





RESEARCH ARTICLE

Social drivers affecting job design in apparel supply chains: Inferences from a discrete choice experiment

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Abstract

Because of increasing customer awareness and government regulations, apparel organisations are inclined to adopt social sustainability practices (SSPs) into their working environment. There is a lack of scientific literature examining the interaction between social and economic sustainability within the apparel industry from the employee perspective. This study aims to assess the preferences of blue and white-collar employees in the apparel supply chain to implement SSPs. The SSPs were identified through a literature study and a deductive approach was taken to conduct a discrete choice experiment. The experiment revealed that blue-collar employees prioritised maternity leaves and proper sanitary facilities, whereas white-collar employees preferred corporate social responsibility initiatives and providing proper sanitary facilities when designing the jobs for blue-collar employees. The study also identified willingness to pay for the identified practices highlighting the importance of providing maternity leaves and proper sanitary facilities to enhance economic and social sustainability. This research contributes to bridging the gap between the expectations of blue-collar and white-collar employees towards SSPs and provide an understanding of the interaction between the social and economic pillars of sustainability in the global apparel supply chain.

KEYWORDS

apparel supply chain, discrete choice experiment, social sustainability practices, sustainable supply chain management, willingness to pay

1 | INTRODUCTION

The emphasis on corporate social responsibility (CSR) has grown rapidly in significance over the recent years. In order to be sustainable and socially responsible, a business must take into account how its actions will affect society, the environment and stakeholder groups (Dahlsrud, 2008). This obligation is known as CSR. CSR has grown to be a crucial factor for businesses in the industrial sector to ensure that

their operations are in line with moral and sustainable business practices (Cerciello et al., 2023). Thus, companies have a critical role to perform in promoting sustainable practices and reducing adverse effects on communities, especially since manufacturing can have a significant impact on society due to concerns related to employee rights, societal well-being and modern slavery (Kuo et al., 2012).

The apparel sector plays a significant role in the global manufacturing industry. The main reason behind this phenomenon is

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that apparel consumers expect constant changes and new products due to the reduction of clothing utilisation. This fact has put additional pressure on the apparel manufacturing industry to reduce costs and shorten lead times (Masson et al., 2007). Competition in the apparel manufacturing industry has increased globally due to international trade and an interconnected global economy (Jakhar, 2015). The global apparel sector employs more than 75 million people globally (United Nations, 2018). The majority of these employees are low-income workers (Lopez-Acevedo & Robertson, 2013). Western apparel brands and retailers employ this strategy to gain the competitive advantage of low labour costs by sourcing their products from developing countries. These employees in developing countries are sometimes associated with poor working conditions and employee issues, especially in lower labour-cost countries (White et al., 2017).

Because of the high labour intensity of the apparel industry, social sustainability is an important focal point among the three pillars of sustainability (i.e., society, economy and environment) (Anner, 2019). To minimise the negative impact on the social pillar, apparel manufacturers are engaging in social sustainability practices (SSPs) to improve working conditions and labour rights for their employees. In the current context, these companies are either intrinsically or extrinsically nudged (by their consumers, employees and governments) to incorporate these SSPs to reduce the negative effects on society (Ahi & Searcy, 2015; Ziolo et al., 2023).

Social sustainability can be associated to supply chain management products and procedures to detect socioeconomic circumstances such as welfare, wellbeing, cleanliness, wages, labour and human rights, education and accommodation facilities of the actors involved in the supply chain (Mani, Agarwal et al., 2016; Mani, Gunasekaran et al., 2016; Uddin et al., 2023). As a result, companies are liable for the negative effects on social aspects caused by their products and stakeholder actions that, include suppliers (Bodendorf et al., 2022; Sancha et al., 2015). Recent incidents in the apparel industry such as the Rana Plaza incident in Bangladesh, reports of sweatshops, use of child labour by major brands caught the attention of the government, consumers, and non-government organisations (Huq & Stevenson, 2020; Sancha et al., 2015). By prioritising fair labour practices, incorporating safe working conditions, and ethical treatment of employees, companies can enhance their reputation, attract conscious consumers and foster a motivated and loyal workforce. These SSPs not only promote ethical business operations but also contribute to long-term economic viability in a highly competitive and environmentally conscious market. However, the implementation of most SSPs often does not deliver immediate economic stability for organisations. Rather, these initiatives require time to bring tangible results, and their impact can be challenging to quantify in the short term (Huq & Stevenson, 2020). It is really important to thoroughly study both the social and economic sides of sustainability. Understanding the complex relationship between these two pillars is essential for organisations aiming to balance their social responsibility goals and economic sustainability while recognising that long-term benefits often outweigh short-term challenges. Hence, it is crucial to take the necessary measures to activate SSPs focusing on the supply chain to

reduce the negative socio-economic impact (D'Eusano et al., 2019) and bridge the divide among economic and social objectives observed in the industry (Warasthe et al., 2022).

Given this context, Yawar and Seuring (2017) suggested that companies are searching for approaches to evaluate, understand and assess the importance of social sustainability to their supply chains. However, most of these approaches only consider the social pillar of the three pillars of sustainability whereas few of them combine it with the other two pillars (D'Eusano et al., 2019; Warasthe et al., 2022). Hence, this study will focus on filling this gap in the sustainability literature by addressing how the social and economic pillars are interrelated with each other and the importance of considering these two pillars from a common standpoint.

The employee perspective can be a major resource to improve social sustainability assessment since it might offer a more realistic, operational perspective. Furthermore, measuring social sustainability from the perspective of employees can add value to the organisation by capturing increasing expectations from the employees and increasing transparency of processes and activities thanks to technology-based systems (Staniškienė & Stankevičiūtė, 2018). There are different frameworks developed by several academic groups as well as the Global Reporting Initiative to assess the sustainability in respective sectors (Almahmoud & Doloï, 2018; Brent & Labuschagne, 2006; Hutchins & Sutherland, 2008; Labuschagne et al., 2005; Landorf, 2011; Westman et al., 2019; Ziolo et al., 2023). However, most of these methods developed in the literature have not covered the employee perspective to assess social sustainability and its impact towards the economic pillar of sustainability.

Hence, we developed the following research questions.

- RQ1. What are the SSPs that should be considered by the focal company when promoting social sustainability?
- RQ2. What are the preferred SSPs of blue-collar and white-collar employees?
- RQ3. How can SSPs be promoted through technical and financial investments to improve both social and economic performance of the firm?

Considering the above, this study attempts to identify and assess the SSPs that may be used to enhance the social performance of an apparel organisation and the preference of both blue and white-collar employees. A discrete choice experiment (DCE) was carried out. This is useful in discerning the likelihood of blue-collar employees accepting a job role considering social sustainability measures. It will help the apparel organisation to identify whether blue-collar employees are willing to accept the developed job role considering the SSPs. Last, we try to explore the strategies through which technical and financial investments can be harnessed to advance social sustainability that enhances social and economic performance of the firm. The developed model assists in assessing the value of a position in the integrated apparel sector of SSPs. Management-level employees involved in the recruitment process and social sustainability development can gain insights through this study for improved decision-making that enhances social and economic performance. Moreover, this study will

make a contribution to the existing body of literature on sustainability practices by highlighting the salience of incorporating both social and economic pillars, particularly through the integration of employees' perspectives.

The second chapter will provide a detailed overview of the research domain's literature, including key concepts related to the study and the research questions focused on the study. The research methodology development will be elaborated upon in Chapter 3. Chapter 4 will lay out the detailed descriptive and statistical analysis of the used tools and tests of the study. The major findings of the research study, managerial implications, limitations of the study and future direction will be discussed in detail under Chapter 5. As the concluding section, Chapter 6 will consist of a summary of the study.

2 | LITERATURE REVIEW

Presently, consumers are more aware of sustainability and there is proof that consumers are ready to pay extra for more sustainable products (Shen et al., 2013). Hence, most apparel manufacturers have adopted several tactics to improve the level of sustainability in their supply chains to meet the increasing expectations of consumers and stakeholders (Shen, 2014). This increasing demand and expectations for fast fashion have left workers in apparel supply chains in a challenging position, significantly impacting the social pillar. In most developing countries, even women and minorities are forced to accept temporary employment contracts with low wages, lengthy working days and sometimes dangerous and unhealthy operating environments (Bodendorf et al., 2022; Yawar & Seuring, 2017). Moreover, lack of knowledge, shorter lead times, cost and competitive pressures lead suppliers to disorient from being sustainable, which cause social issues (Warasthe et al., 2022). There is a debate on the studies that have been carried out in the literature on whether economic benefits can be gained by addressing these social issues (Gopalakrishnan et al., 2012) Further, there is a significant gap in the literature that addresses the combination of social and economic pillars while comparing the two pillars under a single framework as per Figure 1

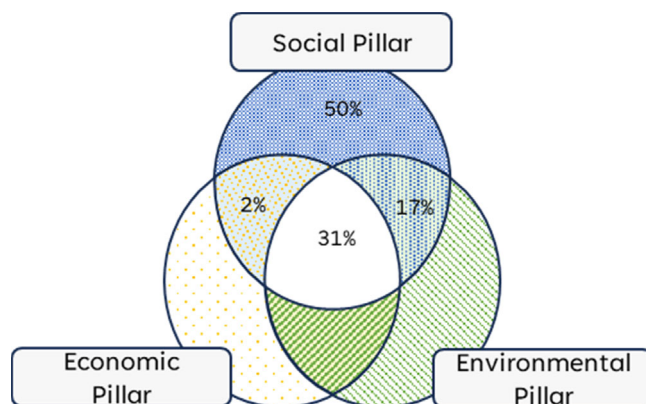


FIGURE 1 Sustainable pillars focused on literature. Source: (D'Eusano et al., 2019).

(D'Eusano et al., 2019; Staniškienė & Stankevičiūtė, 2018; Warasthe et al., 2022). Comparing the impact of the social pillar with another pillar is complicated. This is due to the complex nature of quantifiability and creating standardised metrics for assessment that are interchangeable across social and economic pillars.

CSR, initiated by Global Reporting Initiative was used to reprocess useful information to evaluate social performance (GRI, 2002). This method was used by firms to report their economic, environmental and social practices. Specifically, to analyse the social pillar with indicators such as labour practices, human rights, decent work and product responsibility (Zhu & Hu, 2017). In the previous literature, multi-criteria decision analysis, social and socio-economic impact assessment, Life Cycle Thinking (LCT), statistical approaches and social indicators were employed in the domain of Sustainable Supply Chain Management (SSCM). Cruz and Liu (2011) used multi-criteria decision-making to identify the relationships between different tiers and stakeholders in a supply chain, such as suppliers, manufacturers and retailers. The concept of 'Life Cycle Thinking' refers to an exploratory idea that takes into account all aspects of a production system, such as products, services or processes, from the extraction of raw materials to their disposal. LCT includes Life Cycle Assessment (LCA). The International Organisation for Standardisation developed this method to assess the possible future effects of products and services (Agyekum et al., 2017). Life Cycle Costing is another LCT method that addresses the economic pillar of sustainability by analysing costs that occur during the life cycle of the product or service under consideration (Parent et al., 2012). Another method is the Social Life Cycle Assessment (SLCA). This method is used to assess the positive and negative social and socio-economic characteristics of a certain product or process from a LCT point of view (Wu et al., 2014), Smith and David (2014) evaluated the social performance of small and medium-sized European food and beverage businesses. They conducted this study by considering the social issues of the local community workers and supply chain partners. Furthermore, (Zimmer et al., 2017) used SLCA in a case-study approach to assess the social risk of the German automotive industry's global supply chain.

Apart from these approaches, there are specific guidelines such as European Due Diligence (UE) 2019/1937 related to social sustainability. The 'European Due Diligence (UE) 2019/1937' refers to a significant European Union (EU) regulation that places a specific emphasis on due diligence in supply chains, particularly within the textile industry. This regulation aims to promote responsible and sustainable business practices by requiring companies operating in the EU to assess and manage the social and environmental risks associated with their supply chains. This regulation expects to identify and mitigate issues related to labour rights, environmental sustainability and human rights throughout their supply chains while addressing issues such as child labour, forced labour, unsafe working conditions and environmental pollution in their textile supply chains to ensure compliance with this regulatory framework (Hiessl, 2023). The United Nations Sustainable Development Goals (SDGs) encircle a wider area of global challenges including social sustainability aspect. SDG goal 5, goal 8, goal 12 and goal 16 which namely 'Gender Equality, Decent Work and Economic Growth, Responsible Consumption and Production and



Peace, Justice, and Strong Institutions', respectively, provide objectives for organisations to make significant efforts towards improving social sustainability, ultimately contributing to a more equitable and responsible supply chain (Sudusinghe et al., 2018).

When it comes to the apparel industry, there are mainly two types of employees as blue-collar and white-collar employees. Blue-collar professions require more hard skills than soft skills, whereas white-collar ones require more soft skills (Chen et al., 2017). Blue-collar employees perform manual processes related to apparel manufacturing such as cutting fabrics, sewing and packaging. White-collar employees engage in more professional processes such as merchandising, human resource managing, supply chain management, sales and marketing in office settings (Thun & Zülch, 2022). Since, apparel industry is more labour intensive in developing countries, blue-collar employees face many social issues compared with white-collar employees (Chen et al., 2017). Bubicz et al. (2021) explored the challenges of achieving social sustainability in the global apparel supply chain and the strategic changes required to address these challenges. To determine the structure and key players in the supply chain and comprehend the motivations for social sustainability management, they did a qualitative analysis of the sustainability reports from 2014 to 2018 of six multinational corporations. The results demonstrate that social sustainability is a component of strategic goals, with supply chain policies, commitments and actions created to support labour rights, social development and product responsibility. Previous literature mainly focuses on the working conditions of assembly line workers and these studies do not capture their perceptions of the SSPs (Thun & Zülch, 2022). There are several studies that focus on the social issues faced by blue-collar employees in developing countries such as India, Sri Lanka, Bangladesh and Cambodia (Bodendorf et al., 2022; Ramaswamy, 2009; Sikdar et al., 2014).

However, Cerciello et al. (2023); Yawar and Seuring (2017) identify a research gap on how employee practices and sustainable business practices affect the supply chain, and how SSPs can be promoted through technological enhancements and capacity building. Moreover, little attention has been paid to study the impact of SSPs on the economic prosperity of the apparel industry (Abbate et al., 2023; White et al., 2017).

Yawar and Seuring (2017), identified generic social issues that can be observed in supply chains related to manufacturing and production. They summarised the definitions of these social issues by following sources related to international governing bodies and literature relating to sustainable supply chain management. A few examples of the identified social issues are using child labour, neglecting human rights, ignoring the physical and mental health of the employees and gender equality. Hannibal and Kauppi (2019) conceptualised social issues concerned with labour conditions, economic development of the community, diversity of the stakeholders including minorities and female stakeholders and safety of the employees. Huq et al. (2014) identified key social issues in the apparel industry as employee wages and benefits, code of conduct, child and forced labour, workplace harassment and working hours and conditions. Chen et al. (2017) examined the Chinese apparel employees' attitudes towards SSPs in

TABLE 1 Summary of the identified social sustainability practices through literature.

| Social sustainability practices practiced in the industry | Reference |
|--|--|
| 1. Workload level balancing and elimination of forced labour practices | (Liyanage & Galhena, 2014; Welmilla, 2020) |
| 2. Training and education programs for employees | (Jakhar, 2015; Yawar & Seuring, 2017) |
| 3. Providing healthy food at affordable rate | (Mani, Agarwal et al., 2016) |
| 4. Wages and benefits | (Dissanayake et al., 2016) |
| 5. Childcare services and maternity benefits | (Baskaran et al., 2012; Mani, Gunasekaran et al., 2016) |
| 6. Access to proper sanitation and hygiene facilities | (Chen et al., 2017; Staniškieienė & Stankevičiūtė, 2018) |
| 7. Programs for employee empowerment | (Ashby et al., 2013) |
| 8. Introducing state of the art technologies and machineries | (Liu et al., 2019) |

the aspect of decent work. They considered employee concerns including their satisfaction levels with decent work practices. Baskaran et al. (2012) identified child labour and long working hours as the main social issues in the apparel industry in India. However, these studies do not align with corporate socially responsible practices or SSPs with the economic benefits, which can be gained. Reducing the turnover and improving the overall efficiency of the organisation is critical given that SSPs enhance the operational productivity of employees. Synergy between social and economic sustainability is important for the long-term sustainable performance of the organisation in the highly competitive apparel industry (Staniškieienė & Stankevičiūtė, 2018). Therefore, this research would address the literature gaps identified in the intersection of social and economic sustainability in the context of the apparel sector specifying the employee perspective on the impact of SSPs on the economic dimension of an apparel organisation.

Hence, to identify the prevailing social issues of apparel industries in the context of a developing economy, as the first step, previous literature was referred using the combinations of keywords supply chain, social sustainability, social assessment and apparel. Applying the 'Fundamental Conventions' identified by the International Labour Organisation combined with the identified issues from the previous literature, Table 1 summarises the identified SSPs to conduct the empirical study in the latter part of the study.

3 | METHODOLOGY

This study investigates the social sustainability of the apparel industry considering the employee perspective through their responses and opinions. Interviews, surveys and questionnaires were identified as

the most feasible methods for the data collection since these methods can provide more realistic and accurate information on the ground reality (Staniškienė & Stankevičiūtė, 2018). To achieve the research objectives defined in the introduction section, questionnaire survey was selected for the data collection process in this study.

For the data analysis step in the study, statistical approaches were shortlisted as the preferred data analysis approaches to achieve the defined objectives of the study. When it comes to statistical approaches, several statistical methods are used to identify the relationship between SSPs and pillars. Sudusinghe and Seuring (2020) used structural equation modelling as the data analysis method to measure and analyse the relationship between the social sustainability pillars of the apparel industry. Stated preferences methods refer to methods that elicit people's preferences or willingness to pay (WTP) for different attributes or levels using surveys or hypothetical scenarios. Choice based conjoint analysis also known as discrete choice modelling (DCM), in other words DCE. This method can be used to evaluate hypothetical-to-be scenarios of a product or a service that is intended to be introduced in a future context. This method was employed in past literature to evaluate the employee perspective of the job roles in healthcare economic studies. Since the apparel sector is also human resource intensive like the healthcare sector, understanding employee preferences can guide the development of better job roles and working conditions, ultimately improving employee satisfaction and retention in the apparel sector. However, there is a lack of studies that have applied this approach in socially sustainable supply chain management. Considering the literature void in using DCE in sustainability, the applicability of the method for the apparel sector, and the applicability of finding solutions to the identified research questions, the DCM approach was selected as the preferred method based on past literature.

3.1 | Discrete choice experiment

DCE was introduced by McFadden (1974), and it is a quantitative method to evaluate different factors that influence job choices, as well as a way to elicit stated preference for product and service attributes (Bredikhina, 2019; Rockers et al., 2012). DCEs are an evaluation technique among several stated preference methods, and it is considered one of the most frequently applied approaches (Johnson et al., 2013). DCEs has grown in popularity over the last few decades because it is a more time and cost-effective alternative to revealed preferences experiments, which are based on real data obtained from

exchanges observed in the real context. DCEs provide a quantitative indication of the relative importance and trade-off between hypothetical product or service attributes or characteristics. The choice models, such as DCEs rely on the assumption, that responders have trade-offs between attributes and their levels to maximise the utility of the selected choice (Kolstad, 2010). Further, Rockers et al. (2012) state that researchers and policymakers identified this as a very attractive method compared to traditional qualitative assessments since it applies to hypothetical products or services. This method is considered as a behavioural economic approach to systematically assess individuals' preferences. In a DCE, participants are presented with two or more alternatives, namely 'choice set' and characteristics, features or factors of each alternative are presented with the choice set, termed as 'attributes' and 'levels'. These choice sets are systematically developed to analyse the choice patterns of the participants (Foreman et al., 2021; Rose & Bliemer, 2009). There are few limitations in DCE as well such as, it is rely on respondents' ability and willingness to make complex trade-offs between different attributes and levels, which may not reflect real-world decision-making. Along with that, respondents may also have difficulty understanding the hypothetical scenarios presented in the survey, leading to biased or inconsistent responses. To address these limitations, we conducted a pilot survey to identify whether there are any potential sources of confusion or misunderstanding in the questionnaire. Moreover, we conducted in person surveys to concise communication to facilitate the understanding of the questionnaire.

3.2 | Design of the discrete choice model

DCE is a systematic experiment, which consist with several steps. The main steps as per the user guide developed by Rockers et al. (2012) are presented in Figure 2.

3.2.1 | Background investigation of the study

As the first step of the background investigation, an extensive literature study was conducted to understand the socially sustainable aspect of the apparel sector. As per literature review findings, eight SSPs were identified to conduct the empirical study using the DCE. Table 1 in the literature review section represents the identified SSPs to conduct the DCE.

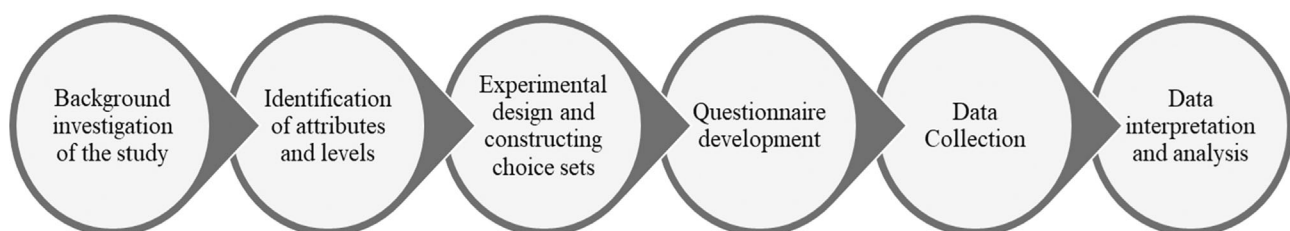


FIGURE 2 Steps of designing the discrete choice model.

3.2.2 | Identification of attributes and levels

In this study we only focused on SSPs that relate to blue-collar employees and we took the perspective of white-collar employees as well for the identified SSPs. We validated the identified SSPs in the literature review for the study with industry-related personnel whether they are practised and implemented in organisations at present to promote social sustainability or else whether they are potential SSPs that can be implemented in the organisations to finalise the survey.

3.2.3 | Design the experiment and choice sets

This section configures the experiment with the required attribute levels and experiment design, which includes the steps of generating attributes and levels, generating choice options and designing choice sets.

Generate attributes and levels

After the background investigation for the DCE, the initial step for developing the DCE design is to define the attributes and levels. These attributes should be able to influence the participants' choice when selecting the choice option among the given choice sets. Further, these attributes should be common across the given choice options, relevant to the research objectives and applicable in the practical context (Hensher et al., 2005). However, the number of attributes must be limited for a practical DCE design, and many previous studies used less than eight attributes, with most having six attributes and four attribute levels (Johnson et al., 2013; Marshall et al., 2010). Hence, to conduct this empirical study, we only considered eight SSPs identified through the literature review as per Table 1. Attributes

were introduced in a shorter version of the identified SSPs in the questionnaire for a better understanding of the respondent. After finalising the attributes, attribute levels were defined as per the elaborations given by the industry personnel for each attribute.

The levels were defined for each attribute as per the Table 2.

Generate choice options

In particular, alternative choice options must be defined to make the experiment more authentic. Moreover, these alternative choice options can be numerous, and including all of them in the experiment is difficult. There are two options available in the past literature to generate choice options. The first option is to consider the alternatives with unlabelled names that are not defined by their actual names. It is only defined by the attributes and the levels of those attributes (Kupfer, 2012). The other alternative is to proceed with labelled alternatives whereas attribute levels do not vary as significantly as in the unlabelled experiment to keep the experiment as realistic as possible. Considering these two options, it was decided to go with the unlabelled alternatives option, which does not provide a specific name for the given choice alternative. This strategy gives the advantage of using several combinations and variations of attributes and levels. This ensures the study is more casual and more probabilistic for the participants. In this research, the study will be based on two separate alternatives considered as 'Job A' and 'Job B'.

Designing the choice sets

Once finalising the attributes and levels, we developed the hypothetical job profiles with the combination of the attributes and levels. The combinations derived from the final pool of attributes and levels normally end up with too many choice sets, which takes more time and effort to complete the DCE for the participants. The design that includes all combinations of attributes and levels is known as full

TABLE 2 Attributes and levels of discrete choice experiment.

| Attributes | Level 1 | Level 2 | Level 3 | Level 4 |
|--|--|---|-----------------------------|-----------------------------|
| Workload | Normal: Daily targets can be achieved by an average skilled person | Heavy: Daily targets are difficult to achieved by an average skilled person | | |
| Training and upgrading qualifications (being eligible for promotion) | Exam based evaluation + Practical evaluation | Past performance evaluation + Practical evaluation | | |
| Providing meal facilities | Free breakfast + Free lunch | Free breakfast + Paid lunch | Paid breakfast + Free lunch | Paid breakfast + Paid lunch |
| Basic salary | 20,000 LKR (60 USD) | 25,000 LKR (80 USD) | | |
| Providing maternity leaves | Yes | No | | |
| Sanitary facilities | The place has proper sanitation facilities for both genders. | The place has poor sanitation facilities for both genders. | | |
| CSR events (birthdays, labour days, women's day, outings) | Yes | No | | |
| Availability of safety equipment and state of the art technologies and machineries | Sufficient | Insufficient | | |

Abbreviation: CSR, corporate social responsibility.

factorial design. As an example, in this study, there are seven attributes with two levels and one attribute with four levels. Considering there are two alternatives presented as choice sets for the participants, there are 130,816 $[(2^7 \times 4) \times \{(2^7 \times 4) - 1\} / 2]$ possible job profile choice sets in the full factorial design. Because of cognitive fatigue when responding to a larger number of choices the participant will become bored and unmotivated. As per the study carried out by De Bekker-Grob et al. (2012) the mean number of choice sets that used in DCEs is 14, while it has a range from 12 to 18 (Kruk et al., 2010).

Orthogonal designs are more commonly used to reduce a full factorial design into a manageable experimental design known as a fractional factorial design. These orthogonal designs are based on orthogonal arrays and have orthogonality and level balance properties. Here, orthogonal arrays denote that the attributes under consideration are statistically independent, and level balance denotes that the levels of attributes show up an equal number of times in the experimental design. However, when using statistically efficient designs, orthogonality is not applied (Rockers et al., 2012). Statistical efficiency is expressed in terms of D-efficiency that can be interpreted as minimising the covariance matrix's determinant. Hence, we designed a D-efficient model using SAS Macros in the online platform "SAS OnDemand for Academics". The D-efficiency is 99.2809 for the developed experiment model.

3.2.4 | Questionnaire development

To conduct the DCE a questionnaire was developed using 'Microsoft Forms'. This platform can be accessed through the Microsoft Office 365 package. When developing the questionnaire, we used the process as per Figure 3.

Information regarding the questionnaire;

1. The target population of the study was blue-collar and white-collar employees of the apparel sector.
2. The questionnaire was developed with three languages namely, English, Sinhala and Tamil.

3. Participants were offered two warm-up choice questions prior to the experiment similar to a choice question presented in the DCE.
4. After the DCE choice sets, one choice set was repeated to verify the rational behaviour of the respondent.
5. In the final stage, the demographic data of the participant were obtained to get insights regarding the impact of the respondent's profile to the findings of this research.

A pilot study was carried out in a small- and medium-scale apparel manufacturing company on their premises. The objective of the pilot study was to check whether the respondents could understand the questionnaire and respond to the questionnaire with rational behaviour. In the pilot we identified that blue-collar employees does not have proper understanding in this context. Therefore, we decided to conduct in person questionnaire surveys for blue-collar employees to ensure the validity of the responses. A sample of the choice set presented in the questionnaire is as per Figure 4.

3.2.5 | Data collection

A stratified sampling method was applied for the data collection process in the study. Stratified sampling divides the population into subgroups depending on important criteria such as job type, in this case, blue-collar and white-collar employees. We intend to analyse blue-collar employees' preferences before implementing social sustainability policies in the apparel business by selecting blue-collar employees. The selection of white-collar employees gives policymakers' perspectives, and integrating both perspectives provides a more thorough insight of the apparel industry's interest for SSPs. In the data collection process for the DCE, field and online responses were collected from apparel companies distributed in Sri Lanka. The experiment was carried out from February to July 2022 at four apparel companies, which employs over 500 personnel each. Rockers et al. (2012) and Hensher et al. (2005) suggest that a sample size of minimum 30 may be sufficiently large to perform a DCE experiment considering the complexity of the data collection of a DCE experiment. Blindly taking large samples could

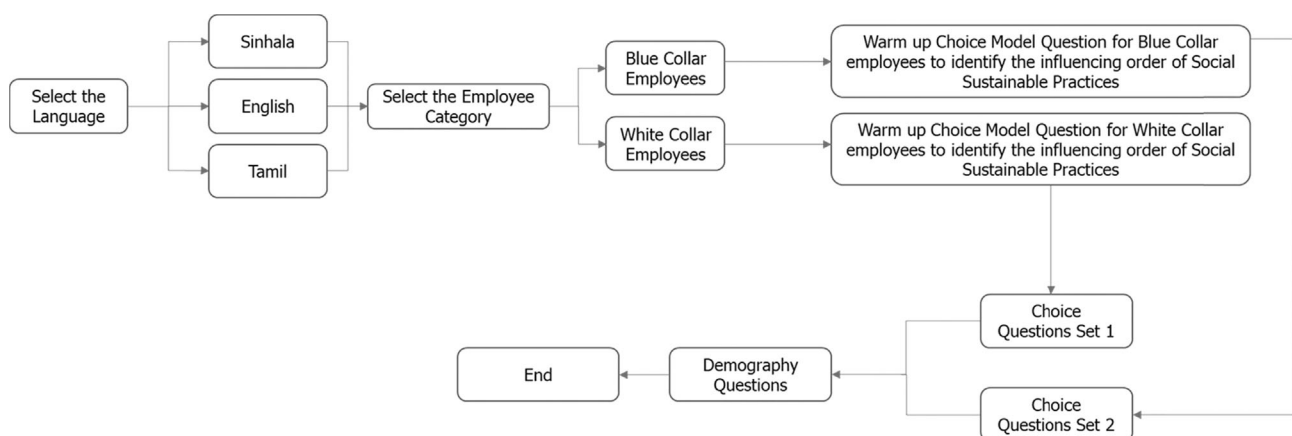


FIGURE 3 Questionnaire design process.

| | Job A | Job B |
|--|---|---|
| Workload | Normal | Normal |
| Promotion | Exam Based Evaluation+ Practical Evaluation | Exam Based Evaluation+ Practical Evaluation |
| Providing Meal Facilities | Free Breakfast + Paid Lunch | Free Breakfast + Paid Lunch |
| Basic Salary | 20000 LKR | 25000 LKR |
| Providing Maternity Leaves | Yes | No |
| CSR Events (Birthdays, Labour Days, Womens day, Outings) | No | Yes |
| Sanitary Facilities | Proper sanitation facilities | Proper sanitation facilities |
| Availability of Safety Equipment | Insufficient | Sufficient |

FIGURE 4 Example of a choice set. CSR, corporate social responsibility.

result in a waste of resources, time and money that cannot be bearable to a low- or middle-income country. Therefore, the data collection should be accurate with an efficient design (Rockers et al., 2012). Considering the above facts, we collected 96 responses, 54 was from blue-collar employees and the remaining 42 responses from white-collar employees for more accuracy. To elaborate on our sampling approach, we collected responses from 15 blue-collar and 12 white-collar employees from each of the companies that have the two highest market shares among the selected four. On the other hand, we collected responses from 12 blue-collar and 9 white-collar employees from each of the other two companies. An online questionnaire survey was conducted for the white-collar employees with purposive sampling. To ensure the reliability of the responses white-collar employees were carefully selected from positions above the executive level of human resource departments at selected apparel organisations. Sixty requests were made through social media platforms such as WhatsApp and emails to seek responses for the online questionnaire, and the response rate was 70%. Moreover, in person questionnaire surveys were conducted for blue-collar employees using random sampling by visiting the assembly lines of the selected apparel organisations. Nine responses were unusable for the study due to failing the choice consistency test. That is using the same choice question twice in the questionnaire to check whether respondents provide an identical answer to both questions. This test was used to check the rational behaviour of the respondents throughout the experiment. In sum, 77 responses were usable for the study. Out of these, 46 responses are from blue-collar employees and 31 responses are from white-collar employees.

3.2.6 | Data analysis

In this study, the data gathered through questionnaire surveys was analysed in three phases as per, Figure 5. At first, we did a descriptive statistical analysis to provide a summary of the respondents who participated in the DCE. The second phase included four interconnected statistical tests related to DCE, namely the effect summary, Chi-square likelihood ratio test, parameter estimates and effect marginals tests. The effect summary reviews the estimated coefficients for each attribute level, whereas the Chi-square likelihood ratio test was used

to compute the overall significance and relative importance of the attributes used in the DCE. Effect marginals illustrate the marginal impacts of each attribute level on the likelihood of choosing each alternative in the choice set, whereas parameter estimates show the magnitude and direction of the effect of each attribute level. These tests are used to determine the statistical significance of the estimated parameters, identify essential characteristics and predict the likelihood of selecting each alternative in the choice set. Overall, these tests assist in this study in making informed decisions about the design and analysis of DCE.

Finally, willingness to pay estimates were calculated using the baseline values for the blue-collar employees and the white-collar employees. In this particular DCE, a continuous cost attribute was included to estimate the maximum trade-off an employee is willing to pay for a specific social sustainability practice, which is important for policy makers and decision makers to improve future considerations.

4 | ANALYSIS AND RESULTS

In this section, results of the choice experiment will be presented in three main sub-sections. They are descriptive statistics of the respondents, performed statistical tests for the DCE analysis, and the WTP calculations as per the Figure 5.

4.1 | Descriptive statistics

As per Table 3, of the respondents to the experiment, there are 61.29% male white-collar employees and 39.13% male blue-collar employees. In terms of demographics, the study's participants are predominantly female, with 38.71% of white-collar employees and 60.87% of blue-collar employees being female. Participants' ages are divided throughout a number of categories, with the biggest proportion falling between the ages of 25 and 34 (51.61% of white-collar employees and 54.35% of blue-collar employees). Participants' education levels also differ, with most of the white-collar workers having a bachelor's degree (62.16%), and blue-collar workers having an ordinary level education (89.13%). The majority of participants are

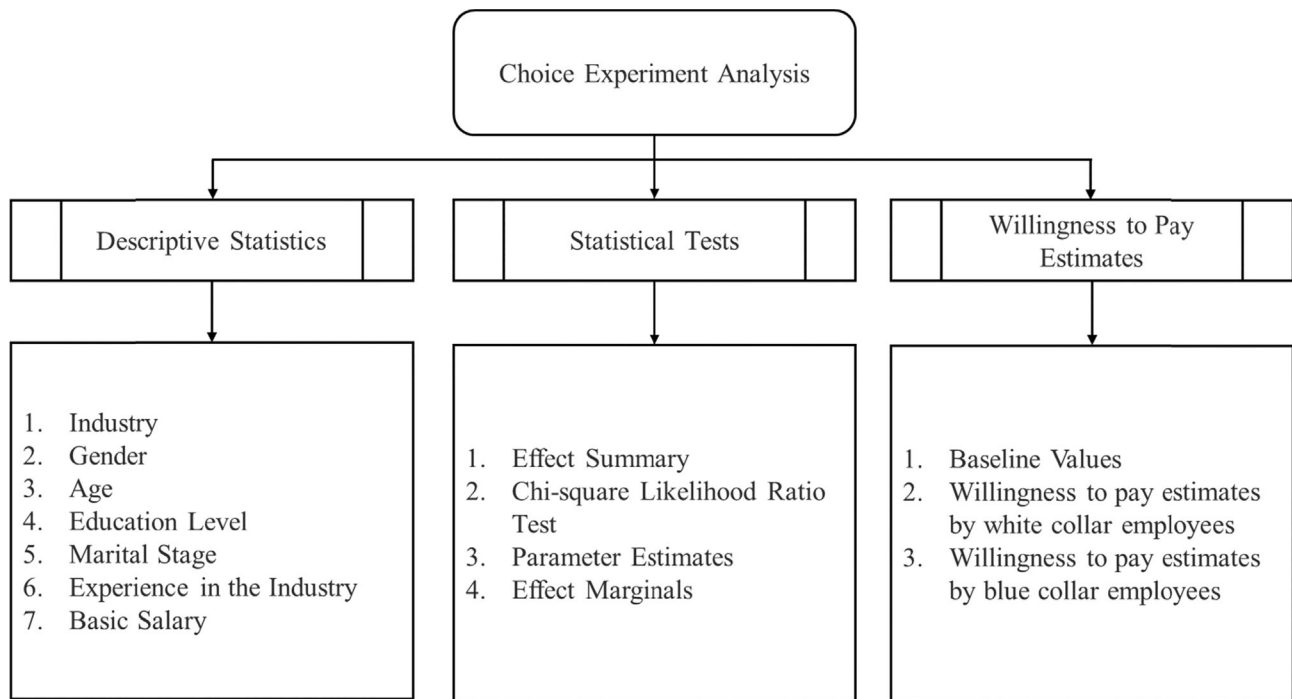


FIGURE 5 Summary of the analysis.

married. In terms of work experience, most respondents had 2–6 years of experience in the industry followed by below 2 years of experience.

4.2 | Analysis of the discrete choice experiment

The basic analysis tool of DCM, the multinomial logit (MNL) is used to examine and analyse the preferences of choice responses from 46 blue-collar employees and 31 white-collar employees. The coefficients in MNL models have a clear interpretation in terms of the relative importance of different attributes and levels in the choice decision over latent class analysis or mixed logit models (Rockers et al., 2012). SAS JMP PRO v16.2 was used to analyse and interpret the results of the DCE.

4.2.1 | Effect summary

The first interpretation of the data was obtained by using the analysis tool option of the choice model in the JMP PRO. This is known as the ‘Effect Summary’. This visualises the effects of the developed model and lists the estimated effects of the model. This output is a plot of the Log-Worth values for these estimated effects. This output includes the following columns.

1. Source: Visualise the model effects, sorted according to the ascending order of *p*-values.
2. Log-Worth: Present the Log-Worth for each model effect, defined as $\log_{10}(p\text{-value})$. This scales the *p*-values to make them suitable

for graphing. Furthermore, a value greater than 2 is significant at the 0.01 level.

3. *p*-Value: The *p*-value for each model effect is shown in this column. This is the *p*-value associated with the significance test shown in the likelihood ratio tests report. It is also understood as the likelihood of discovering the observed effect. Classically, $p < 0.05$, $p < 0.01$ and $p < 0.001$ levels are used. Most authors use the terms ‘statistically significant’ as $p < 0.05$ and ‘statistically highly significant’ as $p < 0.001$ interchangeably. According to the effect summary, output attributes with *p*-values less than 0.05 are significant. The attributes that appear at the top of the effect summary table are more significant than those listed at the bottom.

4.2.2 | Effect summary for the blue-collar employees

As per Table 4, statistically highly significant ($p < 0.001$) attributes as per the blue-collar employee preferences are;

1. Maternity leaves.
2. Sanitary facilities.
3. Workload.
4. Basic salary.

The other attributes surpass the boundary. However, meal facilities has a *p*-value of 0.02017, which is less than 0.05. As a result, given the *p*-value, it is also classified as statistically significant. Given the earlier assumptions, the remaining attributes cannot be considered statistically significant. This explains the main social sustainability

**TABLE 3** Descriptive statistics summary.

| Description | N | | % | |
|-----------------------------------|--------------|-------------|--------------|-------------|
| | White-collar | Blue-collar | White-collar | Blue-collar |
| Industry | | | | |
| Apparel industry | 31 | 46 | | |
| Gender | | | | |
| Male | 19 | 18 | 61.29 | 39.13 |
| Female | 12 | 28 | 38.71 | 60.87 |
| Total | 31 | 46 | 100 | 100 |
| Age | | | | |
| 18–24 Years | 3 | 12 | 9.68 | 26.09 |
| 25–34 Years | 16 | 25 | 51.61 | 54.35 |
| 35–44 Years | 8 | 4 | 25.81 | 8.70 |
| 45–54 Years | 4 | 3 | 12.90 | 6.52 |
| Above 55 years | 0 | 2 | 0.00 | 4.35 |
| Total | 31 | 46 | 100 | 100 |
| Education level | | | | |
| Ordinary level | 0 | 41 | 0.00 | 89.13 |
| Advanced level | 8 | 5 | 21.62 | 10.87 |
| Bachelor's degree | 19 | 0 | 62.16 | 0 |
| Master's degree | 4 | 0 | 16.22 | 0 |
| Total | 31 | 46 | 100 | 100 |
| Marital status | | | | |
| Single | 17 | 18 | 54.84 | 39.13 |
| Couple without children | 3 | 3 | 9.68 | 6.52 |
| Couple with children | 11 | 25 | 35.48 | 54.35 |
| Total | 31 | 46 | 100 | 100 |
| Experience in the industry | | | | |
| Below 2 Years | 7 | 15 | 22.58 | 32.61 |
| 2–6 Years | 12 | 18 | 38.71 | 39.13 |
| 6–10 Years | 7 | 7 | 22.58 | 15.22 |
| 10 + Years | 5 | 6 | 16.13 | 13.04 |
| Total | 31 | 46 | 100 | 100 |
| Monthly basic salary | | | | |
| Below 25,000 LKR | 1 | 24 | 3.23 | 52.17 |
| 25,000–35,000 LKR | 1 | 22 | 3.23 | 47.83 |
| 35,000–45,000 LKR | 5 | 0 | 16.13 | 0 |
| 45,000–55,000 LKR | 6 | 0 | 19.35 | 0 |
| Above 55,000 LKR | 18 | 0 | 58.06 | 0 |
| Total | 31 | 46 | 100 | 100 |

aspects blue-collar employees consider when selecting a job profile in a respective organisation in the apparel industry.



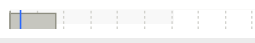
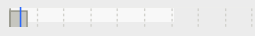
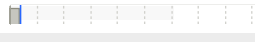
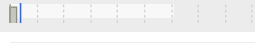
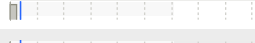

4.2.3 | Effect summary for the white-collar employees

As per Table 5, statistically highly significant ($p < 0.001$) attributes as per the blue-collar employee preferences are;

1. CSR events.
2. Sanitary facilities.
3. Maternity leaves.
4. Basic salary.
5. Meal facilities.
6. Workload.



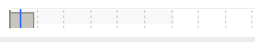
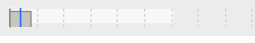
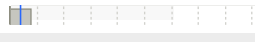

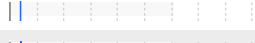

Above are the only attributes within the boundary of a statistically significant parameter. The remaining two attributes, which are

TABLE 4 Effect summary for the blue-collar employees.

| Source | Log-Worth | | p-Value |
|-------------------------------|-----------|---|---------|
| Maternity leaves | 43.676 |  | 0.00000 |
| Sanitary facilities | 22.062 |  | 0.00000 |
| Workload | 8.460 |  | 0.00000 |
| Basic salary | 3.217 |  | 0.00061 |
| Meal facilities | 1.695 |  | 0.02017 |
| Promotion | 1.155 |  | 0.06997 |
| State of the art technologies | 1.130 |  | 0.07420 |
| CSR events | 0.000 |  | 1.00000 |

Abbreviation: CSR, corporate social responsibility.

TABLE 5 Effect Summary for the white-collar employees.

| Source | Log-Worth | | p-Value |
|-------------------------------|-----------|---|---------|
| CSR events | 24.726 |  | 0.00000 |
| Sanitary facilities | 6.824 |  | 0.00000 |
| Maternity leaves | 4.338 |  | 0.00005 |
| Basic salary | 3.854 |  | 0.00014 |
| Meal facilities | 3.813 |  | 0.00015 |
| Workload | 3.640 |  | 0.00023 |
| State of the art technologies | 0.000 |  | 1.00000 |
| Promotion | 0.000 |  | 1.00000 |

Abbreviation: CSR, corporate social responsibility.

State of the art technologies used to improve safety within the work-space and considering promotions for the employees are not significant as per the white-collar employee preference. Hence, from the selected eight attributes, white-collar employees consider above mentioned six attributes mainly when designing a job role for an employee to reflect the SSPs of the respective apparel organisation.

4.2.4 | Chi-square likelihood ratio test

The likelihood ratio tests are used to compute the overall significance and relative importance of the eight attributes and attribute levels. This is another test for determining the significance of the attributes. The Chi-square likelihood ratio test validates the results obtained from the model's effect summary output.

4.2.5 | Chi-square likelihood ratio test for the blue-collar employees

As per the results of Chi-square likelihood ratio test for the blue-collar employees shown in Table 6, the results received in the effect summary is validated as accurate. That is, maternity leaves, sanitary facilities, workload, basic salary and meal facilities are significant as per the preferences received by the blue-collar employees.

4.2.6 | Chi-square likelihood ratio test for the white-collar employees

According to the results of the Chi-square likelihood ratio test for white-collar employees provided in Table 7, the results received in the effect summary are valid. That is, according to the preferences received by white-collar employees, CSR events, sanitary facilities, maternity leaves, basic salary, meal facilities and workload are significant.

4.2.7 | Parameter estimates

The 'Parameter Estimates' are the model's second computed result. The standard errors of the utility coefficients related with the attribute levels considered in the model and coefficients are estimated in this output. These coefficients are also referred to as 'part-worth utilities'. These coefficients can be positive or negative. These are the utility formula parameters. The last level of each attribute is not displayed in the output table since it is not independent of the others. All parameter estimates for a given attribute will sum up to zero. Hence, the last level will be the additive inverse of the sum of the other levels. Parameter estimates for the attribute levels for the blue and white-collar employees are as per Table 8.



| Source | L-R Chi-Square | DF | Prob > ChiSq | |
|-------------------------------|----------------|----|--------------|--|
| Workload | 34.901 | 1 | <0.0001* | |
| Meal facilities | 9.818 | 3 | 0.0202* | |
| Basic salary | 11.756 | 1 | 0.0006* | |
| Maternity leaves | 195.399 | 1 | <0.0001* | |
| Sanitary facilities | 96.556 | 1 | <0.0001* | |
| CSR events | 0.000 | 1 | 1.0000 | |
| State of the art technologies | 3.188 | 1 | 0.0742 | |
| Promotion | 3.284 | 1 | 0.0700 | |

TABLE 6 Chi-square likelihood ratio test for the blue-collar employees.

Note: Significant P values are indicated with the “***” notation.
Abbreviation: CSR, corporate social responsibility.

| Source | L-R Chi-Square | DF | Prob > ChiSq | |
|-------------------------------|----------------|----|--------------|--|
| Workload | 13.577 | 1 | 0.0002* | |
| Meal facilities | 20.206 | 3 | 0.0002* | |
| Basic salary | 14.504 | 1 | 0.0001* | |
| Maternity leaves | 16.608 | 1 | <0.0001* | |
| Sanitary facilities | 27.589 | 1 | <0.0001* | |
| CSR events | 108.709 | 1 | <0.0001* | |
| State of the art technologies | 0.000 | 1 | 1.0000 | |
| Promotion | 0.000 | 1 | 1.0000 | |

TABLE 7 Chi-square likelihood ratio test for the white-collar employees.

Note: Significant P values are indicated with the “***” notation.
Abbreviation: CSR, corporate social responsibility.

TABLE 8 Parameter estimates for blue and white-collar employees.

| Term | Blue-collar | | White-collar | |
|---|-------------|--------------|--------------|--------------|
| | Estimate | Std error | Estimate | Std error |
| Workload [Normal] | 1.24053102 | 0.2749290664 | 0.61941316 | 0.2305808602 |
| Meal facilities [Free breakfast + Free lunch] | 0.73907972 | 0.3246518138 | 1.06922821 | 0.4075747892 |
| Meal facilities [Paid breakfast + Free lunch] | 0.39983552 | 0.4376921323 | 0.38301655 | 0.5013945336 |
| Meal facilities [Free breakfast + Paid lunch] | 0.00169910 | 0.3055004219 | -0.18242015 | 0.5013945336 |
| Basic salary | 0.00014710 | 0.0000455170 | 0.00029534 | 0.0001094504 |
| Maternity leaves [Yes] | 2.13183969 | 0.2907829095 | 0.99010040 | 0.2985685960 |
| Sanitary facilities [Proper] | 2.09667768 | 0.4655587930 | 0.90845208 | 0.2305808602 |
| CSR events [Yes] | 1.69514307 | 0.3874281637 | 1.93020830 | 0.4184877891 |
| State of the art technologies [Sufficient] | -0.19585353 | 0.1137923804 | 0.65331515 | 0.2002095586 |
| Promotion [Past performance + Practical evaluation] | 0.50315040 | 0.3857512973 | 0.14135917 | 0.4184877891 |

Abbreviation: CSR, corporate social responsibility.

4.3 | Effect marginals

The Effect marginal output of the model depicts the marginal probabilities and utilities for each main effect in the model. The marginal probability is the likelihood that an individual chooses attribute A over attribute B whereas all other attributes are at their mean or default levels. Figure 6 and Figure 7 visualise the marginal effects of the blue and white-collar employees for attributes, respectively.

4.4 | Calculation of willingness to pay estimates

WTP is considered as the maximum price a consumer or customer is willing to offer for a product or service. In DCE, it allows the researcher to determine the maximum price that the respondents are willing to trade off for a certain attribute level considered in the experiment. Hence, it is very important for policy makers and decision makers to understand consumer behaviour make necessary changes

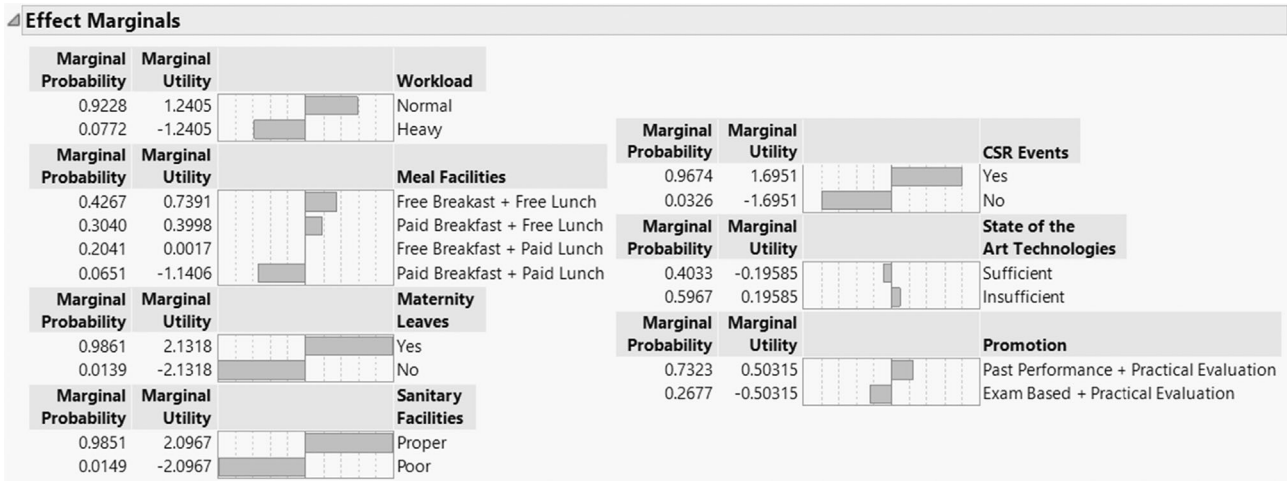


FIGURE 6 Effect marginals for the blue-collar employees.

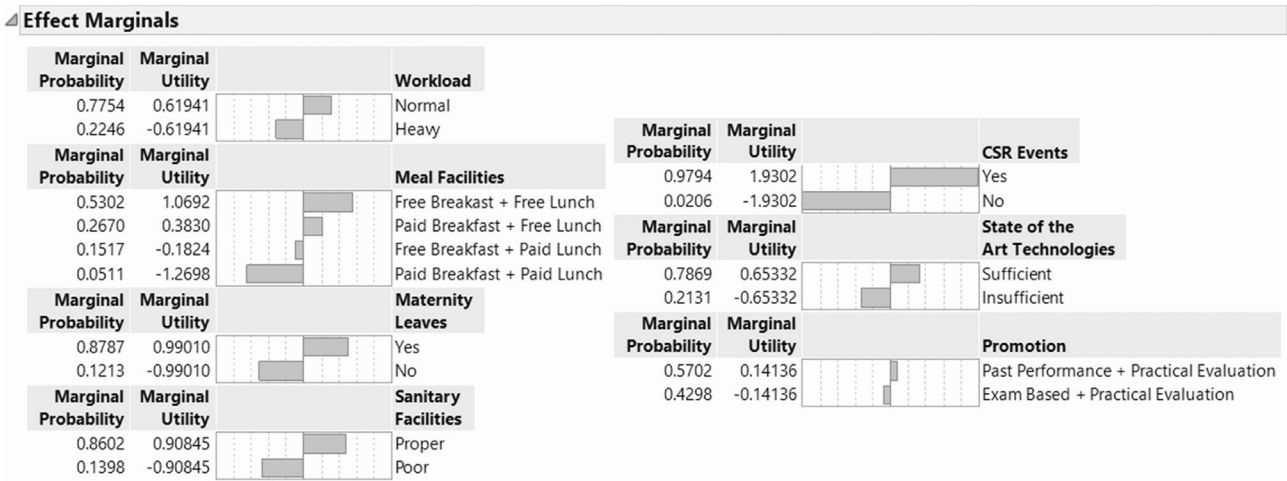


FIGURE 7 Effect marginals for the white-collar employees.

to improve future considerations. In this experiment, we included one cost attribute, a continuous variable, to estimate the maximum trade off an employee is willing to pay for a certain social sustainability practice. Table 9 and Table 10 describe the WTP estimates for blue-collar and white-collar employees WTP for a certain attribute level. Baseline values to estimate the WTP are taken as per Figure 8.

The comparison of the WTP estimates for each attribute level for blue and white-collar employees is as per Table 11. This allows us to understand how the two types of employees are willing to trade off for each attribute level used in the DCE.

As per Table 11, blue-collar employees' WTP estimates are higher than the WTP estimates of white-collar employees, other than the use of state of the art technologies to improve the safety of the employees. That means blue-collar employees' expected level of trade off price is higher than white-collar employees' expectations. The highest difference in the WTP estimates is in the maternity leaves. That explains why blue-collar employees are willing to offer a significantly higher price than white-collar employees expect. In the

real context, there is a high proportion of female employees who are working as machine operators in the apparel sectors. Most of these blue-collar employee job offers are contract based jobs, and these blue-collar female employees have more chances of being dismissed from their employment by these companies after being pregnant. Hence, these employees give priority to maternity leaves while organisations tend to neglect this issue. Further, the blue-collar employees WTP estimate is higher when it comes to the sanitary facilities than the white-collar employee estimate. This explains that blue-collar employees prefer better hygiene at the workplace than the white-collar employee believes. Then the difference of WTP estimates are as follows; Workload balancing, availability of CSR events, availability of meal facilities and transparent eligibility criteria for promotion from the point of blue-collar employees. Hence, firms should initiate technical and financial investments to integrate the SSPs in job designing in the apparel sector as per the descending order of difference of WTP estimates to improve the maximum utility of the blue-collar employees.

Willingness to Pay

| Factor | Baseline Value |
|---------------------------|---|
| Workload | Normal |
| Meal Facilities | Free Breakfast + Free Lunch |
| Basic Salary | 20000 |
| Maternity Leaves | Yes |
| Sanitary Facilities | Proper |
| CSR Events | Yes |
| State of Art Technologies | Sufficient |
| Promotion | Past Performance + Practical Evaluation |

FIGURE 8 Baseline values for willingness to pay estimates. CSR, corporate social responsibility.

TABLE 9 Willingness to pay estimates by blue-collar employees.

| Factor | Feature setting | Price change | Std error | Lower 95% | Upper 95% | New Price |
|-------------------------------|---|--------------|-----------|-----------|-----------|-----------|
| Workload | Normal | 0 | | | | 20,000 |
| Workload | Heavy | 16866.99 | 2.361797 | 16862.36 | 16871.62 | 36866.99 |
| Meal facilities | Free breakfast + Free lunch | 0 | 2.361797 | -4.62904 | 4.629036 | 20,000 |
| Meal facilities | Paid breakfast + Free lunch | 2306.282 | 1.504025 | 2303.334 | 2309.23 | 22306.28 |
| Meal facilities | Free breakfast + Paid lunch | 5012.93 | 1.229015 | 5010.522 | 5015.339 | 25012.93 |
| Meal facilities | Paid breakfast + Paid lunch | 12778.71 | 2.423181 | 12773.96 | 12783.46 | 32778.71 |
| Maternity leaves | Yes | 0 | 2.423181 | -4.74935 | 4.749348 | 20,000 |
| Maternity leaves | No | 28985.75 | 3.606067 | 28978.68 | 28992.82 | 48985.75 |
| Sanitary facilities | Proper | 0 | 3.606067 | -7.06776 | 7.067762 | 20,000 |
| Sanitary facilities | Poor | 28507.66 | 3.994369 | 28499.84 | 28515.49 | 48507.66 |
| CSR events | Yes | 0 | 3.994369 | -7.82882 | 7.82882 | 20,000 |
| CSR events | No | 23048.16 | 3.261878 | 23041.77 | 23054.56 | 43048.16 |
| State of the art technologies | Sufficient | 0 | 3.261878 | -6.39316 | 6.393163 | 20,000 |
| State of the art technologies | Insufficient | -2662.94 | 0.607547 | -2664.13 | -2661.75 | 17337.06 |
| Promotion | Past performance + Practical evaluation | 0 | 0.607547 | -1.19077 | 1.190771 | 20,000 |
| Promotion | Exam based + Practical evaluation | 6841.129 | 2.080787 | 6837.051 | 6845.207 | 26841.13 |

Abbreviation: CSR, corporate social responsibility.

5 | DISCUSSION

After identifying the SSPs that can be implemented to improve the social performance of the organisation, DCE was deployed to identify the preference of blue-collar and white-collar employees towards each SSPs. Through the use of effect summary, Chi-square likelihood ratio test, parameter estimates, utility profiler and effect marginals the preference order was computed with relevant statistical evidence. The study showed that blue-collar employees have a high preference towards maternity leaves, sanitary facilities, workload, basic salary level and free/discounted meal facilities. Further, results show that blue-collar employees do not pay much attention to promotions or career path, state of the art technologies or CSR activities. On the other hand, white-collar employees have a high preference towards

CSR events, sanitary facilities, maternity leaves, basic salary, workload and meal facilities when they design a job role for blue-collar employees. Hence, as Mani, Gunasekaran et al. (2016); Mani, Agarwal et al. (2016) suggested providing maternity leaves is an important practise for contract based blue-collar employees and as per the experiment in this study it has a higher preference among the considered SSPs for the empirical study. As a fact, most contract-based female employees tend to leave the organisation when they are expecting a baby. This negatively affects the organisation because replacing her is not seamless due to the learning curve. Hence, management should consider providing maternity leaves for contract-based female employees rather recruiting new employees since replacing new employees will increase the labour turnover while reducing the efficiency of the operational process in the organisation. As

TABLE 10 Willingness to pay estimates by white-collar employees.

| Factor | Feature setting | Price change | Std error | Lower 95% | Upper 95% | New Price |
|-------------------------------|---|--------------|-----------|-----------|-----------|-----------|
| Workload | Normal | 0 | | | | 20,000 |
| Workload | Heavy | 4194.513 | 1.524888 | 4191.524 | 4197.502 | 24194.51 |
| Meal facilities | Free breakfast + Free lunch | 0 | 1.524888 | -2.98873 | 2.988725 | 20,000 |
| Meal facilities | Paid breakfast + Free lunch | 2323.428 | 1.294941 | 2320.89 | 2325.966 | 22323.43 |
| Meal facilities | Free breakfast + Paid lunch | 4237.927 | 1.811009 | 4234.377 | 4241.476 | 24237.93 |
| Meal facilities | Paid breakfast + Paid lunch | 7919.744 | 2.80118 | 7914.254 | 7925.234 | 27919.74 |
| Maternity leaves | Yes | 0 | 2.80118 | -5.49021 | 5.490212 | 20,000 |
| Maternity leaves | No | 6704.715 | 1.543854 | 6701.69 | 6707.741 | 26704.72 |
| Sanitary facilities | Proper | 0 | 1.543854 | -3.0259 | 3.025898 | 20,000 |
| Sanitary facilities | Poor | 6151.813 | 1.927981 | 6148.034 | 6155.592 | 26151.81 |
| CSR events | Yes | 0 | 1.927981 | -3.77877 | 3.778774 | 20,000 |
| CSR events | No | 13070.89 | 4.327396 | 13062.41 | 13079.38 | 33070.89 |
| State of the art technologies | Sufficient | 0 | 4.327396 | -8.48154 | 8.48154 | 20,000 |
| State of the art technologies | Insufficient | 4424.089 | 1.614037 | 4420.925 | 4427.252 | 24424.09 |
| Promotion | Past performance + Practical evaluation | 0 | 1.614037 | -3.16346 | 3.163455 | 20,000 |
| Promotion | Exam based + Practical evaluation | 957.2494 | 2.202275 | 952.933 | 961.5658 | 20957.25 |

Abbreviation: CSR, corporate social responsibility.

TABLE 11 Comparison of the willingness to pay estimates.

| Factor | Feature setting | Willingness to pay estimates (LKR) | | |
|---------------------------|---|------------------------------------|-----------------------|------------------|
| | | Blue-collar employee | White-collar employee | Difference (LKR) |
| Workload | Normal | 20,000 | 20,000 | |
| Workload | Heavy | 36866.98998 | 24194.51295 | 12672.47703 |
| Meal facilities | Free breakfast + Free lunch | 20,000 | 20,000 | |
| Meal facilities | Paid breakfast + Free lunch | 22306.28191 | 22323.42796 | -17.14604863 |
| Meal facilities | Free breakfast + Paid lunch | 25012.93048 | 24237.92678 | 775.0037019 |
| Meal facilities | Paid breakfast + Paid lunch | 32778.71343 | 27919.74401 | 4858.969427 |
| Maternity leaves | Yes | 20,000 | 20,000 | |
| Maternity leaves | No | 48985.74742 | 26704.7154 | 22281.03201 |
| Sanitary facilities | Proper | 20,000 | 20,000 | |
| Sanitary facilities | Poor | 48507.66404 | 26151.81318 | 22355.85086 |
| CSR events | Yes | 20,000 | 20,000 | |
| CSR events | No | 43048.163 | 33070.89395 | 9977.269052 |
| State of art technologies | Sufficient | 20,000 | 20,000 | |
| State of art technologies | Insufficient | 17337.06011 | 24424.08885 | -7087.028741 |
| Promotion | Past performance + Practical evaluation | 20,000 | 20,000 | |
| Promotion | Exam based + Practical evaluation | 26841.12901 | 20957.24941 | 5883.8796 |

Abbreviation: CSR, corporate social responsibility.

Cerciello et al. (2023) suggested it will have a positive short-term and long-term effect in the profitability of the company.

Subsequently, WTP for each sustainability practice was estimated using baseline values and the basic salary attribute. In that analysis, organisations can identify the trade-off value that employees are willing to pay for each SSPs. It will enable the organisation to understand

the investments they should make to improve the social and economic performance of the firm. The study identified that providing maternity leave and proper sanitary facilities increases the overall utility of blue-collar employees significantly, and these practices are low-hanging fruit from an organisational standpoint. Additionally, blue-collar employees do not pay much attention to their safety or to upgrading



their day-to-day manual work with state of the art equipment. Despite this, companies are willing to invest in state of the art equipment to improve safety and make efficiency gains. Hence, as Thun and Zülch (2022) suggested officers in the organisations which are responsible for sustainability must take measures to bridge this divide by showcasing the importance of adopting new technologies in the workplace to their employees.

This study contributes to the previous studies conducted by D'Eusano et al. (2019); Gopalakrishnan et al. (2012); Staniškienė and Stankevičiūtė (2018) and proves the current discussion on the salience of an interrelationship between these two pillars of sustainability. Additionally, as Yawar and Seuring (2017) suggested, SSPs can be promoted through capacity building activities conducted by the organisational management. However, there can be a reluctance among blue-collar employees of the apparel industry to accept those new practices. The study shows that blue-collar employees are having a lower trade-off value for the implication of state of the art technologies to improve employee safety and efficiency since there is an uncertainty about the acceptance of the technological implications by the blue-collar employees. This suggests that blue-collar employees of apparel companies in developing economies mostly expect their basic needs to be met by the employer. Hence, apparel organisations should concern on providing these needs to employees to directly contribute to improving the economic performance of the firm.

This analysis evidently indicates that there is a relationship between the economic value and the social value of employee practices of the apparel industry. Hence this study offers insights that there is a significant relationship between the social and economic pillars in sustainability. Further, this study offers significant managerial implications for the apparel industry by providing insights on employee preferences on job roles that incorporate SSPs, optimising job roles by identifying the probability of accepting job roles with SSPs, balancing economic costs incurred by the organisation in integrating SSPs into job roles, enhancing the recruitment process by identifying the most appealing aspects of job roles for blue-collar employees and incorporating those insights into job advertisements and interviews, and making the recruitment process more effective and efficient. With these managerial implications, organisations can foster a positive work environment by reducing turnover and enhancing efficiency. Ultimately, it will contribute to long-term social sustainability development along with improved organisational performance of the organisation empowered with strategic decision-making.

The findings of our research were subjected to the attributes of a developing country since our data collection is limited to Sri Lanka. Therefore, we suggest further investigations in other regions/countries to generalise the findings and to report systematic differences. Similarly, it would be useful to develop stated preference models further to analyse the implication of SSPs, since this is the first study in this context according to our knowledge. Data collection is a limitation and a challenge for this study since it requires more permission and access from employee groups and organisations. Despite typical challenges in collecting data from blue-collar employees, such as being very time consuming, this was achieved in the extant study. We

suggest a simulation-based study integrated with DCE to identify the net present value of the economic performance of the organisation considering the investments made to improve social performance as a future research avenue.

6 | CONCLUSION

This study was carried out to assess the SSPs of the apparel industries. Blue-collar employees are critical in this industry since it is more labour intensive. Thus, blue-collar employees' preference on implementing SSPs is important. This study aims to plug that gap in the literature pertaining to this space including assessing the impact of social pillar to the economic pillar of sustainability. Further, this study experimented with the preferences of white-collar employees when designing a job of a blue-collar employees in term of social sustainability aspect for comparison purpose.

Eight SSPs were identified using the literature review and discussions were conducted with industry practitioners to execute the empirical study. Then a DCE was employed to identify the preference of the blue-collar employees and white-collar employees towards the selected SSPs. The SAS JMP PRO v16.2 software was used to analyse the DCE results. The findings revealed that blue-collar workers exhibit a strong desire towards receiving maternity leave, sanitary facilities, workload, basic salary and subsidised meals. In the latter part of the study, WTP estimates were calculated for each attribute level designed in the SSPs. This is useful to identify the maximum trade off employees are willing to offer for each SSP and take a monetary value for each as per the preference of the blue- and white-collar employees. Further, it is useful for the organisation to identify the most influential SSPs to deploy to improve the social and economic performance of the firm. There is a significant difference between the WTP estimates of blue- and white-collar employees in the factors of providing maternity leaves and proper sanitary facilities. Hence, organisations should prioritise these SSPs to improve the overall utility of their employees considering each employee category. This highlights the need of bridging the gap between management's desire to adopt modern technologies and blue-collar workers' attention to basic demands. Further, the study emphasises the potential of capacity-building initiatives in promoting SSPs and adds to the continuing conversation on the connections between social and economic sustainability. Furthermore, it emphasises how crucial it is to meet the basic needs of blue-collar workers in developing nations to improve the economic performance of the organisation. These findings have important managerial implications for the apparel industry, allowing companies to improve overall efficiency, streamline hiring procedures, and optimise job positions.

The discrete choice model developed in this study is helpful in identifying the probability of accepting a job role that integrates SSPs by blue-collar employees. Hence, it will assist the focal company to understand the willingness to accept a developed job role by the blue-collar employees alongside the economic costs incurred by the company. Further, this model helps estimate the value of a job role in

the apparel sector, which is integrated with SSPs. Those involved in the recruitment process and social sustainability development process can gain insights through this study to make better decisions to improve the social and economic performance of the respective firm.

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