**Coda Coffee and Bext360 Supply Chain: Machine Vision, AI, IoT, and Blockchain**

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**History of Coda Coffee and Bext360**

Coda Coffee was founded by Tim Thwaites and Tommy Thwaites in 2005. They were committed to their love of the environment and social responsibility. This is shown in their company by the fact that they paid three times the commodity exchange rates in order to source their raw coffee beans. They were also committed to maintaining fair pricing and assurance to their customers that they were getting the coffee beans in a safe and maintainable manner. This led to the brothers’ establishing relationships with the farmers that they were working with and using unique sourcing techniques. The brothers did all this while ensuring that their coffee beans were of the highest caliber.

Bext360 was founded by Daniel Jones, the company was founded to disrupt the global supply chain with the use of blockchain technology, artificial intelligence, and machine learning. The first focus of the company was to be the coffee supply chain as Daniel Jones realized that coffee demand was projected to grow, and consumers were actively searching for transparency and sustainability.

Due to their goals of sustainability and transparency, the two companies eventually started working with each other. Together the companies planned on finding ways to innovate the coffee supply chain and revolutionize the way that coffee would be supplied.

**Innovation**

In December of 2011, the brothers introduced the Farm2Cup certification program. The Farm2Cup program focused on the education of farmers to help improve the quality of the raw coffee beans that they were growing and would eventually buy those beans from the farmers. Part of this program involved educating farmers different methods to improve the quality of coffee beans, which included changing the coffee bean varieties, adjusting the irrigation systems, and diversifying the crops. The brothers also offered incentives to get more farmers involved in the program, the main incentive being premium payments for the coffee beans that they were growing while in the program. Through this program the brothers also highly encouraged their participants to contribute to their communities in health and education. In all this program allowed the brothers to fulfil their commitments of being environmentally friendly by being able to share ways of growing the coffee beans and the provisions of machines being used to help grow them. The participants of the program also became the single point of sales for the company and made it easier for them to acquire a variety of coffee beans.

Another innovation made was Great Lakes Pilot Project in Uganda. Once partnered with the Thwaites brothers and Coda Coffee, Daniel Jones employed machine learning and Artificial Intelligence to assess the quality of the coffee beans. This technology used the blockchain to store the quality, quantity, and source information of the raw coffee beans being grown. The internet of things was also utilized to connect the AI machines to the cloud. For the pilot a specialized Bextmachine was developed that could analyze the color, brightness, and defects of the coffee beans. Once it analyzed these elements of the coffee bean, it would give it a score that reflected the quality of the coffee bean. Every analysis went through the internet of things and sent to the cloud to be stored in a database. This technology allowed for the information to be passed from Uganda to Denver, Colorado almost instantly. It also allowed for the transfer of funds for instant payments to the farmers who grew the coffee beans.

**Alternatives**

Coda Coffee has a very ambitious business model of being environmentally friendly and being socially responsible all while providing the best possible version of coffee beans for their products. This can be challenging to due while still gaining a profit. To solve this problem, they introduced the Farm2Cup certification program where they went out and personally taught farmers that they were sourcing from the best way to go about the practice. This program allowed them to help their sources become more environmentally friendly and sustainable while simultaneously improving the coffee beans that they were using. This program also highly encouraged them to spread their learnings to communities nearby and help create a better community for everyone.

Due to the fact that the farmers did not have much bargaining power when it came to payments, it would be easy to take advantage of the farmers and overcharge them or charge them differently than other farmers. The coffee supply chain can also get complex and not all of the sources had a clear understanding of it, once again making it easier to take advantage of. To clarify and make this issue more transparent, Bext360 offered its solution as a licensed software as service (SaaS). This allowed for data access and blockchain updates to happen along the supply chain. This way there was total transparency between bext360 and the consumers using it, ensuring that none of the farmers were being taken advantage of and that they were still committed to their mission of environmental safety and sustainability.

Another challenge that was faced was the cost it took to implement the technologies used to ensure the quality of the coffee beans. To help with the costs it took to implement the technology, Coda Coffee partnered with Bext360. The partnership with these two companies was a major solution for both companies, Coda Coffee was supplied with new technologies such as the blockchain, machine vision, and the internet of things. These new technologies helped them become more efficient in their practices, but more importantly, it played a major role in helping them develop better quality coffee beans. This was also a big move for Bext360 as it allowed them to enter their first supply chain, which eventually lead to them being able to move into more supply chains such as the cotton supply chain.

**Best Alternative**

The best alternative was Coda Coffee partnering with Bext360. This partnership helped both companies catapult themselves into the coffee bean supply chain. Without Bext360, Coda Coffee would never have been able to work with the efficiency it was, or without the transparency they wanted to ensure to the consumers and sources that were working with accordance to their commitments, such as being environmentally safe, sustainable, and all while offering fair prices to both the consumer and sources of the coffee beans. Bext360 was able to finally enter a supply chain where they could use their knowledge technology and implement it into a supply chain and pursue their goal of disrupting an international supply chain. This partnership eventually allowed them to pursue and enter other supply chains as well and implement the same technologies to those as well. This partnership proved vital to both companies and solved many problems for them both as well.

**Conclusion**

In order to create an environmentally safe and socially responsible coffee company, the Thwaites brothers created a certification program called Farm2Cup to help educate farmers on sustainable practices that would also improve the quality of their coffee beans. They also partnered with Daniel Jones of Bext360 to introduce new technologies such as the blockchain, machine vision, and the internet of things to help introduce a more efficient farming system while also creating a transparent supply chain that ensured fairness to all the sources, consumers, and companies involved. This partnership between Coda Coffee and Bext360 has the potential to revolutionize the way agricultural commodities are traded throughout the entire world.

**Works Cited**

Youngdahl, W. E., & Hunsaker, T. B. (n.d.). *Coda Coffee and Bext360 Supply Chain: Machine Vision, AI, IoT, and Blockchain*. Harvard Business Publishing.