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## A Harmonious Symphony of Fourth-Wave Coffee Culture: How The Relationship Between Coffee and Local Wisdom Contributes to Sustainability and Ethical Practices in Community

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**Abstract:** *The relationship between coffee and culture is a complex and harmonious symphony through its local wisdom, with each element contributing to a larger, beautiful composition. Coffee has played a significant role in many cultures worldwide, symbolising hospitality, socialisation, and tradition. This relationship has also led to cultural exchange and innovation, with coffeehouses becoming centres of intellectual and artistic trade. Specialty coffee has brought a new level of sustainability to the industry, emphasising transparency, traceability, and ethical practices. This symbiotic relationship between culture and sustainability has created a unique and harmonious blend of social, cultural, and economic sustainability, promoting a more holistic and equitable world. Furthermore, Saudi Arabia has embraced the fourth wave of specialty coffee, recognising its potential to drive gastronomic growth in their creative economy SMEs. Small businesses like Sulalat and Camel Step have emerged as industry leaders, emphasising sustainability and transparency in the coffee supply chain. The Saudi government has also implemented initiatives to support small businesses in the specialty coffee industry, driving economic growth. The fourth wave of specialty coffee has created a new coffee culture in Saudi Arabia, focusing on sustainability and unique flavours. As the industry expands, it is expected to create new opportunities for entrepreneurs and drive economic growth in the country. Moreover, the specialty coffee industry in Saudi Arabia is driving diversity and promoting sustainability through initiatives such as fair pay and working conditions for coffee farmers, promoting sustainable farming practices, and reducing waste. The sector supports local coffee producers and roasters, fostering economic growth and entrepreneurship in the region; it also works with*

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*coffee farmers globally and promotes sustainable coffee farming practices. The industry is leveraging artificial intelligence and high-end machinery to improve coffee production and reduce the negative environmental impact of farming. The specialty coffee industry is committed to the United Nations' Sustainable Development Goals (SDGs) by promoting social, economic and ecological sustainability. By focusing on these areas, the industry is creating a more sustainable and equitable coffee industry that benefits the global community.*

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## INTRODUCTION

The relationship between coffee and culture can be described as a symphony, where each element contributes to a larger, harmonious whole; it has played a significant role in many cultures worldwide, often symbolising hospitality, socialisation, and tradition. The consumption of coffee has been woven into the fabric of many societies globally, with different cultures developing unique customs and rituals surrounding the preparation, serving, and consumption of coffee. For example, in Italy, coffee is often enjoyed in small, substantial doses and is an integral part of the country's social and cultural identity. In Turkey, coffee is traditionally prepared in a unique pot called a *cezve* and is often served with sweet treats and conversation (Pendergrast, 2010; Clark & Boersma, 2018; Cowan, 2005).

Coffee has also been a catalyst for cultural exchange and innovation; the spread of coffee cultivation and trade in the 16th and 17th centuries led to coffeehouses in Europe and the Middle East, which became important centres of intellectual and artistic exchange. Coffeehouses provided a space for people from all walks of life to gather, share ideas, and engage in lively debate. Recently, coffee culture has become a global phenomenon, with coffee shops and cafes popping up in cities worldwide. These spaces serve as hubs for socialising, working, and relaxing, often reflecting their local communities' unique cultural values and aesthetics (Standage, 2006; Clark, 2013; Hattox, 1985; Khater, 2010).

The symphony of culture and coffee is a harmonious blend of rich and diverse notes, each contributing to a complex and beautiful composition. Like a well-crafted symphony, the relationship between coffee and culture is nuanced and multi-layered, with each element adding depth and texture to the overall experience. Every aspect of coffee culture is vital to the symphony, from the intricacies of coffee preparation to the social rituals surrounding its consumption. Just as a symphony comprises different instruments working together in perfect harmony, the relationship between coffee and culture is a seamless integration of diverse customs, traditions, and practices (Murray, 2012; Thompson, 1993; Luttinger, 2009).

The symphony of culture and coffee is a unique and dynamic relationship that has evolved over centuries, with each element influencing and shaping the other in a continuous, dynamic interplay. Like a symphony, the relationship between coffee and culture celebrates human creativity, innovation, and collaboration. It reflects the rich and diverse tapestry of human experience, brought together in a beautiful and harmonious composition that transcends boundaries and unites us all. Coffee has played a significant role in many cultures worldwide, often symbolising hospitality, socialisation, and tradition (Pendergrast, 2010; Thompson, 1993; Murray,

2012).

The consumption of coffee has become an integral part of cultural expression, with different cultures developing unique customs and rituals surrounding the preparation, serving, and consumption of coffee. These customs and practices are often deeply ingrained in the fabric of society, reflecting the local community's values, beliefs, and traditions. At the same time, coffee has also catalysed cultural exchange and innovation. The spread of coffee cultivation and trade in the 16th and 17th centuries led to the establishment of coffeehouses in Europe and the Middle East, which became important centres of intellectual and artistic exchange; they provided a space for people from all walks of life to gather, share ideas, and engage in lively debate (Thompson, 1993; Mintz, 1985; Thompson, 1993).

The global coffee culture has recently become a melting pot of different traditions and practices, with coffee shops and cafes reflecting their local communities' unique cultural values and aesthetics. From the minimalist, Scandinavian-inspired restaurants of Northern Europe to the bold and vibrant coffee shops of Latin America, each space reflects the unique cultural identity of its location. Moreover, the relationship between coffee and culture is complex and multifaceted, with each influencing and shaping the other in a continuous, dynamic interplay. The symphony of culture and coffee is a beautiful and complex composition, reflecting the rich and diverse tapestry of human experience. It celebrates how creativity, innovation and collaboration can create something unique and beautiful (Pellegrini, 2019; Pendergrast, 2010; Mintz, 1985).

## **METHOD**

This study employs a literature review methodology, gathering insights from journal articles exploring coffee, specialty coffee, and innovations to address sustainability challenges through the fourth wave of coffee developments worldwide. The author places great importance on data authenticity and focuses on specialty coffee in Saudi Arabia, specifically in Riyadh, Jeddah, and the Eastern Province. Furthermore, the author prioritises visiting coffee roasters and shops and conducting interviews with baristas and coffee roasters to better understand sustainability issues related to the coffee value chain, local wisdom, and gastronomic growth. These factors are crucial in creating a harmonious symphony of fourth-wave coffee culture that contributes to sustainability and ethical practices in the industry.

## **FINDINGS AND DISCUSSION**

### **Challenges in Coffee Value Chain**

Specialty coffee has come a long way in its sustainability efforts, but there are still several challenges that the industry faces. Climate change is a significant threat to coffee production, with rising temperatures and unpredictable weather patterns impacting coffee quality and yield. The industry needs to find innovative solutions to mitigate the effects of climate change and promote sustainable coffee production. Another challenge is labour practices, with coffee production often associated with poor labour conditions, including low wages and unsafe working conditions. The specialty coffee industry needs to ensure that coffee is produced ethically and sustainably, with fair wages and safe working conditions for all workers involved in the supply chain (Murray, 2016; Ponte, 2002; Läderach *et al.*, 2017).

Supply chain transparency is also an ongoing challenge for the specialty coffee industry, with a need for improved tracking of coffee origin and promoting sustainable farming practices. The industry must also address waste reduction, with coffee grounds and packaging materials generating significant waste. Finding innovative ways to reduce waste and promote sustainable

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practices is critical. Economic sustainability is another challenge, with coffee farmers needing fair compensation and access to resources to improve their production and quality. Investing in education, training, and infrastructure to support coffee farming communities is essential. Addressing these sustainability challenges requires a collaborative effort from all stakeholders in the industry, including coffee farmers, roasters, retailers, and consumers. By working together towards sustainable practices, the specialty coffee industry can ensure a bright and sustainable future for coffee production and consumption (Ponte *et al.*, 2011; Vagneron & Lépiciér, 2020; Kilian & Jones, 2018). The following challenges can be summarised:

#### 1. Climate Change

Climate change is a critical challenge that the specialty coffee industry must tackle to promote sustainability. Investing in research and innovation, educating farmers on climate change, collaborating with other stakeholders, and supporting policy changes can all contribute to mitigating the effects of climate change and promoting sustainability in coffee production. Implementing sustainable farming practices, such as shade-grown coffee, intercropping, and composting, can help reduce the carbon footprint of coffee production and increase resilience to climate change. By providing training on sustainable practices and how to adapt to changing weather patterns, farmers can improve the resilience of coffee farming communities. Collaboration with other stakeholders in the coffee supply chain, such as roasters and retailers, can help promote sustainable practices and reduce the carbon footprint of coffee production. Advocating for policies that support sustainable farming practices, reduce greenhouse gas emissions, and promote renewable energy is also essential (Ovalle-Rivera *et al.*, 2015; Schroth *et al.*, 2016; Haggard *et al.*, 2013).

Addressing the challenge of climate change requires a collaborative effort from all stakeholders in the specialty coffee industry. The specialty coffee industry can help ensure a sustainable future for coffee production and consumption by taking these steps. By implementing sustainable farming practices, investing in research and innovation, educating farmers, collaborating with other stakeholders, and supporting policy changes, the sector can contribute to mitigating the effects of climate change and promoting sustainability in coffee production (Bunn *et al.*, 2015; Vaast *et al.*, 2006).

#### 2. Labour Practice

Tackling the challenge of poor labour practices in the specialty coffee industry is essential to promoting sustainability. The sector can implement several solutions to address this challenge, including promoting fair trade practices, strengthening supply chain transparency, empowering workers, supporting ethical sourcing policies, and providing social and environmental incentives. Enabling acceptable trade practices can ensure that coffee farmers and workers are paid fairly for their work and have access to safe working conditions. Strengthening supply chain transparency can help ensure that coffee is produced ethically and sustainably, including tracking the origin of coffee beans, promoting sustainable farming practices, and providing fair compensation for workers. Empowering workers can help ensure they have a voice in the supply chain and advocate for their rights (Mutersbaugh & Busch, 2016; Bacon, 2017; Campbell, 2005).

Addressing the challenge of poor labour practices in the specialty coffee industry requires a concerted effort from all stakeholders in the supply chain. Supporting ethical sourcing policies is another solution, with the industry sourcing coffee from suppliers who follow fair labour practices and supporting initiatives that promote sustainable and ethical practices in coffee production. Providing social and environmental incentives can encourage coffee farmers and

workers to adopt sustainable practices and ensure they are paid fairly, including financial incentives for sustainable practices, social responsibility initiatives, and environmental conservation efforts. By promoting fair trade practices, strengthening supply chain transparency, empowering workers, supporting ethical sourcing policies, and providing social and environmental incentives, the industry can promote sustainability and ensure that coffee is produced ethically and sustainably (Campbell, 2005; Taylor, 2017; Kilian & Jones, 2018).

### 3. Transparency

Promoting transparency in the specialty coffee industry is critical to ensuring sustainability. To address this challenge, stakeholders in the coffee supply chain can implement several solutions, including promoting traceability, developing certification programs, providing education and training, encouraging collaboration, and using technology. Enabling traceability can help ensure that coffee is produced ethically and sustainably, including tracking the origin of coffee beans, fostering sustainable farming practices, and ensuring fair compensation for farmers and workers. Developing certification programs, such as proper trade certification, can also help ensure that coffee is ethically and sustainably sourced (Collinson, 2018; Ponte, 2002; Läderach *et al.*, 2019).

Providing education and training to coffee farmers and workers can help promote transparency and sustainability in the coffee supply chain. This includes providing training on sustainable farming practices, ethical labour practices, and environmental conservation. Encouraging collaboration between stakeholders in the coffee supply chain, such as farmers, roasters, retailers, and consumers, can also help promote sustainable and ethical practices. Technology, such as blockchain, can help promote transparency in the coffee supply chain. Blockchain can help track the origin of coffee beans and ensure that farmers are paid fairly for their work. Ultimately, addressing the challenge of transparency in the specialty coffee industry requires a collaborative effort from all stakeholders. By promoting traceability, developing certification programs, providing education and training, encouraging collaboration, and using technology, the industry can promote transparency and ensure that coffee is produced ethically and sustainably (Kilian & Jones, 2018; Murray, 2016; De Pelsmacker *et al.*, 2005).

### 4. Economic Sustainability

Ensuring economic sustainability in the specialty coffee industry is crucial to promoting sustainability. The sector can implement several solutions to tackle this challenge, including promoting fair trade practices, strengthening supply chain transparency, investing in education and training, supporting access to credit and financing, and encouraging price stability. Enabling acceptable trade practices can ensure that coffee farmers and workers are paid fairly for their work and have access to safe working conditions. Strengthening supply chain transparency can help ensure that coffee is produced ethically and sustainably, including tracking the origin of coffee beans, promoting sustainable farming practices, and providing fair compensation for workers. Education and training can also help coffee farmers and workers improve production and quality, increasing economic sustainability (Mutersbaugh & Busch, 2016; Bacon, 2017; Ponte & Sturgeon, 2014).

Supporting access to credit and financing can enable coffee farmers and workers to invest in their businesses and improve their economic sustainability. This includes supporting microfinance programs and providing access to loans and credit. Encouraging price stability is also critical, promoting mechanisms for price stabilisation such as long-term contracts and futures markets. Addressing the challenge of economic sustainability in the specialty coffee industry requires a collaborative effort from all stakeholders in the supply chain. By promoting

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fair trade practices, strengthening supply chain transparency, investing in education and training, supporting access to credit and financing, and encouraging price stability, the industry can promote economic sustainability and ensure that coffee farmers and workers are paid fairly. The specialty coffee industry can help ensure a sustainable future for coffee production and consumption by taking these steps (Lecoutere & D'Exelle, 2012; Mutersbaugh & Busch, 2016; Ponte & Sturgeon, 2014).

### **The Specialty Coffee Sustainability**

The relationship between local wisdom and specialty coffee has brought a new level of uniqueness and sustainability to the coffee industry. Specialty coffee refers to high-quality coffee produced and traded in a way that emphasises transparency, traceability, and sustainability. Specialty coffee is often associated with a particular culture or region, as it is influenced by the local climate, soil, and production methods. The culture surrounding specialty coffee emphasises the importance of the people and communities involved in the production process and focuses on creating a sustainable and equitable supply chain (Murray, 2016; Kilian & Jones, 2018; Hirsch, 2018).

The relationship between local wisdom and specialty coffee has led to a greater appreciation for coffee production's cultural and social aspects and a renewed focus on sustainability and ethical practices. Specialty coffee producers and roasters often work closely with local communities, providing support and resources to help them improve their production methods and increase their income. In turn, these communities can preserve their cultural traditions and practices while benefiting from the economic opportunities provided by the specialty coffee industry. This symbiotic relationship between culture and sustainability has created a unique and harmonious blend of social, cultural, and economic sustainability (Sullivan, 2017; Meikle, 2013; Arnaud & Vagneron, 2015).

The relationship between local wisdom and specialty coffee has led to a greater understanding and appreciation of the social, cultural, and environmental factors that influence coffee production. Specialty coffee producers and roasters are often deeply connected to the communities where their coffee is grown and work closely with local farmers and cooperatives to ensure that their coffee is produced sustainably and socially responsibly. This relationship has brought about a new level of transparency and traceability to the coffee industry, as specialty coffee producers and roasters can often provide detailed information about their coffee's origin, quality, and production methods. This emphasis on transparency and traceability helps to ensure that coffee is produced in a way that is ethical, sustainable, and equitable for all parties involved (Velez *et al.*, 2013; Bacon, 2017).

The relationship between local wisdom and specialty coffee has also led to a greater appreciation for coffee production's cultural and social aspects. Specialty coffee producers and roasters often value the cultural traditions and practices associated with coffee production and work to preserve and promote these traditions. This emphasis on culture and tradition helps create a more holistic and sustainable approach to coffee production, considering the social, cultural, and environmental factors that influence coffee production. By promoting sustainable and ethical practices while preserving cultural traditions and practices, the relationship between the culture symphony and specialty coffee has created a unique and harmonious blend of social, cultural, and environmental sustainability (Velez *et al.*, 2013; Sullivan, 2017; Hirsch, 2018).

The relationship between local wisdom and specialty coffee has brought about a new level of awareness and appreciation for the social, cultural, and environmental factors that influence

coffee production. It has helped promote sustainability, transparency, and ethical practices in the coffee industry while preserving and promoting the cultural traditions and practices associated with coffee production. Furthermore, the relationship between local wisdom and specialty coffee has brought about a new appreciation for coffee production's cultural and social aspects while promoting sustainability and ethical practices. It reflects how coffee can unite people and communities while facilitating a more sustainable and equitable world (Sullivan, 2017; Meikle, 2013; Arnaud & Vagneron, 2015).

### **Coffee in Sustaining the Community**

Upstream in the coffee supply chain, coffee farmers play a critical role in the industry's sustainability. Specialty coffee producers and roasters work closely with coffee farmers to ensure their coffee is grown sustainably and socially responsibly. This includes using environmentally friendly production methods, paying fair wages to workers, and promoting gender equity. By working with coffee farmers to promote sustainable and ethical practices, specialty coffee helps to ensure that coffee production positively impacts the environment and the communities where it is grown (Kilian & Jones, 2018; Bacon, 2017; Vaast *et al.*, 2006).

In the middle of the coffee supply chain, coffee importers and exporters play a crucial role in promoting transparency and traceability in the industry. Specialty coffee producers and roasters often work with importers and exporters to ensure that their coffee is traded in a transparent and traceable way, from the origin of the beans to the roasting process. This helps to ensure that coffee is produced in a way that is ethical and sustainable and that the people and communities involved in the production process are treated fairly (Soto & Trewin, 2019; Bacon, 2017; Vaast *et al.*, 2006). Downstream in the coffee supply chain, coffee shops and cafes play an essential role in promoting sustainability and ethical practices. Specialty coffee shops and restaurants often source their coffee from producers and roasters that promote sustainable and ethical practices, and they work to create a sustainable and equitable supply chain. This includes paying fair prices for coffee, promoting gender equity, and reducing waste through environmentally friendly practices. By promoting sustainability and ethical practices in their operations, coffee shops and cafes can help to create a more sustainable and equitable coffee industry (Berndt & Wratten, 2018; Lockie & Kitto, 2000; Brown, 2015).

Specialty coffee is critical to sustaining communities by promoting sustainability and ethical practices throughout the supply chain. It helps to ensure that coffee is produced and sold in a way that is ethical and sustainable and that the people and communities involved in the production process are treated fairly. Specialty coffee producers and roasters work closely with coffee farmers to promote sustainable and environmentally friendly production methods, and they work with importers and exporters to ensure that their coffee is traded transparently and traceably. By promoting sustainability and ethical practices, specialty coffee helps to create a more sustainable and equitable coffee industry that supports the well-being of communities and the environment (Arnaud & Vagneron, 2015; Brown, 2015; Berndt & Wratten, 2018).

### **Sustainable Spaces and Practices in Cafes**

Specialty coffee shops do not just place to grab a quick caffeine fix; they serve as hubs for intellectual and artistic exchanges within the community. These shops provide spaces where people can come together, socialise, and exchange ideas, fostering a sense of community and belonging. The atmosphere of a specialty coffee shop is often conducive to creativity and collaboration. Customers can find inspiration in the art and design of the shop's interior, the music playing in the

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background, and the aroma of freshly brewed coffee. Many specialty coffee shops also host open mic nights, book clubs, and art exhibits, providing platforms for artists and intellectuals to showcase their talents and engage with the community (Pellegrini, 2016; Ray, 2013; Sandlin, 2014).

Moreover, specialty coffee shops can serve as meeting places for like-minded individuals to discuss social and environmental issues, such as sustainability and ethical practices in the coffee industry. This creates a space for people to learn from each other and work together towards a common goal, promoting social responsibility and positive change. Specialty coffee shops are more than just places to get a good cup of coffee. They serve as virtual spaces for intellectual and artistic exchanges in the community, fostering a sense of community and providing opportunities for collaboration, creativity, and social engagement. By promoting these exchanges, specialty coffee shops can sustain and enrich the community's cultural fabric (West, 2019; Thompson, 2017; Prieur, 2018; Pacione, 2019).

Sustainable spaces and practices in cafes refer to implementing environmentally-friendly procedures and design elements to reduce the negative impact of eateries on the environment. The goal is to create sustainable spaces and promote sustainable practices while offering customers a comfortable and enjoyable experience. There are several key components to sustainable areas and approaches in cafes. These include:

1. Energy efficiency: Cafes should reduce their energy consumption by using energy-efficient appliances and LED lighting and implementing energy-saving practices such as turning off equipment when not in use.

Reducing energy consumption in cafes through energy-efficient appliances, LED lighting, and energy-saving practices has several benefits for the specialty coffee industry and the community. Firstly, energy-efficient appliances help restaurants reduce their operating costs and contribute to the broader goal of sustainability in the coffee industry. By investing in energy-efficient equipment, cafes can save money on their energy bills, which can then be allocated towards improving the quality of their specialty coffee products and providing better service to their customers. This can lead to more sustainable businesses, higher-quality coffee products, and a thriving specialty coffee industry (Rizou & Nasioka, 2019; Bhamra *et al.*, 2011; Sharifi & Murayama, 2010).

Secondly, reducing energy consumption through energy-saving practices such as turning off equipment when not in use can significantly impact the environment. This can help mitigate climate change's negative impact on coffee production, which is already affected by changing weather patterns and other environmental factors. Reducing the amount of energy cafes use can help reduce greenhouse gas emissions and the overall carbon footprint of the specialty coffee industry. By promoting sustainable practices, diners can help to create a more sustainable future for the coffee industry and the wider community (Arif *et al.*, 2010; Heiskanen *et al.*, 2018; Sánchez-Rodríguez *et al.*, 2016).

Finally, reducing energy consumption through energy-saving practices can benefit the community by promoting awareness of environmental issues and encouraging more sustainable practices in other industries. By demonstrating the benefits of energy-efficient practices and promoting a more sustainable approach to business, cafes can inspire other companies and individuals to adopt more sustainable practices in their day-to-day lives. Reducing energy consumption in restaurants through energy-efficient appliances and energy-saving practices significantly benefits the specialty coffee industry, the environment, and the community. By



prioritising sustainability and investing in energy-efficient practices, cafes can help to create a more sustainable future for everyone.

2. Waste reduction: Cafes should strive to reduce waste by implementing recycling programs, using compostable materials, and reducing single-use plastics.

Reducing waste in cafes through implementing recycling programs, using compostable materials, and reducing single-use plastics has several benefits for the specialty coffee industry and the community. Firstly, implementing recycling programs in cafes can help reduce the amount of waste in landfills, contributing to a more sustainable environment for coffee production. By separating recyclable materials such as paper and plastic from other waste, cafes can help reduce waste's negative environmental impact and promote sustainable practices. Secondly, using compostable materials in cafes can help reduce the amount of waste produced and promote the circular economy. Compostable materials, such as biodegradable cups and utensils, can be broken down by natural processes and used to enrich the soil. This can help create a more sustainable and circular economy in the coffee industry, where waste is reused and recycled instead of discarded (Antonopoulos & Dimitriou, 2017; Rizou & Nasioka, 2019; Baião & Gama, 2019).

Finally, reducing single-use plastics in cafes can help reduce plastic waste's negative impact on the environment and promote sustainable practices among customers. Using reusable cups, straws, and other utensils can help reduce the amount of plastic waste produced in cafes while encouraging customers to adopt more sustainable habits in their lives. Reducing waste in restaurants through implementing recycling programs, using compostable materials, and reducing single-use plastics can benefit the specialty coffee industry and the broader community by promoting sustainability and reducing the negative impact of waste on the environment. By prioritising sustainable waste reduction practices, cafes can help to create a more sustainable future for everyone (Ncube & Nkiwane, 2018; Chiu & Chiu, 2018; Lin & Huang, 2015).

3. Sustainable sourcing: Cafes should prioritise sourcing products from sustainable and ethical sources, such as fair trade coffee and organic produce.

Prioritising sustainable and ethical sourcing practices in cafes can benefit the specialty coffee industry and the wider community. By sourcing products from sustainable and ethical sources, such as fair trade coffee and organic produce, cafes can promote sustainable practices in the coffee industry and reduce the negative impact of coffee production on the environment. This can help ensure the coffee industry remains viable and sustainable in the long run. In addition to environmental benefits, prioritising sustainable and ethical sourcing practices can also improve the livelihoods of coffee farmers and their communities. Fairtrade coffee, for example, ensures that farmers are paid a fair price for their products, which can help to improve their economic stability and support their communities. This can also help to promote social justice and reduce poverty in coffee-producing regions (Kilian & Jones, 2018; Berndt & Wratten, 2018; Rizou & Nasioka, 2019).

Finally, prioritising sustainable and ethical sourcing practices can benefit the community by promoting awareness of environmental and social issues. By promoting sustainable and ethical practices in their sourcing, cafes can inspire others to adopt more sustainable and ethical practices daily. This can help to create a more sustainable and just society for everyone. Prioritising sustainable and ethical sourcing practices in cafes can benefit the specialty coffee industry and the broader community by promoting sustainability, supporting farmers and their communities, and raising awareness of social and environmental issues. By investing in

sustainable and ethical sourcing practices, cafes can help create a more sustainable and just future for everyone involved in coffee production and consumption (Soto & Trewin, 2019; Mendoza & Valenzuela, 2019).

4. Water conservation: Cafes should aim to reduce their water consumption by implementing low-flow faucets and toilets and using water-efficient dishwashing practices.

Reducing water consumption in cafes through implementing low-flow faucets and toilets and using water-efficient dishwashing practices can benefit the specialty coffee industry and the wider community. By conserving water resources, restaurants can contribute to more sustainable and responsible water use, especially in regions where water scarcity is an issue. This can help to ensure that water resources remain available for coffee production and other essential needs. In addition to environmental benefits, reducing water consumption can benefit cafes financially. By using water-efficient appliances and practices, restaurants can reduce their water bills and allocate more resources towards improving the quality of their specialty coffee products and services. This can help create a more sustainable and profitable cafe business model (Hwang et al., 2017; Lee & Cho, 2020; Hwang & Kim, 2018).

Finally, reducing water consumption can benefit the community by promoting awareness of environmental issues and encouraging sustainable practices. By demonstrating the benefits of water conservation in their operations, cafes can inspire customers and other businesses to adopt more sustainable practices in their daily lives. This can help to create a more sustainable and responsible society for everyone. Reducing water consumption in cafes through implementing low-flow faucets and toilets and using water-efficient dishwashing practices can benefit the specialty coffee industry and the broader community by promoting sustainability, reducing operating costs, and raising awareness of environmental issues. By prioritising sustainable water conservation practices, cafes can help create a more sustainable and responsible future for everyone involved in coffee production and consumption (Karami & Shafiee-Jood, 2017; Mekonnen & Hoekstra, 2016; WHO, 2019).

5. Indoor air quality: Cafes should use non-toxic cleaning products and paints to improve indoor air quality for customers and staff.

Using non-toxic cleaning products and paints in cafes can benefit the specialty coffee industry and the wider community. By prioritising non-toxic alternatives, diners can create a healthier environment for customers and staff, improving indoor air quality and reducing the risk of respiratory problems and other health issues. This can help to create a more comfortable and welcoming environment for everyone. In addition to health benefits, using non-toxic cleaning products and paints can also benefit the environment by reducing the negative impact of harmful chemicals on ecosystems. Traditional cleaning products and colours can negatively impact waterways and wildlife, harming the environment and coffee production. By using non-toxic alternatives, cafes can help to reduce their environmental impact and contribute to a more sustainable future for the coffee industry (Rizou & Nasioka, 2019; Arif *et al.*, 2010; Pellegrini, 2016).

Finally, prioritising non-toxic cleaning products and paints can also benefit the community by promoting awareness of environmental and health issues. By demonstrating the benefits of non-toxic alternatives, cafes can inspire customers and other businesses to adopt more sustainable and healthy practices in their daily lives. This can help to create a more sustainable and responsible society for everyone. Prioritising non-toxic cleaning products and paints in cafes can benefit the specialty coffee industry and the broader community by improving indoor air quality, reducing environmental impact, and raising awareness of health and environmental

issues. By investing in sustainable and healthy practices, cafes can help create a more sustainable and responsible future for everyone involved in coffee production and consumption (Bhamra *et al.*, 2011; Sharifi & Murayama, 2010; Halden, 2017).

6. Sustainable design: Cafes should incorporate sustainable design elements, such as natural lighting, green roofs, and eco-friendly building materials, to reduce their environmental impact.

Incorporating sustainable design elements in cafes, such as natural lighting, green roofs, and eco-friendly building materials, can benefit the specialty coffee industry and the wider community. By reducing the environmental impact of cafes, sustainable design elements can help to promote more sustainable and responsible use of resources in the coffee industry. Green roofs, for example, can help to reduce the urban heat island effect, improve air quality, and provide habitat for wildlife. By incorporating green roofs, cafes can contribute to a more sustainable and eco-friendly urban environment. Natural lighting can also reduce the need for artificial lighting, saving energy and reducing greenhouse gas emissions, contributing to a more sustainable and responsible future (Rizou & Nasioka, 2019; Bhamra *et al.*, 2011; Sharifi & Murayama, 2010).

In addition to environmental benefits, incorporating sustainable design elements can benefit the community by promoting awareness of sustainable practices and inspiring others to adopt more sustainable practices in their daily lives. By demonstrating the benefits of sustainable design, cafes can encourage customers and other businesses to adopt more sustainable practices in their operations and personal lives, contributing to a more sustainable and responsible society for everyone (Sánchez-Rodríguez & Álvarez-Aledo, 2016; Muthukumarana & Ruwanpura, 2015).

Finally, sustainable design elements can improve the cafe's overall customer experience. Natural lighting and green roofs can create a more welcoming and relaxing environment for customers, while eco-friendly building materials can create a more modern and stylish atmosphere. This can contribute to a more positive and enjoyable customer experience and attract customers to cafes prioritising sustainability. Incorporating sustainable design elements in restaurants can benefit the specialty coffee industry and the broader community by promoting sustainability, creating a more welcoming and enjoyable customer experience, and inspiring others to adopt more sustainable practices daily (UNEP, 2017). By investing in sustainable design practices, cafes can help create a more sustainable and responsible future for everyone involved in coffee production and consumption.

By implementing these sustainable practices, cafes can create a more environmentally-friendly space that promotes sustainable practices and reduces their carbon footprint. This can also attract environmentally-conscious customers who value sustainability and ethical practices in their consumer choices.

On the other hand, Specialty coffee has become essential in promoting sustainability and ethical practices in the coffee industry. Specialty coffee producers and roasters work closely with coffee farmers to ensure that their coffee is grown using environmentally friendly production methods and that workers are paid fair wages. They also work with importers and exporters to ensure their coffee is traded transparently and traceably, promoting ethical practices throughout the coffee supply chain. The role of baristas and coffee roasters in the coffee supply chain is also crucial. Baristas can promote sustainability by reducing waste in their operations, sourcing coffee from local producers, and educating customers about the origin and quality of the coffee they serve. Coffee roasters can promote sustainability by supporting local coffee producers, reducing waste in their operations, and enabling direct trade (Murray *et al.*, 2003; Clark & Richardson, 2019; de

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Graaf & Pelupessy, 2019). By embracing these ethical practices, specialty coffee helps to create a more sustainable and equitable coffee industry that supports the well-being of communities and the environment.

### **Coffee Roasters' Role in Sustaining the Community**

Coffee roasters play a critical role in sustaining the community through specialty coffee. They are responsible for transforming green coffee beans into the delicious, aromatic coffee that people all know and love. Specialty coffee roasters can promote sustainability and ethical practices in the industry by working closely with coffee farmers, importers, and exporters to ensure their coffee is produced and traded honestly and sustainably. One way that coffee roasters sustain the community through specialty coffee is by promoting direct trade. This is a model of coffee trade that prioritises transparency, traceability, and fair prices for coffee farmers. Specialty coffee roasters can work directly with coffee farmers to pay them reasonable prices for their beans and to ensure that the production process is environmentally friendly and socially responsible. This helps to promote sustainability and ethical practices in the industry, and it helps to ensure that coffee farmers are treated fairly (Kilian & Jones, 2018; Clark & Richardson, 2019; De Pelsmacker et al., 2005).

Coffee roasters can also promote sustainability and ethical practices by reducing waste in their operations. They can do this by using environmentally friendly packaging and by promoting the use of reusable containers. This helps minimise coffee industry waste and promotes sustainable practices that benefit the environment and the community. In addition to promoting sustainability and ethical practices, coffee roasters can sustain the community by supporting local coffee producers and promoting their products to customers. This helps create a sustainable and equitable supply chain and supports communities' well-being in production (Dragusanu *et al.*, 2014; Murray *et al.*, 2003; Reynolds & Long, 2017).

Moreover, coffee roasters are critical in sustaining the community through specialty coffee. They can promote direct trade, reduce waste in their operations, and support local coffee producers. By doing so, they help to create a more sustainable and equitable coffee industry that supports the well-being of communities and the environment for a better future for the coffee industry.

### **Baristas' Role in Sustaining the Community**

Baristas play a critical role in sustaining the community through specialty coffee. They are often the face of the coffee industry and have the unique ability to connect coffee drinkers with the people and communities involved in the production process. Baristas can help promote sustainability and ethical practices in the industry by educating their customers about the origin and quality of the coffee they serve and promoting environmentally friendly practices. Baristas sustain the community through specialty coffee by promoting transparency and traceability in the industry. They can do this by providing information about the origin of the coffee beans, the roasting process, and the production methods used by the coffee farmers. This helps to promote transparency and traceability in the industry, and it helps to ensure that coffee is produced and traded in a way that is both ethical and sustainable. Baristas can also promote sustainability and ethical practices by reducing waste in their operations. They can use environmentally friendly packaging and encourage customers to bring their reusable cups, which helps minimise coffee industry waste and promotes sustainable practices that benefit the environment and the community (Pendergrast, 2017; Mair & Martini, 2019; Kilian & Jones, 2018).

In addition to promoting sustainability and ethical practices, baristas can also help to sustain

the community by supporting local coffee producers and roasters. They can do this by sourcing their coffee from local producers and roasters, promoting sustainability and ethical practices and showcasing their products to customers. This helps create a sustainable and equitable supply chain and supports the well-being of communities involved in the production process. Baristas play a critical role in sustaining the community through specialty coffee. They can promote transparency and traceability in the industry, reduce waste in their operations, and support local coffee producers and roasters (Clark & Richardson, 2019; Rizou & Nasioka, 2019). By doing so, they help to create a more sustainable and equitable coffee industry that supports the well-being of communities and the environment for a better future for the coffee industry.

### **Tourism Gastronomic Growth through the Fourth Wave of Specialty Coffee**

The specialty coffee industry has experienced three major waves in the past, each marked by a significant increase in the quality and popularity of coffee. The movement has gained traction in recent years, with more and more coffee shops and roasters emphasising the unique qualities of different coffee varieties and origins. However, the fourth wave of specialty coffee is not just about improving the quality of coffee but also about elevating it to a gastronomic experience. This new wave of specialty coffee is characterised by a focus on traceability, sustainability, transparency in the coffee supply chain, and an emphasis on the unique flavour profiles of different coffee origins. In the fourth wave of specialty coffee, coffee is no longer just a commodity but a culinary experience enjoyed and appreciated by coffee connoisseurs worldwide (Murray *et al.*, 2003; Clark & Richardson, 2019; Kilian & Jones, 2018).

The fourth wave of specialty coffee is about a great cup of coffee and a great coffee experience people worldwide enjoy. This gastronomic growth in the coffee industry has led to a renewed interest in the art of coffee brewing, with baristas and coffee enthusiasts experimenting with different brewing methods and techniques to showcase the unique flavours and aromas of other coffee beans. The fourth wave of specialty coffee has also seen a rise in direct trade relationships between coffee farmers and roasters, ensuring that coffee is of the highest quality and ethically sourced. As the specialty coffee industry continues to grow and evolve, the fourth wave of specialty coffee is poised to significantly impact the global coffee culture. With a renewed focus on sustainability, transparency, and traceability, coffee lovers can enjoy their favourite beverage while supporting ethical and responsible practices in the coffee industry (Mair & Martini, 2019; Pendergrast, 2017).

The fourth wave of specialty coffee has become a major driving force behind the growth of creative economy SMEs in many countries worldwide. This movement has transformed the coffee industry and created new opportunities for entrepreneurs and small business owners. Countries such as Colombia, Ethiopia, and Costa Rica have all recognised the potential of the specialty coffee industry in driving economic growth and have invested heavily in supporting their local coffee farmers and roasters. In Colombia, the specialty coffee industry has significantly contributed to the country's creative economy, with small-scale coffee farmers and roasters working together to produce high-quality coffee with unique flavour profiles. The Colombian government has also supported these small businesses through various initiatives, including creating coffee shops and tasting rooms to showcase their products (Sánchez-Rodríguez & Álvarez-Aledo, 2016; Ponte, 2002).

Similarly, in Ethiopia, the specialty coffee industry has become a significant source of income for small-scale farmers and roasters, contributing to the country's overall economic growth. The government has also recognised the importance of the industry and has implemented various

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policies to support coffee farmers and roasters, including establishing coffee cooperatives and promoting sustainable coffee production practices. Costa Rica is another country that has recognised the potential of the specialty coffee industry in driving economic growth. The country's coffee farmers and roasters have gained international recognition for their high-quality coffee, with a focus on sustainability and traceability in the coffee supply chain. The government has also supported the industry through various initiatives, including establishing coffee shops and promoting coffee tourism (Darr, 2018; Kilian & Jones, 2018; Ponte, 2002).

The fourth wave of specialty coffee has created new opportunities for entrepreneurs and small business owners in many countries worldwide. By focusing on sustainability, traceability, and transparency in the coffee supply chain, these small businesses have produced high-quality coffee with unique flavour profiles, driving economic growth and contributing to their countries' creative economies. As the specialty coffee industry continues to grow, it is expected to have an even more significant impact on the global economy, creating new opportunities for small businesses and driving economic growth in countries worldwide (Clark & Richardson, 2019; Kilian & Jones, 2018).

The fourth wave of specialty coffee has become a global phenomenon, with developed countries such as the United States, Japan, and Australia leading in maintaining this gastronomic growth in their creative economy SMEs. These countries have embraced specialty coffee's unique flavours and aromas, with coffee shops and roasters offering a wide range of high-quality coffee beans worldwide. In the United States, the specialty coffee industry has experienced significant growth in recent years, with a focus on sustainability and transparency in the coffee supply chain. Small businesses such as Intelligentsia Coffee and Blue Bottle Coffee have gained national recognition for their unique coffee offerings and innovative brewing methods (Kilian & Jones, 2018; Lingle, 2018).

Similarly, specialty coffee has become a significant trend in Japan among coffee enthusiasts, focusing on precision and attention to detail in the brewing process. Small businesses like Onibus Coffee and Fuglen Coffee Roasters have gained a strong following for their high-quality coffee and unique flavour profiles. In Australia, the specialty coffee industry has significantly contributed to the country's creative economy, with small businesses such as St. Ali and Common Ground gaining international recognition for their high-quality coffee offerings. The Australian coffee culture has also been noted for its focus on sustainability and ethical sourcing practices. The fourth wave of specialty coffee has created new opportunities for entrepreneurs and small business owners in developed countries worldwide. By focusing on sustainability, transparency, and unique flavour profiles, these small businesses have been able to differentiate themselves from larger coffee chains and gain a solid following among coffee enthusiasts (Kilian & Jones, 2018; Mair & Martini, 2019). As the specialty coffee industry continues to grow, it is expected to have an even more significant impact on the creative economies of developed countries, creating new opportunities for small businesses and driving economic growth.

### **AI in Revolutionise the Future of Specialty Coffee**

The integration of AI in the specialty coffee industry has the potential to bring significant benefits to the global community. AI can improve the quality of coffee beans by providing precise information on factors such as soil quality, weather conditions, and pest control. This can lead to better yield and higher-quality coffee beans, increasing demand for specialty coffee and benefiting coffee growers and the industry. Additionally, AI can help promote sustainability in the coffee industry by monitoring and reducing the environmental impact of coffee farming; by optimising

irrigation and fertilisation, reducing water waste, and reducing the use of harmful chemicals in coffee farming, AI can help ensure that the industry is sustainable and environmentally responsible (Benjamin & Yiridoe, 2019; Cruz-Roa et al., 2018; Esquivel *et al.*, 2018).

AI can potentially revolutionise the specialty coffee industry, and its benefits can extend beyond the drive to the global community (Gao & Sun, 2020). Integrating AI in the specialty coffee industry can contribute to the worldwide community by promoting economic development, environmental sustainability, and social responsibility. Furthermore, AI can promote fair trade practices in the coffee industry by tracking the origin of coffee beans and ensuring that farmers are paid fairly. This can help empower coffee growers and promote economic growth in developing countries (Bhardwaj & Singh, 2021; Cai *et al.*, 2020).

The specialty coffee industry has the potential to significantly benefit from the integration of artificial intelligence (AI) both upstream and downstream. Precision farming is one way that AI can be utilised in the industry. Through data analysis from sensors, drones, and satellites, AI can monitor soil and weather conditions, detect pests and diseases, and optimise irrigation and fertilisation. This approach can help growers produce higher-quality coffee beans while using fewer resources and minimising environmental impacts. Additionally, AI can help with quality control by analysing images of coffee beans to detect defects such as mould, insect damage, or uneven roasting. This approach can help ensure a consistent and high-quality product by identifying and removing low-quality beans before they reach the market (D'Amico & Fassio, 2020; Dinh *et al.*, 2020).

Traceability is another area where AI can significantly benefit the specialty coffee industry. Using blockchain and other technologies, AI can track the origin of coffee beans from farm to cup. This approach creates a transparent and reliable supply chain, allowing consumers to make informed choices about their coffee and support sustainable and ethical practices. By promoting transparency and accountability, AI can encourage sustainable practices and give consumers confidence in their purchases (Petersen & Krisjansen, 2020; Demir *et al.*, 2019).

On the downstream side of the specialty coffee industry, AI can help coffee shops and roasters provide personalised and engaging customer experiences. AI can analyse data on customer preferences such as taste, aroma, and brewing method by recommending the best coffee products for each individual. This approach allows coffee shops and roasters to create a personalised customer experience, increasing loyalty and sales while providing a unique experience (Almeida-Silva & Cardoso, 2020; Arora & Singh, 2019).

Sustainability is another area where AI can significantly impact the specialty coffee industry. AI can potentially revolutionise the specialty coffee industry upstream and downstream. By optimising inventory management, scheduling, and logistics, AI can help coffee shops and roasters reduce waste and energy consumption. This approach can help minimise the environmental impact of the coffee industry and improve its long-term sustainability. Additionally, AI can help coffee shops and roasters develop new products and services by analysing trends, customer feedback, and market data. This approach can help businesses stay ahead of the competition and offer their customers unique and innovative coffee experiences; by improving quality, sustainability, and personalisation, AI can create a more engaging and enjoyable experience for coffee consumers while supporting sustainable and ethical practices in the industry (Bhattacharya & Ray, 2021; Cui *et al.*, 2021; Esquivel *et al.*, 2018).

### **Specialty Coffee in Achieving the SDGs**

Specialty coffee can improve the global community and significantly contribute to

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achieving the United Nations Sustainable Development Goals (SDGs). By promoting sustainable agriculture practices, specialty coffee can support SDG 2 (Zero Hunger) by protecting biodiversity, reducing deforestation, and promoting soil fertility. Additionally, specialty coffee can support SDG 8 (Decent Work and Economic Growth) by ensuring fair wages and working conditions for coffee growers, promoting inclusive economic growth, and reducing poverty (ICO, 2020; ITC, 2019; UNDP, n.d.).

Specialty coffee can significantly impact the global community by promoting sustainable agriculture, fair trade practices, climate action, gender equity, sustainable consumption, and sustainable partnerships. By promoting ethical and sustainable practices throughout the coffee supply chain, specialty coffee can help create a more equitable and sustainable world, reducing poverty, promoting sustainable development, and building a better future for all. Furthermore, specialty coffee can contribute to SDG 13 (Climate Action) by promoting climate-smart agriculture practices such as precision farming and carbon sequestration, which help mitigate the impacts of climate change and promote resilience. Specialty coffee can also support SDG 5 (Gender Equality) by empowering women farmers and promoting gender equity in the coffee industry, providing economic opportunities for marginalised communities. Specialty coffee can also support SDG 12 (Responsible Consumption and Production) by promoting sustainable consumption practices such as choosing sustainably sourced coffee and reducing waste. Additionally, specialty coffee can support SDG 17 (Partnerships for the Goals) by promoting sustainable and inclusive partnerships between coffee producers, roasters, and consumers, encouraging collaboration and knowledge-sharing (UNEP, 2020; WCR, 2016; UNDP, n.d.).

Specialty coffee production can significantly contribute to achieving the United Nations Sustainable Development Goals (SDGs), both upstream and downstream. Upstream, specialty coffee can support SDG 2 (Zero Hunger) by promoting sustainable agriculture practices such as shade-grown coffee that protect biodiversity, reduce deforestation, and promote soil fertility. Additionally, specialty coffee can support SDG 8 (Decent Work and Economic Growth) by ensuring fair wages and working conditions for coffee farmers, promoting inclusive economic growth and reducing poverty. Specialty coffee can also support SDG 13 (Climate Action) by promoting climate-smart agriculture practices such as precision farming and carbon sequestration, which mitigate the impacts of climate change and foster climate resilience (ICO, 2020; UNEP, 2020; ITC, 2019).

Downstream, specialty coffee can support SDG 12 (Responsible Consumption and Production) by promoting sustainable consumption practices such as choosing sustainably sourced coffee and reducing waste. Additionally, specialty coffee can support SDG 5 (Gender Equality) by empowering women farmers, improving access to resources and education, and promoting women's leadership roles in the coffee industry. Finally, specialty coffee can support SDG 17 (Partnerships for the Goals) by promoting sustainable and inclusive partnerships between coffee producers, roasters, and consumers. By fostering collaboration and knowledge-sharing, specialty coffee can help achieve the SDGs and contribute to a more equitable and sustainable world (WCR, 2016; UNDP, n.d.).

Specialty coffee can also contribute to achieving the SDGs by promoting sustainable and ethical practices throughout the coffee supply chain. By promoting sustainable agriculture practices, specialty coffee can help reduce the environmental impact of coffee production and encourage sustainable development. Exceptional specialty coffee can help reduce poverty and promote inclusive economic growth by promoting fair trade practices. By promoting gender equity in the coffee industry, specialty coffee can empower women and reduce gender inequalities. And



by promoting sustainable consumption practices and partnerships, specialty coffee can help achieve the SDGs and create a more sustainable and equitable world. Moreover, specialty coffee has the potential to make a significant contribution to achieving the SDGs both upstream and downstream. By promoting sustainable and ethical practices throughout the coffee supply chain and promoting sustainable development, specialty coffee can help create a more equitable and sustainable world (UNDP, n.d.; ICO, 2020; WCR, 2016).

#### **Fourth Wave of Specialty Coffee in Saudi Arabia**

Saudi Arabia is a country that has recently recognised the potential of the fourth wave of specialty coffee in driving gastronomic growth in their creative economy SMEs. The government has a long history of coffee consumption, with traditional Arabian coffee being a staple in many households. However, the specialty coffee industry has gained traction nationwide in recent years, focusing on unique flavour profiles and sustainable sourcing practices. Small businesses such as Sulalat and Camel Step have emerged as leaders in the specialty coffee industry in Saudi Arabia, offering a wide range of high-quality coffee beans from around the world. These businesses have strongly emphasised sustainability and transparency in the coffee supply chain, working closely with coffee farmers and roasters to ensure their products are ethically sourced (UNDP, 2020; Al-Shehri & El-Haddad, 2019).

The Saudi Arabian government has also recognised the potential of the specialty coffee industry in driving economic growth and has implemented various initiatives to support small businesses in the industry. For example, the Saudi Export Development Authority (SEDA) has supported coffee exporters, while the Ministry of Commerce and Investment has established a program to help coffee shops and roasters. The fourth wave of specialty coffee has created new opportunities for entrepreneurs and small business owners in Saudi Arabia, driving gastronomic growth in the country's creative economy, SMEs. By focusing on sustainability and unique flavour profiles, small businesses in the specialty coffee industry have been able to differentiate themselves from larger coffee chains and gain a solid following among coffee enthusiasts in the country. As the specialty coffee industry continues to grow in Saudi Arabia, it is expected to have an even more significant impact on the country's creative economy, creating new opportunities for small businesses and driving economic growth (SEDA, 2021; MCI, 2019; Al-Sharif *et al.*, 2021).

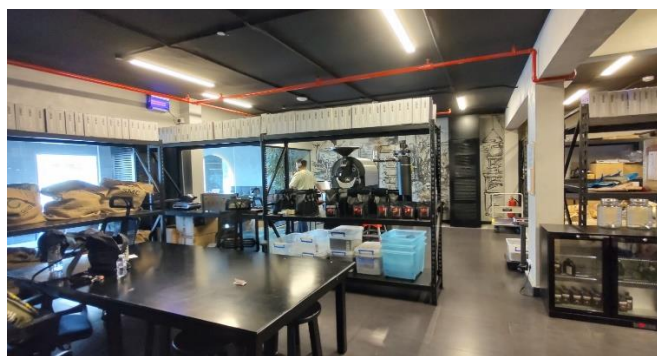


**Picture 1. Sulalat Coffee in Riyadh, as a prominent coffee company in Saudi Arabia, has been steadfastly promoting sustainability through its diverse and multinational workforce**

Fair pay for coffee farmers and workers is a critical component of sustainability, and by prioritising fair pay and working conditions, the coffee industry in Saudi Arabia can set an example for other countries and industries worldwide. Meanwhile, diversity in the multinational labour force working as coffee roasters and baristas in Saudi Arabia has the potential to make a significant impact globally for fair pay and sustainability. By bringing together individuals from different backgrounds, cultures, and experiences, the coffee industry in Saudi Arabia can promote diversity and inclusion while also improving the social and environmental sustainability of the industry. By promoting diversity and inclusion, the industry can also create a more equitable and just workplace that empowers individuals from all backgrounds to contribute to the industry's success. Ultimately, a diverse and sustainable coffee industry in Saudi Arabia can positively impact the global coffee industry, promoting fair pay, environmental responsibility, and social justice (Barista Magazine, 2021; ITC, 2019; UNDP, n.d.).

The coffee industry in Saudi Arabia has been working to ensure fair pay and working conditions for coffee farmers and workers while prioritising ecological sustainability by promoting sustainable farming practices and reducing waste. Additionally, the industry has been promoting economic growth and entrepreneurship in the region by supporting local coffee producers and roasters. Meanwhile, specialty coffee in Saudi Arabia has promoted the United Nations' Sustainable Development Goals (SDGs) by focusing on the region's social, economic, and environmental sustainability. One way specialty coffee in Saudi Arabia promotes social sustainability is by prioritising fair pay and working conditions for coffee farmers and workers. This helps ensure that individuals working in the coffee industry can support themselves and their families, contributing to the community's overall well-being. Additionally, the industry has promoted diversity and inclusion by hiring individuals from different backgrounds and cultures, creating a more equitable and just workplace (UNEP, 2020; UNDP, n.d.).

Economic sustainability is also a key focus for the specialty coffee industry in Saudi Arabia. The industry has been working to support local coffee producers and roasters by providing training and resources to help them improve the quality of their coffee and increase their production capacity. This promotes economic growth and entrepreneurship in the region, positively impacting the local economy and community. Specialty coffee in Saudi Arabia is taking a proactive approach to encourage the United Nations' Sustainable Development Goals (SDGs) by focusing on coffee farming in Jazan and other global initiatives to increase coffee production and tackle the projected reduction in production by 2030 (UNDP, 2020; ICO, 2020).



**Picture 2. The Urban Coffee Roaster in Jeddah is actively promoting sustainability in the production arena through its simplified marketing approach, as evidenced by its show production in the coffee shop**

Meanwhile, through Saudi Arabia's first international forum on coffee sustainability has highlighted the need for the country to focus on producing high-quality coffee beans and investing in research and development if it wants to compete in the global market. Experts emphasised the importance of cooperation among authorities to improve scientific research and obtain high-quality results to sustain and develop the sector. They noted that Saudi Arabia must focus on producing "very luxurious" coffee to compete and market globally. The coffee industry could become a significant economic contributor for Saudi Arabia, ranking eighth globally for coffee consumption. The annual spending on coffee consumption in Saudi Arabia amounts to \$346 million, and the market value of restaurants and cafes is expected to grow at a compound annual rate of 8 per cent. The linear forecast for the value of the Saudi coffee import bill is expected to rise to \$425 million by 2023, while the coffee sector accounted for about 0.86 per cent of the country's gross domestic product in 2020 (Asharq Al-Awsat, 2021).

To become a global centre for the coffee industry, Saudi Arabia must invest in infrastructure, including research and development, and focus on its geographical location between coffee-growing regions in Asia and Africa. The Jazan Mountain Development Authority already distributes 900,000 coffee seedlings for research and has established the Saudi Coffee Center in cooperation with Saudi Aramco. The Culinary Arts Commission intends to launch the Saudi Coffee Museum in partnership with the Ministry of Culture, and the Kingdom has joined the World Coffee Organization. The international forum on coffee sustainability has highlighted the importance of investing in research and development, producing high-quality coffee beans, and improving the coffee industry's sustainability to compete globally. With suitable investment and infrastructure, Saudi Arabia can become a significant player in the global coffee market, providing a much-needed economic boost to the country (Asharq Al-Awsat, 2021).



**Picture 3. The inaugural international forum on coffee sustainability in Saudi Arabia, held in Jazan, was a momentous occasion that facilitated a comprehensive discussion on the sustainability of local coffee and its consequential global impact**

On the other hand, Jazan, located in the southwestern region of Saudi Arabia, has a unique microclimate ideal for coffee farming. The coffee industry in Jazan has been working to promote sustainable farming practices and increase the production of high-quality specialty coffee. This not only supports economic growth and entrepreneurship in the region but also promotes environmental sustainability by reducing the negative impact of farming on the environment. In addition to promoting sustainable farming practices in Jazan, the coffee industry in Saudi Arabia has been involved in global initiatives to increase coffee production and tackle the reduction of

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output by climate change and other issues by 2030. This includes initiatives such as the World Coffee Research Program, which focuses on developing new coffee varieties more resistant to disease and climate change, and the Coffee Sustainability Program, which promotes sustainable coffee farming practices worldwide (Al-Shehri & El-Haddad, 2019; Al-Sharif et al., 2021; WCR, n.d.).

On the other hand, by promoting sustainable coffee farming practices and increasing the production of high-quality specialty coffee, the coffee industry in Saudi Arabia contributes to the local economy and community and promotes the SDGs globally. This includes economic sustainability by supporting entrepreneurship and economic growth, social sustainability by promoting fair pay and working conditions for coffee farmers and workers, and environmental sustainability by promoting sustainable farming practices and reducing the negative impact of farming on the environment. The specialty coffee industry in Saudi Arabia is taking a proactive approach to promoting the SDGs and addressing global challenges in coffee production. By focusing on sustainable coffee farming practices and increasing production, the industry is creating a more equitable and sustainable coffee industry that can positively impact the global community (WCR, 2016; ICO, 2020).

Furthermore, the coffee industry in Saudi Arabia has been leveraging artificial intelligence (AI) and high-end machinery to improve the quality of coffee production and promote sustainability in the region. This has helped coffee roasters and baristas produce high-quality coffee that consumers enjoy while promoting social, economic, and environmental sustainability. AI and high-end machinery have become critical tools in the coffee industry, enabling coffee producers to improve the quality of coffee beans by identifying and sorting the highest quality beans. This technology has also helped coffee producers to reduce waste and improve efficiency by automating many of the processes involved in coffee production. Using AI and high-end machinery, coffee producers in Saudi Arabia have created a more sustainable coffee industry. This includes social sustainability by promoting fair pay and working conditions for coffee farmers and workers and economic sustainability by supporting entrepreneurship and economic growth in the region. Additionally, using AI and high-end machinery has helped reduce the negative impact of coffee farming on the environment by promoting sustainable farming practices and reducing waste (UNDP, 2020; SAGIA, n.d.).

In addition to its innovative use of technology, the coffee industry in Saudi Arabia has also been promoting sustainability. It's sustained through its direct connections to regional and worldwide coffee farmers. By working directly with coffee farmers, the industry can ensure fair pay and working conditions while promoting sustainable farming practices that reduce the negative impact of farming on the environment. The use of AI and high-end machinery in the coffee industry in Saudi Arabia is helping to promote sustainability and create a more equitable and just drive. By leveraging technology and direct connections to coffee farmers, the industry is creating a more sustainable and high-quality coffee industry that can positively impact the local and global communities (Gao & Sun, 2020; UNDP, 2020).

Environmental sustainability is a top priority for the specialty coffee industry in Saudi Arabia. The industry has been promoting sustainable farming practices, such as organic and shade-grown coffee, which help to preserve the natural ecosystem and reduce the negative impact of farming on the environment. Additionally, the industry has been working to reduce waste by promoting sustainable packaging and recycling programs. The specialty coffee industry in Saudi Arabia promotes the SDGs by prioritising social, economic, and environmental sustainability in the region. By focusing on these areas, the industry is creating a more sustainable and equitable

coffee industry that can positively impact the global community (ICO, 2020; UNEP, 2020).



**Picture 4. Qaf Coffee in Khobar, is a distinguished coffee roastery renowned for its exceptional quality in Saudi Arabia's Eastern Province; serves as a prime example of a successful project promoting sustainability through economic small and medium-sized enterprises (SMEs) in the region**

Moreover, The coffee industry in Saudi Arabia is driving diversity and promoting sustainability through initiatives such as fair pay and working conditions for coffee farmers, promoting sustainable farming practices, and reducing waste. The industry is leveraging AI and high-end machinery to improve coffee production and reduce the negative impact of farming on the environment. Additionally, the sector supports local coffee producers and roasters, promoting economic growth and entrepreneurship in the region; it also works with coffee farmers globally and promotes sustainable coffee farming practices. The specialty coffee industry is committed to the United Nations' Sustainable Development Goals (SDGs) by promoting social, economic, and environmental sustainability. By focusing on these areas, the industry is creating a more sustainable and equitable coffee industry that positively impacts the global community.

## **CONCLUSION**

In conclusion, Saudi Arabia has recognised the potential of the fourth wave of specialty coffee in driving gastronomic growth in their creative economy SMEs. With a long history of coffee consumption, the country has embraced specialty coffee's unique flavours and aromas, with small businesses such as Sulalat and Camel Step emerging as leaders in the specialty coffee industry. These businesses have strongly emphasised sustainability and transparency in the coffee supply chain, working closely with coffee farmers and roasters to ensure their products are ethically sourced. The Saudi Arabian government has also implemented various initiatives to support small businesses in the specialty coffee industry, recognising its potential to drive economic growth. The fourth wave of specialty coffee has created a new culture of coffee consumption in Saudi Arabia, focusing on sustainability and unique flavour profiles, positively impacting the country's economy and coffee culture. As the specialty coffee industry continues to grow in Saudi Arabia, it is expected to create new opportunities for entrepreneurs and small business owners, driving gastronomic growth in the country's creative economy SMEs.

The fourth-wave coffee culture in Saudi Arabia has become a harmonious symphony of local wisdom and modern technology, promoting sustainability and ethical practices in the coffee industry. The industry is leveraging AI and high-end machinery to improve coffee production while

promoting sustainable farming practices, reducing waste, and supporting local coffee producers and roasters. The diversity in the multinational labour force working as coffee roasters and baristas have helped promote fair pay and working conditions while creating a more equitable and just workplace. The industry's direct connections to coffee farmers globally and promoting sustainable coffee farming practices have contributed to economic, social, and environmental sustainability. The fourth-wave coffee culture in Saudi Arabia is a prime example of how local wisdom and modern technology can come together to create a more sustainable and equitable coffee industry that positively impacts the global community.

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