprivation is somehow considered the root cause of looting, rioting, terrorism, and armed conflicts. When people feel they are denied the resources they are entitled, their behavior can turn to socially disordered acts claiming their grievances.

Runciman started with a person feeling about the lack of resources in life. The dissatisfaction triggered the feeling of envy after discovering that the other person possesses the thing he or she lacks. The ardent desire to take hold of the thing and the belief that they are entitled to have that, cause the feeling of unfairness and inequality. The discrepancy between life's expectations and the actualities gives rise to discontent and consequently evolves into protest, instability, and violence. Regarding relative deprivation, Runciman came up with two distinct characterizations; egoistic and fraternalism. The egoistic relative deprivation is bounded to the individual and it is personal. The unfavorable social

status in contrast to other better-off members causes the feeling of deprivation and envy. The perception of inequality by the individual exists within the group. Contrarily, fraternal relative deprivation is associated with massive social groups feeling devoid of their rights. The demanding and redressing of grievances can turn into social movements, spark a revolution, and cause social unrest.

Addressing the elements of violent conflict

The theory of conflicts triangle by Galtung gives a more comprehensive understanding of Xenophobia in South Africa and the conflicts caused. Conflicts, according to Galtung involve persons, groups, or societies. Intergroup conflicts involve two or more groups confronting each other with disagreement, tension, and hostility. Competition is one of the main factors contributing to intergroup conflicts. Intercultural conflict occurs between two groups, usually the dominant majority and the minority. The different cultures entail contrasting values imposing conflicting rules that have great impacts on attitude and behavior. Diverse cultures in society give rise to intolerance and crisis.

There are three factors if combined and worked together, result in violent conflict. According to Galtung's conflict triangle theory, behavior, attitude, and contradiction are the three elements that contribute to conflict around the world. (Galtung, 1969, p.72). Attitudes and assumptions such as racism and discrimination at the latent level do not cause conflict yet, a factor to infer it. It is not visible but deep down, it is the root cause of the conflict. Accumulated conflict experiences in the past heap up negative perceptions and produce a bitter personality thereby resulting in resentment. However, the hidden subconsciousness can be observable in the action and behavior of a person. Conflicting parties may recognize the latent emotion underlying the behavior of others and even their own. Attitudes of the conflicting parties tend to become more defensive or even hostile as the conflict escalates. Attitude in conflict situations influences one's behavior. Sometimes attitude can also be affected or even changed by the behavior of others. The dominant group usually monopolizes their culture and asymmetrically inflicts language, customs, traditions, and norms, cross-pressuring the minority. The conflict atoms as termed by Galtung, the contradiction deep inside lead to harm and destruction if the problem is highly solution resistant. The intolerance in its extreme form can turn into violent killing or in a milder reaction, socially marginalizing the other group.

Contradiction is one of the components of conflict, that exists between conflicting parties due to irreconcilable differences. Pursuing the same goal, one has it and the other is deprived of it. Competing for scarce resources turns into disputes. Disagreement and debating on belief, opinions,

and concerns escalate aggressive energy within, stimulates negative emotion, and transmits significant tension. Contradiction in the form of inequality and disputes internalizes within and brews aggressiveness to the surface. The incompatible value or goals of the opponents result in frustration when the goal of one is blocked by the other. The opposing positions set the conflicting parties as enemies. The contradiction arises through the clash of interests and intentions between the parties. This leads to aggressiveness and from there to aggression which is in the form of destructive behavior. When aggressiveness accumulates it turns into hostility. Both elements; attitudes and contradiction, at the manifest level erupt into observable behaviors such as violence, insurgency attacks, and discriminatory acts. The destructive behavior tears down hurts and harms. Similar to a fire breaking out when three elements namely oxygen, heat, and fuel combine, the conflict also requires a negative attitude, aggressive behavior, and contradiction to trigger the bitter end. At the manifest level all the underwatered icebergs, here, the hidden unseen attitude surfaced and become visible. The dynamic contradiction evolves into destructive actions and violence, empirical and observable.

Behavior

Attitude, Assumption   Contradiction
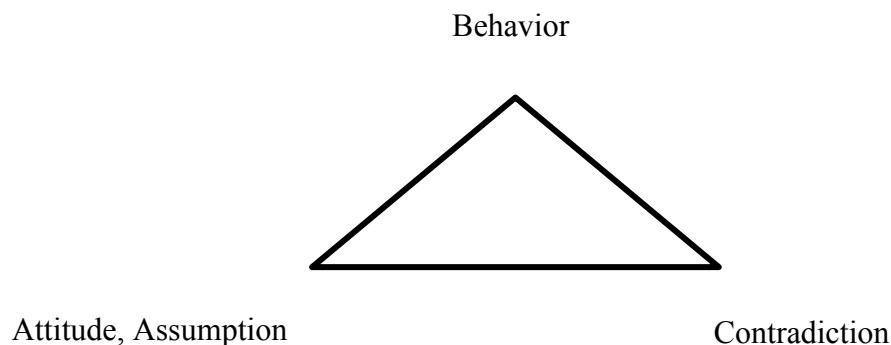
Figure 3: The conflict triangle
Manifest Level: Empirical, observed, conscious
Latent Level: Theoretical, inferred, subconscious
Source: Galtung, J. Peace by Peaceful Means. (1996, p.72)

Uncovering the root of violence

The root causes of violence occurring in South African society can be traced through the violence triangle model presented by Galtung. The triangle can also be used to identify the violence, whether the manifestation is at an individual level or structural in society. Violence means harming and hurting. (Galtung, 1969. P2). It is an emotional, verbal, or physical action aiming to dominate, destroy or diminish others and even the own self. It takes root in attitude and transforms into behavior.

It can either be institutional or structurally embedded in policies and systems. Violence according to Galtung is constructed of three dimensions; direct violence, structural violence, and cultural violence. Direct violence is visible and could be identified easily. Direct violence is exercised by an actor to combat the receiver as an enemy. It can either be in a form of physical such as assault and killing or it can also be psychological causing trauma, anxiety, or stress. Galtung stressed that direct violence impairs people of their fundamental human needs and impedes them to meet their needs and reach their full potential. Sometimes violence is in a form of a threat to enforce asymmetric power.

Structural violence in the form of social stratification usually discriminates and deprives a certain group of people of their needs, welfare, and rights. It is like the part of an iceberg below the waterline which is not visible, yet it is embedded in society in the form of laws and institutions. Structural violence occurs when the established set of principles are discriminatory and exclusive when individuals and groups are being treated differently. The intertwining of an economic system with social relationships set off complex relationships of power. Those in power gain access to resources, opportunities, and decision-making, and some other groups suffer marginalization and discrimination with their rights infringed. Political repression and economic exploitation do not cause direct harm to the body and mind, yet create discomfort and affect a person or group of people physically and mentally. People in power take advantage of their status and retain benefits for themselves at the expense of those with less political power. Rich people or nations invest in the business and exploit the poor for their economic gains. The economic policy and the social system cause unfair distribution of wealth and injustice in society. The effect of structural violence is not distinctively visible and the purpose seems unintentional. It makes reality opaque that the act of violence is not seen as violent and legitimate. The entrenched structure in society produces a protracted impact and causes severe damage in a long run.

Cultural violence, as stated by Galtung, involves religion, ideology, language and art, empirical science, and formal science, all the distinctive and established norms become absolute and are exercised uncritically by the dominant groups. (Galtung, 1969.P 201) It is rooted in stereotypes and prejudices; the by-products of prevailing attitudes and beliefs and consequently causes incontrovertible violence either direct or structural in nature. The majority forces to imprint their own culture on the minority to gain asymmetric influence and gradually devour them completely. The autonomous culture takes so strong a grip that it has become unquestionable. The injustice done thereby prevails. Culture has become the great legitimizer of violence. The ideology of just war does

not see killing as criminal activity anymore. The marginalization and exclusion inevitably lead to violence.
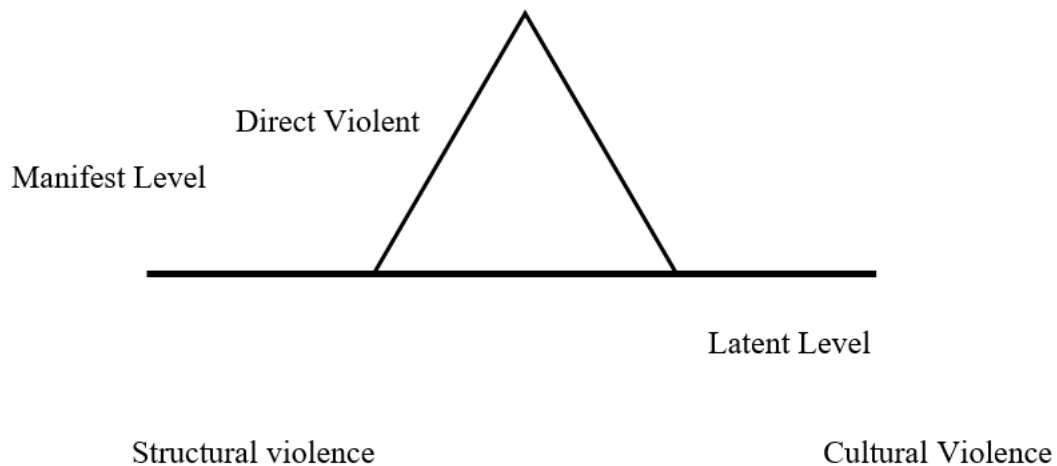
Figure 4: The violence triangle

Source: Galtung, Johan. Cultural violence. (1990, p 295).

The blame game; scapegoating hypothesis

Scapegoat terminology and its origin can be traced back to the time of the Old Testament when the goat was symbolically taken as a replacement for the transgression committed and was sent to the desert carrying the community's sins. It is an act of accusing some other person of the failure and problem oneself. It serves as an excuse to explain the incapability while the person can still sustain a positive image.

Scapegoating hypothesis states that xenophobia occurs when indigenous populations encounter economic hardship and difficulties turning their anger against foreigners and placing blame on them. That happened primarily because the foreigners snatched the limited resources such as housing, education, health care, and employment when the locals hold high expectations during the transition. The foreigners become a target to blame for ongoing deprivation and poverty, and the cause of all their difficulties. (Duncan, 2012, P.107). The growing population of black immigrants flocking to the cities in search of jobs and employment, economically depressed the locals into desperate and brutalized poverty.

The growing urban communities live in cramped areas and makeshift shacks with very low incomes. The poverty-stricken urban community with informal settlements condemns the African for

their impoverishment and their prejudice against the immigrants grows day by day. (Human Sciences Research Council (HSRC, 2008). As the society is plagued by protracted economic crisis and resources have fallen short, the situation escalates contempt towards the black foreigners for all the troubles encountered. The locals under socioeconomic depression with little access to wealth and power, scapegoat the immigrants as trouble igniters and impose all the blames on them. The prejudice extended to disliking the language, culture, and way of life and the resentment grew further as intermarriage pervades the community.

Duncan related his hypothesis to the former isolation during the apartheid where South Africa was detached from the international and regional community. The country closed itself to the rest of the world regarding foreigners as threats to the politics, economy, and the nation. The resentment inflicted by the apartheid could not be erased after the post-conflict era and transformed itself into disbelief and prejudice towards any foreigners including fellow African. Endemic poverty according to Duncan, was the driving force for the scapegoating. The economically and socially depressed South African in brutalized poverty was entrapped and in finding an escape the black immigrants have become fertile ground for Xenophobia allegation. To add to his hypothesis, he also cited relative deprivation as another actor for scapegoating. The perception of fellow African snatching scarce resources and feeling of inequality and deprivation led to insulting the outer group. Finally, he speculated that the legacy of racism and the impact of colonialism and apartheid retain the exercise of scapegoating. The social segregation whether a person is an entitled citizen or excluded from membership, the nationhood causes all the proclamation that foreigners are toxic.

Methodology

The research employed a qualitative approach and was done using the library research method. The triangulation strategy is applied to gather data and interpret information from various sources such as newspapers, video records, journal articles, reports, prior research by scholars, and documents. Being an outsider, a careful look into different documented lived experiences of insiders helps to increase the validity and reliability of the findings. Documents are then analyzed and an in-depth understanding of the research questions was induced through a comparative analysis of the sources. The sources served as foundations for analyzing root causes and challenges.

Findings

Xenophobia in South Africa

The 1994 reformation of South Africa to a democratic country introduced industrialization and stabilized the economy. The increasing arrival of immigrants following the development laid an economic burden on the local population. (Isike, C & Isike, F, 2013). Competing for scarce resources for instance, employment which is taken away by the cheap labor, securing ownership of houses originally aimed for South Africa employing corruption, influencing local retail business, the foreigners committing the crime, rape, theft, and fraud in the country and cultural factors such as marrying South Africans, dominating and diluting the culture, all trigger the xenophobia. Though the European foreigners do not pose an issue, the black Africans are regarded as throwaways who have nothing good to offer to the country. (Ggola, 2008 & Matsinhe, 2011)

The discriminatory attitude was frequently encountered daily by the other African nationals and immigrant shopkeepers were attacked from time to time on purpose. Looting, destroying of houses and shops, door-to-door searches and personally intimidating foreign residents were disturbingly common. The attacks in Alexandra were the worst to sparkle hostility, leaving 62 people dead, 670 wounded, and 100,000 displaced (Misago. et al., 2010, p. 20). The Xenophobic violence in South Africa varied in the form of murder, assaults, looting, robbery, arson attacks, displacement, intimidation, and threats. From 2008 to 2015 up to 350 foreigners were killed. The inflammatory remarks from the Zulu monarch, King Goodwill Zwelithini in March 2015, asking foreign nationals to pack their belongings and go back to their countries, spurred another widespread wave of attacks and the Xenophobia prolonged onto the present.

The sociocultural causes and challenges

Employment

South African locals always argue that foreigners are taking jobs from them. ("BBC News", 2015). Due to school dropouts, lack of higher-level education, and overage, native participation in the labor market was surpassed by the immigrants. Most of the immigrants coming to South Africa were educated persons, skilled professionals, and economic refugees escaping conflicted areas. (Foko, 2015). International migrants in South Africa are more likely to take jobs that locals are not willing to do. Opportunities in the informal sectors in such professions as mechanics, construction laborers, traditional medicine practitioners, electricians, plumbers, and tavern and shebeen operators have become major attractions for the migrants. (Masikane, C.M, et al., 2020, p.8). The government's inability to control and prevent low-wage labor from neighboring countries from entering and working in South Africa caused troubles in the labor market. The South African placed blame on black

foreigners for the country's high unemployment problems, yet the economy partially has to rely on foreign workers for the skill requirement. There was a growing unemployment rate from 22.5% in 2008 to 25.1% in 2014. The Migrating for Work Research Consortium (MiWORC) released a report in 2014 stating that 82% of the working population aged between 15 and 64 were "non-migrants and only 4% could be classed as "international migrants". The discrepancies between perception and reality are distinctively high. According to research, international migrants are far more likely to run their businesses. Eleven percent are "employers" and 21% are classed as "self-employed".

The labor market is demanding an increasingly skilled and productive workforce and the weakness of South African human capital policies is limiting opportunities for those who were particularly disadvantaged and poor. The government still was unable to address human capital upgrading in education and skill training, and scapegoating the immigrants for taking the jobs remained in the perception of the locals. The South African government itself has very weak control over the regulations without meeting stringent immigration laws. (Tati, 2008). With the economic upheaval, foreign nationals have become scapegoats. To add to the adversity, government leaders often ignite resentment with their election slogan to get rid of illegal foreigners and misleading the crowds and provoking hatred. Political leaders commonly cited xenophobic tropes about foreigners taking jobs and falsely accusing them of mischief and crimes. With the remarks, the situation worsened and the immigrants were threatened, harassed, and humiliated by locals, leading to the xenophobic attacks that followed.

Housing

Housing inadequacy, according to UN-Habitat 2015, is caused by population growth and rural-urban migration. People who could not make a living from farming moved to urban areas in search of jobs. Urban lifestyle seen as the cradles of civilization attracted many people from rural areas dreaming to improve the quality of life. Urbanization in South Africa raised the challenge of accommodating the increased population. The government that came into power in 1994 had given an electoral promise to work on building a house for every South African (Bradley, 2003). African National Congress, 1994 affirmed that one of the Reconstruction and Development Program's priorities was to provide the homeless with housing. The high expectation fostered people from rural areas and farms to mobilize into towns in the hope of getting free houses.

Housing finance institutions were not accessible to the majority of poor and low-income families. The urban poor could not afford housing and weak governance in policy and

planning, particularly regarding land and urban management resulted in land speculation and grabbing. African Public Service Distribution and Performance Review (APSDPR, 2021). Corruption also hinders the delivery of affordable housing. The corrupt activities of some government employees lead to people not being on housing waiting lists or people who do not qualify for government houses, like foreigners being granted preference in the allocation of houses. (Maluleke, et al., 2019). The incapability to tackle housing problems in the urban area led to the growth of slums and poorly serviced informal settlements in the cities. Many urban residents from 75% to 99% live in squalid slums of ramshackle housing. The majority of the non–nationals pay a higher rent than the locals to secure housing. (Sadie and Borger, 2004). The monthly rental cost is far greater than what they can afford and with the limited fund, they are forced to accommodate their non-working relatives cramming them under one roof. (Belvedere et al 2003). The extremely overcrowded district cut off from infrastructure, urban utilities, and services such as water and electricity, left the residents with negative effects on their health and security. The locals were devastated by the economic and living conditions they are experiencing – poverty and inequality, chronically high unemployment, high crime rates, and poor public services.

Interracial Marriage

The widespread and ingrained belief of South African that immigrants are stealing their women has been a key black-on-black racism stirring up jealousy and hatred. Anti-immigrant attitudes can prominently be seen in the fight and competition for women by black African immigrants and black South African men. African women generally say that South African men are lazy, after accusing immigrants of taking all their jobs for lesser pay. They do not work but waste their time drinking, sleeping, and playing dice. Unemployed men are not able to support the family, therefore, women looking for men who can make money and this happens to be the immigrant. (Tafira, 2014, p.159). South African women living in poverty-stricken, slum-like conditions with poor access to financial support, usually look for men who can provide them with physical and financial security. Women who married African migrants were criticized and blamed for not choosing South African men. Their fellow South African men expressed resentment about their women being lured with money and taken by migrants. They accused the women of the love of money and giving themselves up to be sold out to foreigners.

The South African men expressed their sense of ownership and regarded the act of intermarriage as a betrayal. (Sindane, 2019, p.50) It made the women feel guilty, and their decision

was regarded as inappropriate. The interracial married woman suffers social discrimination and exclusion from the family circle and community. African immigrants are perceived and treated as being different from South African people and this forced the individual to a difficult position where social integration is unimaginable. The marriage evokes prejudice among fellow locals. Conflicting views on raising children, methods of disciplining children, and choosing religious affiliation for them have become crucial issues that can trigger social conflict anytime.

Physical Appearance and Behavior

The South African mining industry was one of the sources that have been attracting large numbers of migrant workers from neighboring countries, such as Mozambique, Malawi, and Lesotho. In reality, the South African and the outer groups termed black immigrants of neighboring countries do not have many distinctive differences in skin color and socioeconomic status. They share historical ancestries, similar traditions, and slightly differing languages in the region. However, the biocultural differentiation stressed the visible otherness and placed uneven loathing on the African foreigners. The physical features, their bearing, the clothing style, and the inability to speak the indigenous language, make the Congolese and Nigerians easily identifiable as the others.

South African's psychological differences of African foreigners as having big noses, big lips and round heads, having a complexion too dark or too black, dressing funny, walking in certain different ways and having inoculation marks, having big bodies, and huge shoulders are the main cultural factors for identification. (Harris, 2002). African foreigners are imagined as primitives who emit foul body odors. (Matsinhe, 2011, p 305). Racism, the attitude towards cultural differences at a latent level breeds contempt but often surfaced onto hostility and violence. The physical features that are distinctly strange were taken as an advantage to victimize the African foreigners. Since immigrants are looked down upon, crime and violence against them are culturally acceptable. The complexion, the dress, the walking style, and the accent are the determining factors for South African police to suspect and arrest undocumented migrants. People's physical appearance determines their citizenship, nationality, and legality. The South African Police Service and the Department of Home Affairs take these identifications for granted to treat the African foreign nationals as illegals, criminals, and drug traffickers

Language

Language has become another determining factor for differentiation. With diverse races and linguistic varieties, social integration and cohesion have become a barrier. South Africa is a place where 11 official languages are spoken and most of its migrants are from the neighborhood like Mozambique, Lesotho, Zimbabwe, and Namibia. Usually, migrants adopted the destination language where they settle down. The government did not attempt to integrate the migrants on the linguistic level. The consequences of ignoring the fact result in the social marginalization of language.

The accent of the person acts as a crucial signifier of authentic nativity or strangeness. The reaction of the natives changes significantly upon hearing the different accents as they realize the non-South African, "makwerekwere". The accent always poses as a test of nativity or legality. (Matsinhe, 2011, p. 305). If the accent does not sound like authentic nativity, it is subject to scrutiny. Speaking the language, pronouncing, and mastering the accents does not guarantee sufficient signifiers of the nativity. The non-nationals were frequently harassed and arrested because they speak the indigenous language differently. The inquisitive police officer can additionally ask thorough questions for further information. African immigrants thus restrain themselves from speaking their languages not to encounter problematic persecution. Not speaking the local indigenous language has become a crime to be humiliated and tormented. The hatred is so intense that these contradictions stay at a latent level, with all these trapping practices surfacing to hostility and causing violence.

Solutions for rebuilding a cohesive society in South Africa

Tackling unemployment

Sociocultural factors causing Xenophobia unleashed in the research, have to be addressed to eliminate its consequential effects that are damaging South African society. Unemployment is partly due to qualification deficiency, hence, educational institutes such as technical and vocational colleges have to be made accessible to improve workforce skills. Public sector commitment to upgrading skill development and educational qualification plays a crucial part in reducing the unemployment rate. To tackle the unemployment issue, the labor policy on the right to work has to be re-engineered. To tackle the low-paid job issue, the national minimum wage has to be implemented. Tax incentive for the employee requires to be monitored correctly. Increasing publicly subsidized employment and channeling investment resources into low-income areas can help mitigate economic desperation and raise the level of disposable income for low-income people. (Bond, et al, 2009, p. 30). Remodeling of economic empowerment policy is essential to promote and safeguard ownership of the Black people.

Housing solution

South Africa needs an efficient, formidable, and incorruptible department to administer the housing sector and monitor the project. The established anti-corruption strategy requires working well in fighting against the endemic. The housing development agency under the department of human settlements needs to engage the private sector, state-owned enterprises, provinces, and municipalities to find out land suitable for human settlements development, then provide housing, especially for low-income groups at government-subsidized rates. Promoting land reform to address geospatial inequalities has to be necessitated. The government itself requires to make public services accessible and equitable striving to provide quality services.

Promotion of cultural diversity

The Ban on interracial marriage has already been lifted since 1985. The research found that negative perceptions and social challenges faced by interracial married couples came about from external stressors rather than the expected cultural differences. The rejection and acceptance of the couple's intermarriage play an important role in their marriage life. Social support from family circles and friends including people from religious affiliations will certainly increase social cohesion and eliminate conflicts between the locals and migrants. Open communication regarding cultural differences between married couples is inevitable and it will help reduce conflict and confront challenges. (Sindane, 2019, p.57). The cultural identity of the immigrants and the distinctive features of the foreigners, serve as the justification for discrimination. The Xenophobic prejudice could be relaxed only if the South African state commits itself to promote cultural diversity and the 'melting pot' of regional citizenries within South Africa. (Bond, et al, 2009, p.32). The government needs to create an action plan to combat racism and implement non-discrimination on culture and language, safeguarding the identity rights of the minority.

Xenophobia regarding race and extreme nationalism must be addressed through education. Society must strive for multicultural integration, deal with cultural diversity, language acquisition, and language rights, and understand the benefits of coexisting in harmony. Introducing shared values in the community and promoting equality will eventually reduce prejudice. Law to facilitate access to justice has to be institutionalized to develop the exercise.

Summary, Conclusion, and Recommendations

Summary and Conclusion

Sociocultural factors such as unemployment, housing, interracial marriage, physical appearance and behavior, and language are the major causes of Xenophobia in South Africa. The government is responsible for structural transformation in the economy to cope with rapid growth. With globalization, development has to be steered, adjusting the social, cultural, and political dimensions. Education, skill development, quality healthcare services, advanced knowledge, and innovation will enhance the transformation. Reintegration of the country into regional and international levels opens up opportunities to boost sustainable development and set it on the right path to combat the persisting Xenophobia.

The divided societies need to work on reducing the hate and fear of foreigners to rebuild a cohesive society. The post-apartheid South Africa, a democratic country, suffered a severe impact of Xenophobia and all the various root causes required to be tackled effectively to rebuild the nation into a peaceful and conflict-free society. Regardless of ethnic identity, race ability, and class, multiculturalism and inclusivity of all members of the population in South Africa can help uplift the nation to equality and dignity.

Recommendation

The root causes of Xenophobia in South Africa were usually described as socioeconomic problems. Competition for scarce resources usually intensifies into conflicts. Historically prejudice and resentment against contradicting groups tend to grow and transform into violence. Exerted competitive pressure gradually turns into ruthlessness. It is to acknowledge that Xenophobia is the eruption of the underneath iceberg, the sentiment towards fellow African migrants, and its persisting problem. The local government is required to take steps further to promote its agencies in protecting the rights of migrants of foreign origin, especially from neighboring African nations. Labor disparities between locals and black foreigners must be tackled, opportunities have to be shared, and partnership needs are encouraged to solve the employment issues. The corruption fight has to be fostered to accelerate government services and address housing issues and impoverishment. Discrimination and exploitation should be stopped, government officials, authorities, and police officers must be prevented from exercising inequitable acts and refrain from escalating xenophobia.

Cultural diversity is the key element in rediscovering social cohesion and priority must be given to finding the solution for the contradictions and compromise. Education plays an important

role and the government must introduce multiculturalism in the learning curriculum to establish a peaceful and cohesive society in a long run. It must be accountable for institutional transformation and work together with civil society to resolve conflicts and eradicate protracted Xenophobia.

The sociocultural conflicts entrenched in Asia are relatively like South Africa. Similarly in Myanmar Xenophobia cases have been witnessed in the 2015 Rohingya crisis and the protracted fights between Ethnic Armed Organizations the Bamar Army proved that Xenophobia is embedded in mishaps. The inequality imposed by social discrimination in each country caused historical damages and persists. The research unleashed cultural dimension as a critical factor playing a crucial role in the conflicts. Socio cultural is only one Len to look into the root causes. Culture has various dimensions in playing the parts in Xenophobia. Further research on cultural factors will enhance understanding of Xenophobia and how to mitigate its effect on society.

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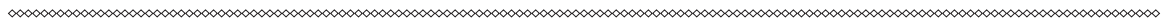
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