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Applying the sustainable knowledge and behavior to coffee roasters professional in the UAE

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ABSTRACT

The abundance of specialty coffee in the UAE has made this country one of the Meccas of coffee in the Middle East. Several national and global events have made the UAE a country visited by many global coffee professionals and professional coffee workers working in the UAE. One of the challenges is sustainability in the coffee production area, where the coffee roaster plays an essential role in maintaining consistency that is the benchmark and represents specialty coffee as one of the goals. Using the curriculum from the Specialty Coffee Association's Coffee Skills Program, the authors presented training and counseling to calibrate knowledge in roasting from the skills and behavior of coffee roasters to achieve sustainability in the coffee production area.

KEYWORDS
UAE;
Coffee roasters;
Mecca

1. Introduction

Sustainability is the primary goal of all sectors, including the standardized supply chain in the coffee value chain. Today's coffee roasters are inextricably linked to the third wave in the coffee supply chain, particularly the recent growth of specialty coffee [1]. Numerous coffee roasters are still unaware of the importance of sustainability in the coffee roastery management realm [2]. To raise sustainability to align with skills and behavior in ethical business, it is critical to apply sustainable education to the coffee roasters' way of thinking, understand their philosophy as coffee roasters and the most critical line in the coffee value chain, and connect all stakeholders in the coffee supply chain to consumers who need this information from farm to cup [3].

Meanwhile, the global expansion of the specialty coffee industry has enriched the food and beverage industries. It is inextricably linked to the trend that established previous generations as classic coffee connoisseurs, and it began among young people who introduced third-wave coffee into the lifestyle trend. This colonial heritage coffee chain is one-of-a-kind in every way, from the supply chain to the coffee roaster [4], the barista to the consumer, particularly for several groups concerned with sustainability, and, in particular, the coffee roaster [5]. Specialty coffee serves coffee with a standard grade of 80 or higher. The specialty is also known from the supply chain line and the single-origin grain stored through the process.

Furthermore, the coffee market is booming, especially in the United Arab Emirates, where the coffee shop is globally regarded as one of the meccas for specialty coffee, with its story told through a variety of single origins and the machines used in coffee production. Modern machines, from roasting machines and quality gauge tools to extracting coffee machines from espresso to filters, are used in coffee roasteries and coffee shops in the United Arab Emirates [6]. A coffee roaster cannot be separated from all types of coffee-related tools used by the controller or operator [7]. Here, good skills are required to produce quality that is also delicious and enjoyed by the local market, whether B2B or B2C. Here, good skills are required to produce quality that is also delicious and enjoyed by the local market, whether B2B or B2C. In this case, a coffee roaster is associated with production management [8].

The coffee roaster is the core of the coffee sales business, especially coffee roasteries [9]. They are in charge of preparing coffee products, such as roasting, storing, and controlling quality, as well as working internally and externally to connect all ideas about single origins sold to end users. They use unique skills

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to operate coffee roasting machines every day [10]. However, there are some difficulties, for coffee roasters, in maintaining roast consistency [11]. Still, they don't always understand the roast goal in general, from single-origin processing to extracting grind size when making coffee for consumers. Since specialty coffee consumers demand it, it is critical to maintain the quality standards of specialty coffee presentation and the coffee roster's skills. It is where a calibration in coffee knowledge and science is required to become a coffee roaster with ordinary skills from knowledge to roasting coffee suitable for the consumer [12] [13].

With the formulation of the above-mentioned issues, it is necessary to promote long-term knowledge for baristas, which includes:

1) The improvement of coffee roasters' long-term knowledge and skills in the coffee industry [14].
2). A basic understanding of coffee's journey from its Ethiopian origins to its current status as today's major commodity. The coffee cherries grow through grading, roasting, and brewing in the coffee bar [15].
3). A Specialty Coffee Association (SCA) standard practice to help them understand their work as coffee roasters [16].
4). An overview of the coffee value chain as well as sustainable knowledge and skills for coffee roasters to promote sustainability in specialty coffee [17].

It is a long-term challenge for coffee roasters that can be overcome with knowledge [18]. The continuation of a blended curriculum for professional coffee through the Specialty Coffee Association's Coffee Skills Program (CSP) with the "Introduction to Coffee" and "Roasting Skills Foundation" modules will remove the barrier of deficiencies for coffee roasters [19]. It makes coffee roasters an agent of change in bringing sustainability to the coffee supply chain. Developing these fundamental thought concepts is required for investigating the sustainability concept in coffee roasters' knowledge, skills, and behavior.

a) The Coffee Journey and Specialty Coffee

Coffee has a unique history that has long been known through the Kaldi story, then enlivened by the Ottomans in Aleppo, Izmir, and Istanbul 350 years ago, which became a bustling place for discussion and a place for the exchange of ideas between various levels of people with multiple professions. Then, it enlivened in the middle-ages, contributed through the Levant's sponsored company, and became a regulated trade with the Ottoman Empire. As the trade progresses, coffee shops are the places for distinctive sociability. The legacy of coffee today cannot be separated from the colonialism of coffee slavery in the past through one of the novels written by Eduard Douwes Dekker, Max Havelaar: Or the Coffee Auctions of the Dutch Trade Company. Until now, coffee's history has always been black but sweet to bring to the sensory area [20].

The long history of coffee development has given rise to the term "specialty coffee," which has become the third wave of coffee development. Coffee, which was previously only known in three varieties: Arabica, Robusta, and Liberica, has become more diverse. They have many cultivation types and unique branches, which are becoming increasingly varied. It continues to advance, providing grades for different coffee types. Coffee shop development offers coffee with sweet variants in coffee drinks. However, with a growing number of consumers seeking the uniqueness of a high-quality green coffee flavor, specialty coffee shops have emerged, offering quality coffee concepts with various origins from around the world. The coffee provided by coffee shops has a standard in brewing; after the coffee is roasted, the brew ratio varies to adjust the taste quality to the limit of post-roasting coffee consumption. Coffeeshops, which provide specialty coffee, sell coffee for consumption and become a hub for enthusiastic people about the flavors produced by artisan roasting and sensory on final products' cupping tables. Consumers feel a positive interaction with Baristas through the final products they formulate [21].

A coffee shop usually has an exciting atmosphere that makes customers happy interacting with each other. The design concept varies in providing comfort for customers to enjoy the drinks, seek space to socialize, or continue office duties. *I*n addition to being comfortable places to enjoy coffee and sweets,

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coffee shops have become a place to stop between home and work, generally in an urban style, making them a third place. Another benefit of coffee shops is that they provide affordable products for consumption, eliminating the need to sit for an extended time in a restaurant, which requires expensive fees for products and services from waiters/waitresses. Furthermore, specialty coffee shops sell artisan-roasted coffee, a unique way to roast coffee and add value to a coffee shop. Many coffee shops also sell brewing accessories that customers can use at home, ranging from manual espresso machines to various coffee filter types [22].

b) Roasting Skills and Sustainable Knowledge

It's always fascinating to watch a coffee roaster roast coffee and turn it into a variety of drinks for customers to order from the barista at a coffee shop [23]. Baristas have additional skills to perform in terms of understanding the coffee production desired by end-users as well as their expertise in adapting by recognizing types and varieties of single origins and standardizing management in coffee production spaces. Coffee roasters must understand what customers want, as each has a different request for the type of coffee roasted [24]. Quality control attracts ideas that eventually transform green coffee into a product that end-users want, from B2B to B2C. The coffee roaster will elaborate on the type of coffee bean and its origin and characteristics, and the coffee-making process. It will help spark consumer interest in single-origin grain and proper processing and handling in the production space [25].

Sustainability, which is currently being discussed, has had numerous positive outcomes in terms of assisting with general thinking issues. Furthermore, sustainability has the greatest influence concerning its three bottom legs: social, economic, and environmental. Each has an idea for bringing attention to a global issue that the United Nations has long promoted through the Sustainable Development Goals. Education is also one of the expected outcomes for achieving sustainability. Likewise, it cannot be separated from the discussion of coffee in general, which is in the supply chain and the consumer service section of specialty coffee. Coffee roasters must learn more about coffee to build resilience in their skills and behavior [26]. With a sustainable sense of both the data and information circulating in the barista environment regarding coffee, sustainable knowledge will fulfill the coffee roaster's environmental behavior.

Despite being a third-wave concept, specialty coffee requires a high level of expertise in coffee roasting, as well as the amount of knowledge a coffee roaster will gain in deepening their understanding of coffee. Consumer satisfaction is required to obtain information that is consistent with what the customers have consumed from the coffee products sold. Aside from selling customers roasted coffee, daily training for coffee roasters for quality control calibration can help build confidence. Furthermore, the consistency of the coffee roasters skill standard will provide more value for a constructive personality. Simultaneously, the combination of coffee roaster skills and behavior will help them achieve complete confidence in daily coffee production and management of the coffee roastery [27].

The efforts of the company, beginning with assigning knowledge to consumers, saving energy consumption, having transparent business processes, and decreasing production waste, can be used to demonstrate sustainability in the institutional business. Sustainability can be seen in three main activities: production and consumption, processes, and marketing. It is necessary to continue to analyze sustainable values in addition to promoting the company's transformation into more sustainable consumer behaviors. In practice, coffee roasters must also understand how to think sustainably in science (as the foundation for customer information) and intelligent behavior (to meet the basic needs of coffee roasting and quality control), recognize the prudence in using single-origin grain when roasting and making coffee as a part of the consumer's journey to meet their needs and respect farmers for using the harvested coffee beans.

2. Method

The author used a qualitative analysis study to achieve sustainability in coffee roasting skills [28] by identifying the problems found in this study. Measurements were carried out by observation, interviews, and documentation through the provision of counseling assistance in increasing coffee knowledge for baristas through the "Introduction to Coffee" and "Roasting Skills – Foundation" modules in the Coffee Skills Program (CSP) at the Specialty Coffee Association as defined below.

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a. The Introduction to Coffee Curriculum was redesigned to give students a more comprehensive overview of the critical concepts of coffee knowledge. A restructured, systematic course outline included more precise learning objectives and suggested practical activities. The Roasting Skills curriculum gave students more understanding of roasting production and science [29]. Furthermore, it provided the benefit of increased knowledge about how to meet consumer needs while maintaining consistency in quality control.

b. A structured, planned, and long-term post-program counseling study was required for this counseling service to be successful. The counseling took at least 24 hours to provide a more in-depth explanation, which employs the Specialty Coffee Association's standard curriculum.

c. The author was an Authorized SCA Trainer (AST) for 2019–2024, licensed for the Coffee Skills Program (Introduction to Coffee, Barista Skills, Green Coffee, Roasting, Sensory Skills) and the Coffee Sustainability Program, with authority to teach the course to anyone who had ever worked in the coffee industry or people who wanted to learn about coffee. The license was administered by roasters, baristas, and anyone with coffee expertise who had completed one or more coffee skills program modules at the introductory (foundation), intermediate, and professional levels. The license must be confirmed and issued by the SCA education field coordinator, found in any city worldwide. The license is global in scope, and AST may use it anywhere as long the 3-year license is still valid.

d. Each coffee roaster had a different job description, but their primary responsibility was to operate the roasting machine and other coffee-making equipment. It was necessary to determine the right target based on the formulated objectives—in this case, coffee roasters who already had essential coffee roasting and quality control skills. More specifically, the target of this service was competent coffee roasters in the UAE, from Abu Dhabi, Dubai, and Fujairah, with a total of 6 coffee roasters [30].

e. Each coffee roaster had worked in the same place for more than two years with expertise in coffee roasting and good customer service. Meanwhile, in terms of intersectionality, the baristas were multi-national from three continents, including Africa, Southeast Asia, and the Middle East, reflecting their diverse culture. Both Arabic and English were used for transactions and serve ex-pats and local consumers.

f. AST had divided the 24-hour study time into four meetings to make it easier to provide the counseling service. At the final meeting, the AST assessed how much impact the learning outcomes of the four sessions had had on outreach and practice. It was also a benchmark for the success of continuing education for baristas. Furthermore, to arrange the steps in implementing this counseling service, the author divided the efforts into preparation, implementation, and evaluation stages to make them more structured and programmed.

3. Results and Discussion

The following phases must be determined to define more about the activity and apply sustainable knowledge to coffee roasters through their skills and behaviors.

a. Preparation Stage

In the UAE, coffee roasters are primarily responsible for roasting coffee for consumers, which is distributed either B2B or B2C. It includes standardizing the handling of every single origin of coffee through a roasting machine, whether manual or automatic roast, recording every event in the process, or using a digital log to facilitate production traceability. Then, emphasizing the safety processes and maintenance in using machines to keep quality control in production, from area division to scheduling maintenance. Each roaster maintains the quality of the coffee production by using serial cupping in each roasting session, which can help keep the quality of the roasted coffee assessment depicted in Figure 1. The figure shows that all experiences, from the production process to sales, will be assessed to determine the practical assessment of each coffee roaster.

b. Implementation Phase

The program implementation comprised four sessions in one shift, where all coffee roasters followed the AST's curriculum. The practice schedule and assessment through examinations were given in two months, September–October 2021. Practical and reports through review took place regularly, both in-person and online reports. In addition to the material presented, cupping sessions were held at each session to sharpen the sensory techniques of coffee roasters, both duo-trios, and triangulation (illustrated in Figure 2). The figure demonstrates how important this is because coffee roasters must describe the taste of Arabica coffee from various single origins. Several Specialty Coffee Association standards related to COVID-19 were also applied in this session to maintain double standards in safety.

c. Evaluation Stage

The following is an outline of the evaluation of coffee roasters.

- Six coffee roasters took part in the training and assessment.
- All baristas participating in the training and assessment received both English-language offline and online materials.
- After two months of counseling, all coffee roasters' assessments were significantly above average.
- The passing score of the Specialty Coffee Association's standard assessment for "Introduction to Coffee" and "Roasting Skills—Foundation" was 70% in both the practical and written exams.
- All coffee roasters passed the assessment; the average practice test score for all coffee roasters was 86,16, and the total average for the written exam was 85,83.

Several follow-up interviews revealed that the additional knowledge gained from "Introduction to Coffee" positively affected the development of a sustainability framework in their way of thinking. The "Roasting Skills—Foundation" module increased confidence in their daily artisan coffee production practices. Figure 3 depicts roasting skill practice with an Ikawa roast. By following the specialty coffee trend, which had become the standard of the syllabus, coffee roasters were more confident as international students, thanks to SCA's curriculum with global standards.

Fig. 1. Assessment

Fig. 2. Cupping Session

Fig. 3. Roasting Skills with Ikawa roast

4. Conclusion

Following are some conclusions to this report, including those described below: Participating in training and counseling services for coffee roasters in the UAE has ensured sustainability through ongoing knowledge in the coffee roasting profession. The curriculum assessment implemented through the training and counseling service has a significant impact. All coffee roasters passed the assessment, with the average practice test assessment for all baristas being 86.16, while the total average for the written examination was 85.83. According to the interview with coffee roasters, more knowledge was gained through "Introduction to Coffee" and "Roasting Skills—Foundation," which positively impacted building a framework for sustainability in their reflection and practice of their profession.

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Author Contribution

Sustainability can see those four contributions in this study from three main activities: production and consumption processes and marketing in the coffee business to encourage coffee business processes to be more sustainable. Besides promoting the company to transform into more sustainable consumer behaviors, keep analyzing sustainable values.

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Conflict of Interest

The authors declare no conflict of interest.

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