The Role Of E-Commerce In Scaling Sorghum Entrepreneurship: A Case Study On Effective Sales Strategies In Indonesia

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ABSTRACT

Since 2009, the University of Wijaya Kusuma Surabaya (UWKS) has been at the forefront of promoting sorghum as a viable alternative to imported food staples. Recognizing sorghum's historical significance, especially in Java, and its adaptability to diverse growing conditions, UWKS has successfully established 30 Sorghum Entrepreneurship Units (SEUs). These SEUs serve as catalysts for the development and commercialization of sorghum, particularly given the crop's resilience in dry conditions. This article focuses on the critical aspect of building trust between sorghum entrepreneurs and SEUs, particularly in the context of online marketing. Utilizing a descriptive qualitative research methodology, the study aims to uncover strategies that sorghum business owners can employ to gain consumer trust for enhancing online sales. Data for this study were collected from multiple sources, including primary data from sorghum entrepreneurs, online store owners, and key informants, as well as secondary data from online consumers. This multi-faceted approach provides a comprehensive understanding of the trust dynamics in online sorghum marketing, thereby offering actionable insights for both entrepreneurs and SEUs. The study thus

serves as a valuable resource for stakeholders interested in leveraging online platforms to expand the market for sorghum and other alternative food sources.

Keywords: Trust Building Strategy, Improving Product Marketing, Marketplace, Sorghum, Sorghum Entrepreneurship Units.

1. Introduction

In the digital age, the information technology industry has witnessed unprecedented growth, reshaping various facets of contemporary business. This transformation is evident in the way consumers' shopping habits have evolved, with a significant shift towards online marketplaces. As the digital landscape expands, understanding the dynamics of online consumer behavior becomes crucial for businesses aiming to thrive in this competitive environment.

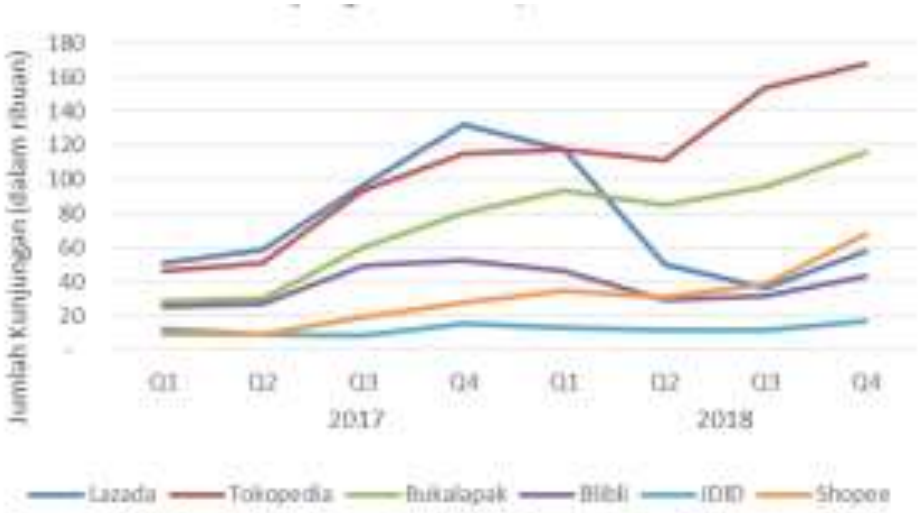

Figure 1. Number of Marketplace Visits in Indonesia
Source: Primary Data, 2019, from iPrice

Figure 1 offers a visual representation of the burgeoning number of visitors to Indonesian online marketplaces. This upward trajectory in visitor count is indicative of a broader global trend, where consumers are increasingly turning to online platforms for their shopping needs. However, this shift is not without its challenges. The intangible nature of online shopping platforms, where

consumers cannot physically inspect or touch products, often leads to apprehension and skepticism (Arruda Filho & Oliveira, 2023; Rathee & Rajain, 2019). Trust, therefore, emerges as a cornerstone in the realm of online transactions (Munikrishnan et al., 2023).

Trust in the digital marketplace is multifaceted. It's not just about ensuring that a product arrives on time or that it matches its online description (Munikrishnan et al., 2023). It delves deeper into the psyche of the online consumer, encompassing factors such as effective communication, prompt customer support, empathy, and swift responses. These elements collectively foster a sense of trust and cultivate long-lasting relationships between sellers and buyers (Kousheshi et al., 2020).

For businesses to truly harness the potential of online marketplaces, they must integrate various trust-building elements into their operations. Emphasizing competence, showcasing benevolence, and demonstrating integrity are pivotal in this endeavor. Such trust-building measures not only enhance purchasing intentions but also serve to mitigate perceived risks associated with online shopping, thereby fostering a sense of loyalty among consumers (Marriott & Williams, 2018; Nguyen, 2021).

Parallel to the rise of online marketplaces, there has been a surge in research and development in the food industry. One notable endeavor in this domain is the research conducted by UWKS on "Development of Sorghum as an Alternative Food." Initiated in 2009, their studies have illuminated the versatility of sorghum flour as a potential substitute for a variety of flours, including wheat and rice. Beyond its use as flour, sorghum can be harnessed to produce a wide array of products, ranging from food items like cakes, pastries, and beverages to health-promoting non-food items. Recognizing the potential of sorghum, the research team at UWKS has been proactive in devising sales strategies, providing sorghum business owners and SEU with the tools to effectively market their diverse products.

Against the current landscape, this study delves into the nuances of online consumer behavior and explores the viability of sorghum as an alternative food. It aim to understand the impact of trust elements like competence, benevolence, and integrity on online purchasing decisions. Additionally, in

this study the aims are examine the perceived risks of online shopping and strategies to enhance customer loyalty. Optimize the sales approach for sorghum business owners and SEU based on UWKS's research. Furthermore, we'll assess how sorghum's adaptability can be marketed to a broad audience and its potential role in the food industry.

Addressing these questions will not only provide a comprehensive understanding of online consumer behavior but will also offer actionable insights for businesses, especially those in the sorghum industry, to optimize their sales and marketing strategies in an increasingly digital world.

II. Literature Review

2.1 E-Commerce

The Internet was the major contributor to the emergence of e-commerce. The Internet has the potential to serve as a powerful medium for distribution, and some e-commerce sites are emerging to provide distribution centers with the tools they need to capitalize on market opportunities (McKnight et al., 2002). The creation of e-commerce facilitates communication between business partners, customers, and the internet system at a low cost, which is why many businesses and individuals are utilizing it (Slack et al., 2020).

Businesses have such a powerful voice online that they are able to persuade consumers to switch all of their digital transaction business to a particular marketplace or service provider if they are persuasive enough. There is no doubt that the market is a go-between for consumers and businesses, as the marketplace may connect millions of buyers and sellers in a single transaction (Hänninen & Smedlund, 2019). The marketplace has the potential to save store owners and business owners a significant amount of money on shipping costs, attract new customers, and facilitate two-way communication by saving shipping costs. The benefits of having a marketplace in place include being able to connect with customers much easier, completing transactions more quickly, and ensuring that customers receive their orders more conveniently (Jung et al., 2011). Until now, neither vendors nor shoppers have had a problem with the marketplace as a whole. There is a facilitation of transactions, as well as an expansion of the marketing spheres of both vendors and buyers.

2.2 Sorghum

The sorghum grain is a cereal that can be ground into flour by grinding it. Since it is a climate-resilient crop, it passes through metabolic pathways, is photosynthetically efficient, can withstand drought stress, and so forth, which makes it a climate-resilient crop. Adepehin et al. (2023) and Hryhorenko et al. (2023) argue that sorghum flour can be fortified and enriched to increase its nutritional content and its versatility. Additionally, it has a long shelf life, is easily stored and distributed, is a versatile cereal, and it tastes good. Sorghum is an ingredient in a wide variety of food products, including breakfast cereals, gluten-free items, and a variety of snack foods. As a result of its health benefits, especially its dense tannins, which can reduce digestion and absorption of nutrients, as well as its ability to be more useful in food products in order to ensure good product quality and consumer interest, are the primary factors driving the uptick in demand for sorghum. As a result of the production of sustainable sorghum, we are able to improve dietary diversity, enhance human health, and match the needs of consumers. In the future, people may be able to get their protein requirements from sorghum flour and bran, but for now, it is not the best option to get their protein requirements (Ali et al., 2023).

In the food processing industry, vegetable protein plays an important role in improving a food item's stability, texture, and nutritional quality (Espiricueta-Candelaria et al., 2022). A number of forms of protein are present in plants, such as rice, wheat, nuts, and seeds, such as albumin, globulin, prolamin, and glutelin (Senthilkumaran et al., 2022). For the purpose of enhancing the nutritional value of functional food qualities such as water and oil binding, emulsification, gelation, viscosity, and foam formation, the first criterion utilized is protein solubility because it is used as a basis for classifying foods (Kaur et al., 2023). A food item's protein content will determine how much of that protein's qualities are available to the consumer (Mezgebe et al., 2023). It is important to know how Sorghum grows and develops in order to be able to make effective management decisions and to comprehend the plant's response to environmental stresses (Ndossi et al., 2021). In the life cycle of a sorghum, the vegetative, reproductive, and grain filling stages take up about a third of the time. Plant development can be divided into three distinct stages: the

emergence of the plant, the third leaf collar, and the fifth leaf collar. When a terminal meristem differentiates into a panicle structure instead of a series of leaves, reproductive development occurs. During the process of reproductive maturation, there are two phases known as the "flag leaf" and the "boot" phases, respectively. During the period of full bloom, when the plant height and leaf area have reached their maximum and around half of the above-ground dry matter has accumulated, reproductive growth shifts from vegetative growth to seed filling (Fan et al., 2023).

2.3 Entrepreneur

In the first decade of the 21st century, the activities of companies across the globe were a reflection of the spirit of entrepreneurship. There is no doubt that the rise of modern ICTs and the increased integration of global economies has created new opportunities for smaller businesses to compete globally. There are some indications that this latter trend is aligned with the strategic orientation of emerging nations, who are increasingly looking to global finance and product markets to help them meet their long-term development goals (Damayanti & Sucipto, 2022). As a result of this, several policy shifts have been made as a result. For starters, it is well known that modern manufacturing and service industries, in particular, benefit from a more significant presence in foreign markets in order to become more competitive. In order for high-tech businesses located in developing nations to succeed, they have to establish connections with key global technology centers as well as be physically present in these centres. It has also been suggested that there has been a shift toward a more nuanced view of multinational corporations' impact on the host countries in which they are located, which has been widely criticized. Investments have both positive and negative consequences, and well-designed policies may help to balance these effects in a way that is beneficial to both parties. There is also the third approach, which is based on the idea that in order for emerging nations to increase their position in the global economy, they must create a tier of indigenous enterprises that will be able to compete globally.

Entrepreneurship is a competitive behavior that propels market processes and introduces novel economic activities, leading to transformative changes in the business

market (Falaras & Moschidis, 2021). Essential to this entrepreneurial spirit are a set of intrinsic attributes and traits. According to Zahra & Nambisan (2012), at the heart of entrepreneurship lies confidence, which often stems from a bold approach to decision-making, even amidst uncertainties. This confidence is complemented by an unwavering determination to persevere, even when faced with business failures. Entrepreneurs are not only risk-takers, seizing opportunities that come with these risks, but they also embody leadership, guiding not only themselves but also their teams towards a shared vision. Their originality is evident in their continuous innovation and active engagement with evolving social networks. This forward-looking perspective ensures they remain attuned to emerging challenges, environmental shifts, and market trends, harnessing them as avenues for creativity and business growth. Moreover, an entrepreneur's integrity is showcased through their honesty and diligence, ensuring that every task is approached with sincerity and dedication.

To further delve into the mindset of a successful entrepreneur, Bernardus et al. (2023) highlight several key perspectives that are instrumental in the establishment and growth of enterprises. Discipline stands paramount, especially in time management, as entrepreneurs recognize that time squandered equates to lost opportunities. This discipline is intertwined with an inherent honesty, ensuring that their business dealings are transparent and genuine. Their success is also underpinned by a relentless drive for creativity and innovation, always seeking to offer something unique in a competitive market. This requires agility in thought, enabling them to swiftly adapt and devise innovative solutions to the myriad challenges they encounter, ensuring their ventures not only survive but thrive in the competitive business landscape.

2.4 Sales Strategy

Whenever a business plans to expand, it should make it a priority to encourage and support entrepreneurialism and new ideas among its staff. In order to boost productivity and efficiency, the most innovative companies will create innovation teams or will enroll in corporate innovation programs in order to boost productivity and efficiency (Chatzi et al., 2022). It is likely that teams may benefit from this type of training in order to develop cutting-edge goods and services. An

effective sales strategy is one that differentiates product positioning and sales through a documented plan. Goals, sales procedures, team structure, competitive analysis, product marketing, and sales technique are all aspects of the sales process that must be communicated clearly and systematically to achieve success. It is common for sales tactics to fail when they place too much emphasis on internal processes. During the development of a sales strategy, the objective is to provide a unique buying experience and add value by ensuring that all message aspects are beneficial, sales strategy-focused, and expertly presented in order to add value to the customer. In devising a comprehensive sales plan, it's imperative to integrate ten pivotal components: Firstly, it's essential to craft a persuasive value proposition and instill an urgency for change. This should be complemented by constructing a captivating narrative and placing emphasis on the customer's purchasing journey rather than the conventional sales approach. It's also crucial to look beyond just buyer personas and be wary of the pitfalls associated with "commodity traps." As highlighted by Tim Riesterer, the Chief Strategy Officer, businesses should prioritize insightful guidance over basic discovery questions, ensure a seamless alignment between sales and marketing, adapt their strategies to foster customer growth, and champion the importance of continuous situational mentoring and coaching.

2.5 SWOT Analysis

A SWOT analysis is an acronym for Strengths, Weaknesses, Opportunities, and Threats, and is meant to help one determine whether to move forward with an idea after considering its strengths, weaknesses, opportunities, and threats. In order to make our efforts more effective, we need to be able to identify the areas where they will have the greatest impact. A marketing campaign that employs this strategy is most successful when it is launched at the beginning of it. There are both internal and external factors, such as strengths and weaknesses, opportunities and dangers, that are taken into account in the study, as well as internal and external factors.

An SWOT analysis is a method of analyzing a company's fortifications, vulnerabilities, prospects, and threats on the basis of four factors. As a result of its patented technology and strategic positioning in the market, it stands out from the

competition. Depending on the type of company, the weaknesses could range from antiquated machinery and high debt loads to a lack of leadership and a lack of focus on the future. Fortunately, there are opportunities that exist outside the borders of a state, such as the chance to showcase one's expertise. In addition to population shifts, the introduction of new technology, and the rise in competition, there are other dangers external to the economy.

A SWOT analysis from a practical perspective is a structured way of narrowing down potential problems to only those that are of the greatest concern. The types of business problems can be classified into internal, external, natural, perceptual, pragmatic, or objective. The main objective of this exercise is to avoid making judgments. Then, classify them using the SWOT analysis. Sort the items in each group by their actual significance. It should eliminate duplicates and other versions of the same problem until you are left with only the most essential items that need to be addressed.

Using a SWOT analysis as a framework allows organizations to examine circumstances and collaborate closely with their staff in order to determine the strategy and tactics that will be most effective for advancing and promoting the involvement of groups.

III. Research Methodology

3.1 Research Design

This study employs exploratory research, which is primarily designed to generate novel ideas or hypotheses for future investigations (Brinberg & Lydon-Staley, 2023). Contrarily, experimental research focuses on creating specific research settings and gathering pertinent data. Given the objective of this research, which is to delve into the communication dynamics between sorghum business proprietors and SEU, an observational and explorative approach is adopted. Exploratory research seeks to identify previously uncharted relationships or notions. The experimental methodology adopted here is geared towards achieving an encompassing understanding of the subject matter. Data pertaining to the company's history, total sales, range of sorghum products, and regions serviced by sorghum entrepreneurs and SEU were meticulously gathered by the research team.

The study integrates both quantitative and qualitative data to comprehensively analyze Sorghum. As delineated by Piaskoski et al. (2020), qualitative research encompasses the "examination of phenomena in their natural settings using linguistic explanations and diverse naturalistic methods." The research team utilized descriptive data about the Sorghum Entrepreneur, encompassing the enterprise's historical trajectory, organizational framework, and promotional endeavors. Conversely, quantitative data is conventionally represented in numerical terms (George et al., 2022). The research process involved enumerating customers, monitoring the sales volume of products and services, and computing a consolidated sales metric for analytical purposes.

3.2 Data Collection

The research methodology incorporates both primary and secondary data sources. Primary data is typically amassed through methodologies such as surveys, questionnaires, interviews, or direct observations, while secondary data is derived from pre-existing research or external sources (Ahmad Ruzaidi et al., 2023).

For the acquisition of primary data, the research team engaged in interviews and on-site observations, often facilitated through internships or practical engagements. The primary respondents were professionals operating within the sorghum entrepreneurship domain (Turner et al., 2022). Additionally, the outputs from Sorghum Entrepreneurs' endeavors were instrumental in shaping the research team's analytical framework (Ndossi et al., 2021). Secondary data, on the other hand, was sourced from up to 283 sorghum business proprietors operating on online platforms such as Tokopedia, Bukalapak, Lazada, and Shopee, as detailed in the Sorghum Entrepreneur Performance Report.

IV. Results and Discussion

4.1 Sales Data

During the first year of sale of the product, 5239 packs/100g and 2463 packs/200g were sold, but the second year, the demand grew, and the product was able to sell 6515 packs/100g and 3034 packs/200g. The sorghum market is divided into two distinct segments. In the first set, a wide

audience is targeted while in the second set, a more intimate audience is targeted. There is a strong sales force that serves the entire Indonesian market.

Based on figure 2, the last two years of Sorghum's sales data that retailers account for 70% of the company's revenue, while direct sales account for 30% of the company's revenue. A third of retail sales of sorghum are made up of 100g packaging, whereas a third of retail sales are made up of 200g packaging. There is a direct sale of sorghum in both the 100g and 200g sizes, each at 18% and 12%, respectively. A breakdown of the proportion of sorghum sales can be seen in Figure 2. The bulk of the revenue was generated by retail sales. Therefore, a retail setting (such as a gift store) would be a good option for marketing sorghum products.

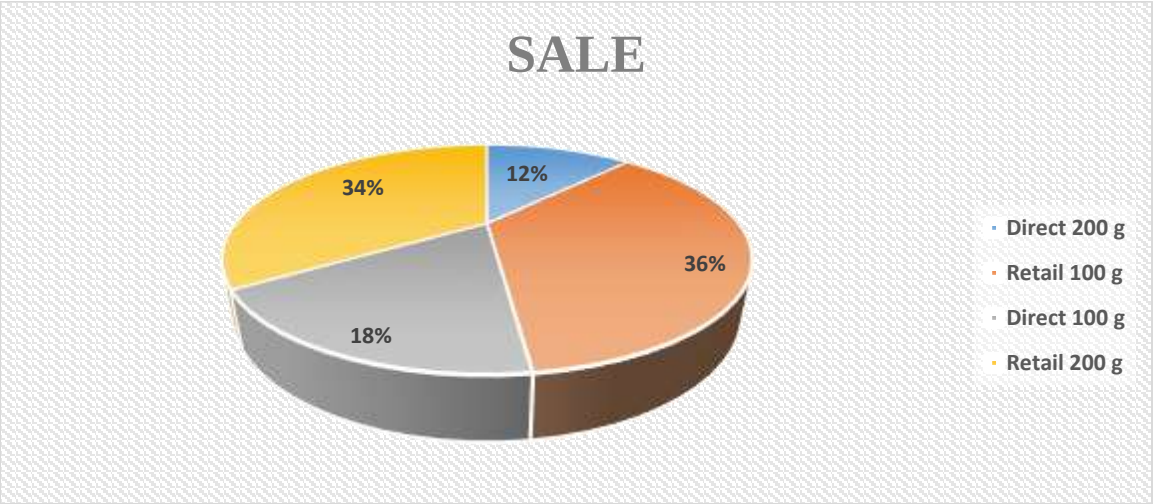

Figure 2: Sorghum Product Retail and Direct Sales

During the past two years, sales data for souvenirs made of sorghum have shown that retail sales account for 68% of revenues, while direct sales account for 26% of revenues. Souvenir sales of Sorghum include 47% of sorghum flowers, 41% of sales of Sorghum used as wedding favors, 8% of Sorghum used as bags, and 4% of Sorghum sold as wall displays. A potential market for sorghum goods is the sale of sorghum packed as flowers, which can be seen in Figure 3.

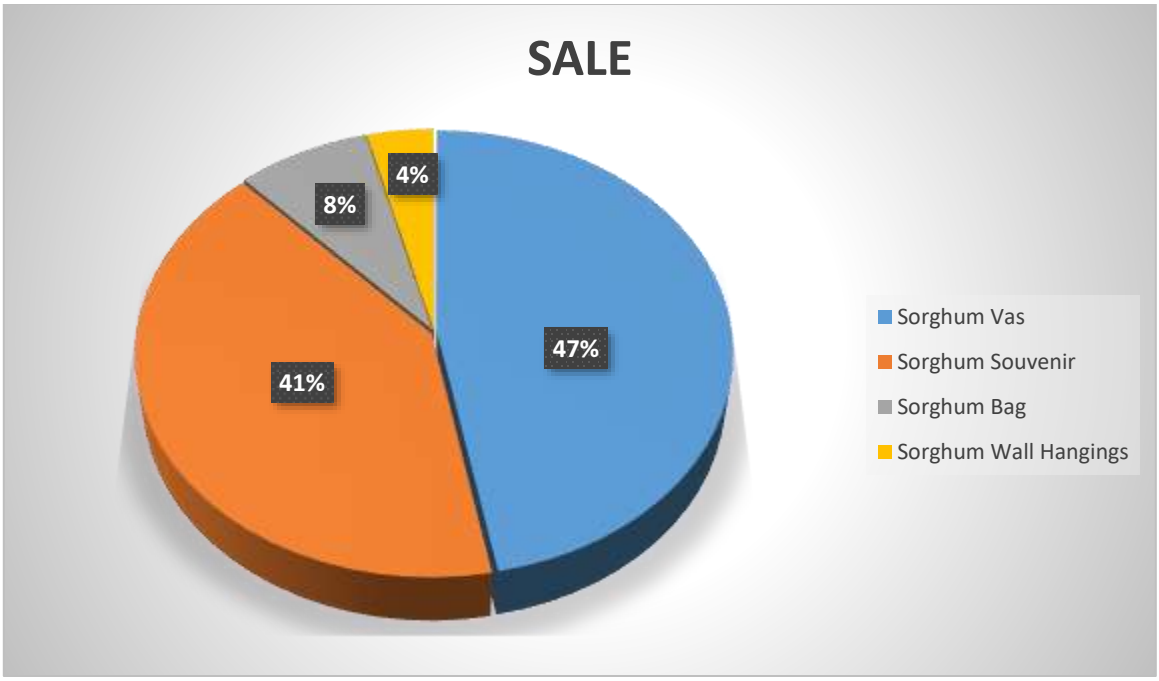

Figure 3. Flower vases, souvenir bags, and decorative wall hangings made from Sorghum

4.2 Modern Marketing Techniques

According to Oborin (2023), a sales system is "a process through procedures that includes the sequence of activities from receiving the order from the buyer to checking whether goods exist or do not exist, and continuing with the delivery of goods along with making invoices and recording the applicable sales."

Sorghum entrepreneurs currently employ a sales system that is similar to the one depicted in Figure 4. This system is used by two parties: sorghum entrepreneurs as well as customers who purchase sorghum products. Sorghum data, pricing, and product quantities may all be entered into the sales system, allowing business owners to pull a comprehensive report showing how their operations are performing on a daily basis. As well as being able to place orders for products, customers can also receive documentation of finished sales, as well as receive results from sales.

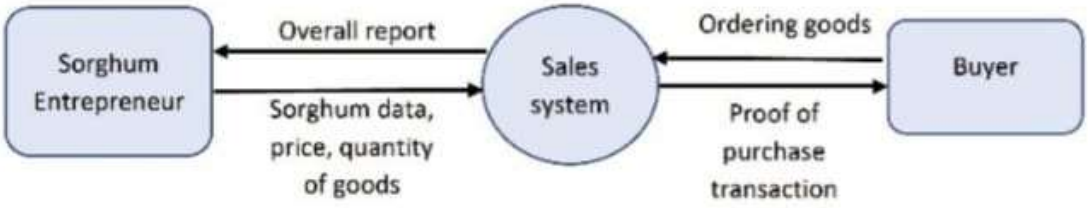

Figure 4. Current Sorghum Business Owners' Sales Methods

4.3 Enhancing the Sales Process

In order to generate actionable insights for management, a sales system needs to have a combination of organizational resources, processes, data, and ancillary tools to achieve its goal. In Figure 5, there are several enhancements to the Sorghum sales system that have been suggested for the benefit of sorghum business owners. There are four different types of people who can be found using the sales system: suppliers, sorghum business owners, customers, and workers. A request for additional inventory is made by the owners of sorghum companies through the sales system, and the request is forwarded to their suppliers. As a result, the suppliers raise production and notify the business owners of the corresponding changes in pricing as a result of the production increase. As soon as the workers have collected the information, they enter it into the system. After the item invoice has been generated, members of the staff enter information about orders, goods, and daily transactions after the item invoice has been generated. As soon as the supplier receives the details of the order, they are added to the invoice for the product. As soon as the branch order data has been entered, the invoice order data is then sent to the finance department for processing.

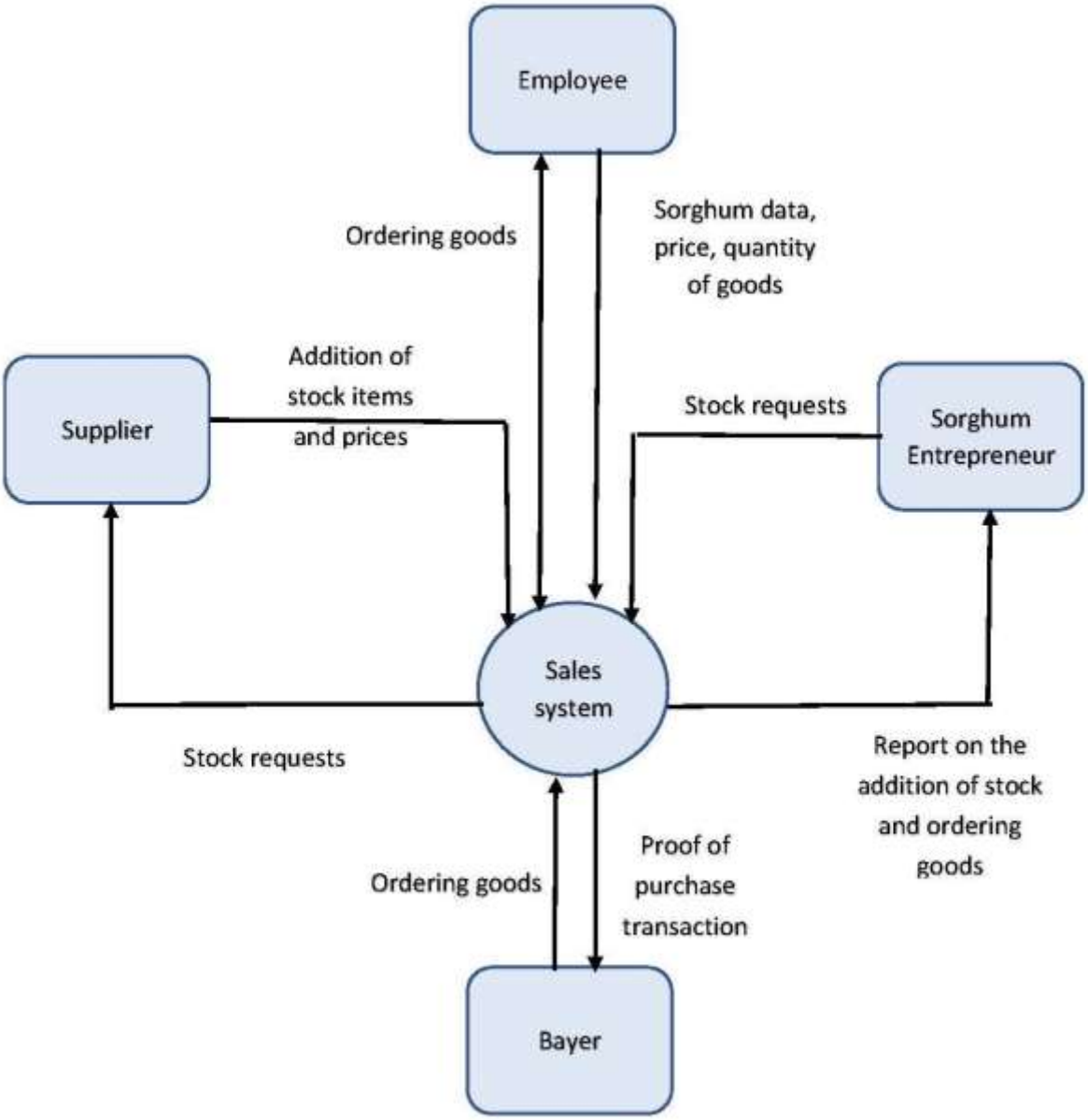

Figure 5. Enhancing Sorghum Business Owners' Sales Systems

4.4 Outcomes of a SWOT Analysis

According table 1, value generation is influenced by a number of factors, both internal and external. Taking advantage of this allows us to investigate some of the most pressing issues associated with the consumption of grains, as well as the potential for expanding its use. Among the key objectives of the report are to lay out a plan for developing the essential interventions in the sorghum value chain, from cultivar

improvement to market stimulation. Having consulted with food industry specialists, it is decided what the feed, the limits, the possibilities, the strengths, and the severe weaknesses are.

Table 1. SWOT Analysis Results of Sorghum Entrepreneurs

Strength	**Weakness**
a. Compared to higher-sugar grains (like whole-wheat bread), Sorghum is healthier for people with diabetes.; b. Mixed products; c. Potential for fortified foods and nutritional interventions; d. Experience and potential of baby food; e. Traditional food and drink.; f. Sweet Sorghum for snacks; g. Experience in feed milling; h. Drought tolerance	a. Increased familiarity with sorghum foods b. Insufficient knowledge of processing methods c. The complexity of processing and machine needs d. Short shelf life of wheat e. Issues with drying out during storage f. Bread's and other foods' nutrient content and physical characteristics g. biscuits and bread with less favored colors, tastes, and hues (in comparison to wheat bread) h. Grain shortages for several goods and types
Opportunities	**Threats**
a. Conducive to growing diverse grains b. Develop products for specific markets c. Utilization for relief food d. Disadvantages of wheat crops e. Increased demand for baby food f. Emerging demand for feed and animal feed is lower g. Shortage of feed ingredients h. Growing industry	a. Limited testing and uncertain market demand b. Risk of loss and profitability issues c. Lack of technical support in processing d. Supply shortages and inconsistencies e. The problem of the availability of other materials f. Consumer perceptions (culture) and preferences g. Inadequate knowledge of the value of food h. Lower demand for Sorghum i. The high price of Sorghum (central market)

Strength

Based on table 2, in addition to its physical qualities (i.e. appearance, flavor, color, and taste), sorghum seeds can also be used for industrial purposes by adding their nutritional content and physical properties. In order to enhance the quality of products, it is possible to use common grains and culinary innovations that enhance less desirable qualities. It is thought that the combination of sorghum and wheat, as in bread and snacks, has the potential to be a commercial success. The sweet sorghum type is ideal for snacking as well as baking goods. Sorghum seeds, on the other hand, are a healthier alternative to cereals such as whole wheat bread, which has a higher sugar

content. It is therefore recommended that you consume Sorghum, especially if you have diabetes. There is evidence that Sorghum can be helpful when it comes to the production of infant feed and food. A package of sorghum flour can be used to make porridge, bread, and traditional beverages, all of which can be made with the flour. It is well known that fortified food products can benefit significantly from the use of Sorghum as an alternative to corn (Nunta et al., 2023).

Weakness

In the agricultural processing industry, there is a lack of understanding about the versatility of Sorghum as it shows in table 2. A lack of technical expertise and experience is one of the challenges associated with sorghum value generation. There will be a need for expansion and further investment since different grain inputs will require different machinery and processes, which will require further investment. In general, wheat has a shorter shelf life than sorghum because it is more susceptible to being damaged by storage bugs. There may be a number of areas where sorghum products fall short of consumer expectations in terms of taste, flavor, and colour. The moisture and flavor of baked goods based on sorghum, such as bread, cakes, and enjera, will quickly be lost as they bake. A disadvantage of sorghum for the purpose of use in manufacturing is its low competitiveness with regards to the inherent qualities of grains, which have a strong positive correlation with the nutritional properties of grains (de Oliveira et al., 2022). The low-gluten composition of sorghum contributes to its intrinsic characteristics, including flavor, texture, and color, in a similar way to how gluten content enhances the quality of bread production. As the product development process and customer acceptance are also affected by factors such as the lack of varieties suitable for a particular use and the availability of grain that meets specific criteria, these factors must also be considered.

Opportunities

It shows in table 3 that produced in several nations, Sorghum's adaptability to a wide range of grain varieties means it may be used to satisfy the requirements of both industrial food manufacturers and individual customers. In order to meet the needs of niche customers, such as those with lower incomes,

people who regularly consume sorghum, as well as people with diabetes, there are opportunities to produce sorghum products. In order to ensure that new items will sell well in the intended and possible markets, they must first be tested in those markets. Sorghum can be used in a variety of ways to produce a variety of traditional meals and drinks, including Tella, Markie, and porridge. It is possible to simplify the preparation of meals by partially processing them, in order to accommodate busy modern schedules. Due to the fact that Sorghum is less expensive, it can be used in recipes instead of teff or wheat due to its lower cost. Currently, both wheat and teff are in short supply on the market at the moment. As a result of the circumstances, people are forced to come up with new solutions to solve their problems. Another product that can be transported is sorghum-soy-blended (SSB) products, which is another sorghum product that can be used to produce relief meals. In order to address this issue, sorghum is being discussed as a possible component of a nutritional intervention program. There is too much growth in the market at the moment. However, owing to the excellent preference for barley, it is possible to partially utilize it with more sorghum. There is a high demand for feed items, especially in areas where there is a high population density. Sorghum can be used in a variety of ways as a result of this.

Threat

It is predicted that the processing of agricultural production will be a significant obstacle in handling sorghum products in the future, due to customer preferences and opinions which can be interpret from table 3. There are many factors that play a role in this phenomenon, including culture, reputation, and consumer understanding of the nutritional value of Sorghum. Due to a lack of knowledge regarding research and product development, it is hard for most businesses to estimate the demand and profitability of such an investment. In order for customers to make informed decisions about how to use the product, it has not been adequately advertised to them. Because of the inconsistent and unreliable supply of Sorghum, it is difficult for agro-processors to utilize it in the production of feeds. Supply shortages can occur as a result of drought risks and market limitations.

According to experts in the field, brewed sorghum products have a very bright future ahead of them. There are some businesses involved in the agro-processing industry that are concerned that the increased cost of Sorghum might prevent it from being used in feed products, particularly those aimed at livestock. If the pricing conditions and availability of sorghum in non-production sector centres are progressively favorable, sorghum processing for feed purposes might be a better option compared to the production sector. In addition, due to a lack of knowledge about the activity, there is a lack of access to processing procedures and related resources.

Table 2 The outcomes of a sorghum entrepreneur's SWOT analysis

No	Internal Factors	Strength	Weakness
1	Product	Quality of selected raw materials	Less attractive packaging
			Sorghum's product innovation is still not attractive.
2	Production Process	The production process of making Sorghum is still manual	-
3	Sorghum marketing	The location of the sorghum outlet is quite strategic	Outlets are less attractive or still very simple
		Economical price	Some promotions have not been maximized.
4	Human resources for sorghum management	Workers/owners are already skilled	The number of workers is still limited
			Business management is still simple.
5	Raw materials	Entrepreneurs are easy to get raw materials for making Sorghum	-
6	Capital	-	Business capital is still small.

Table 3 Analysis of the Environment Facing Sorghum Business Owners

No	External factors	Opportunities	Threats
1	Product	Become a typical souvenir of the region	Competitor products are more innovative
		Government support	Competitor products are cheaper.
2	Marketing	Reach all market segments	Outlet rental costs increase

		Opening a new outlet	
3	TBSP	Creating jobs for the community	-
4	Raw Materials	-	The cost of raw materials increases
			Raw materials are challenging to find

Table 4 SWOT Strategy Filling

Internal Strength / Strength / External	STRENGTHS (S)	WEAKNESS (W)
	1. Quality of selected raw materials 2. Manual production process – machine 3. The location of the outlet is quite strategic 4. Economical price 5. Workers/owners are already skilled 6. Close to the source of raw materials	1. Less attractive packaging 2. Product innovation is still lacking 3. Outlets are less beautiful or still very simple 4. Less than optimal promotion 5. Workers are still limited 6. Business management is still simple 7. Business capital is still small
OPPORTUNITIES (O) 1. Being– by typical of the region 2. Government support / other services2599 3. Reach all customer segments 4. Opening a new outlet 5. Creating jobs for the community	SO STRATEGY 1. Create a product slogan by introducing the quality of regional resources 2. Starting a fast food production line in sorghum making 3. Opening outlets that have the potential to attract the interest of the intended segment	WO STRATEGY 1. Changing packaging design 2. Product innovation 3. Update the design of the outlet to be able to attract the attention of consumers. 4. Find a social media account partner. 5. Community training is an opportunity to seek government support or other services. 6. Make proposals or introduce them to capital owners or related institutions to provide business support.

THREATS (T)	ST STRATEGY	WT STRATEGY
1. Competitor products are more innovative 2. Competitor products are cheaper 3. Outlet rental fee 4. The cost of raw materials increases 5. Raw materials are hard to come	1. Make product innovations regularly using scheduling 2. Build relationships by conducting training 3. Profit sharing of business activities of the same age proposed by sorghum SMEs	1. Maintain consumer trust to keep trusting sorghum products as products worth buying. 2. Providing discounts, discounts can be given with explicit provisions to attract the attention of consumers. 3. Establish cooperation with transportation agents, hotels and tourist attractions in the immediate neighbourhood of sorghum sellers in promoting products.

According table 4, the lack of primary processing facilities has hurt Sorghum's ability to compete on the global market; when it is available, its quality is inconsistent and it may be available at a discount due to the lack of primary processing facilities. Agricultural, rural, and urban settings all play an integral role in the agro-value chain, which begins with the provision of inputs and continues with the handling, processing, distribution, and recycling of the product. After an initial mapping of the value chain based on the literature, the purpose of this study is to conduct a detailed scenario analysis of different segments within the value chain.

It has been concluded that sorghum's value chain is linked to the company's growth axis. As a result of laying the groundwork for collaboration, policymakers and other key players are more likely to explore targeted actions to raise incomes, cut poverty, expand employment opportunities, attract private and public investment, and inspire people to embark on new ventures. There is no doubt that the effectiveness of efforts to increase employment will be determined by the degree to which the sorghum processing, commercial sorghum farming, and the commercial sorghum food processing industries develop. In order for private/public investors to enter the supply chain, it must be ensured that government policies are favorable and that their restrictions and burdens are minimized. The value chain of sorghum is linked to the company's growth axis. Policymakers and other key stakeholders will be better able

to explore targeted measures to raise incomes, cut poverty, boost employment opportunities, attract private and public investment, and inspire an entrepreneur's spirit once the groundwork for collaboration has been laid.

V. Conclusion

Among the characteristics of smallholder sorghum production are the lack of value-adding potential, limited commercialization, and weak value chains that contribute to the production of the grain. There are some external factors that have an impact on the output, consumption, and marketing decisions of farmers. In the coming years, farmers will face a number of challenges, including the task of growing more sorghum to meet food demand, as well as bolstering their resilience against the adverse effects of climate change. In order to help smallholder farmers gain access to more lucrative markets, it's important to investigate the potential of Sorghum's agro-processing. As a result of the complex agri-food system caused by interconnected problems, sorghum commodity value chain development is a crucial intervention that requires synergistic efforts to be successful. As a result of insufficient experience, research, and testing, agro-processing enterprises are concerned primarily with the challenges of the market. As a result, investors tend to be wary of taking risks in order to maximize their returns. The business-as-usual pattern impacts the ability to understand customer perception, prototype, and innovate food in a substantial way. This is partly due to the fact that agricultural products are still being processed industrially, as well as the consumption patterns of these consumer goods are still in the process of evolving. Despite the tug-of-war effect of globalization, traditional ways of preparing food still reign supreme over any diet despite the shift in consumption that has occurred as a result of the tug-of-war effect of globalization. Further, businesses often prefer tried-and-true methods and established markets to innovate, which further hinders the industry's efforts to innovate.

5.1 Theoretical Implications

The findings of this study contribute to the existing body of knowledge in several ways. First, they offer a nuanced

understanding of the challenges and opportunities in smallholder sorghum production, thereby filling a gap in the literature that often overlooks this segment. Second, the study provides a framework for understanding the complexities of agrifood systems, particularly in the context of emerging markets and climate change. This could serve as a foundation for future research aimed at developing sustainable and resilient agrifood systems. Lastly, the study challenges the prevailing business-as-usual mindset in agro-processing, calling for a reevaluation of how innovation and customer perception are approached in this sector.

5.2 Practical Implications

From a practical standpoint, the study offers actionable insights for multiple stakeholders. For policymakers, the need for a synergistic approach in developing sorghum value chains is clear, which could inform future agricultural policies and programs. For investors and agro-processing enterprises, the study highlights the areas of risk and potential return, thereby providing a more informed basis for investment decisions. For the farmers themselves, the findings could serve as a guide for what to expect in terms of challenges and opportunities, helping them make more informed decisions about crop selection, marketing, and value-added processing. Finally, for non-governmental organizations and community leaders, the study provides a roadmap for where intervention could be most impactful, whether it's in providing training, facilitating market access, or advocating for policy change. By addressing both theoretical and practical implications, this study aims to serve as a comprehensive resource for academics, policymakers, and practitioners alike, in the quest to optimize the potential of sorghum as a sustainable food source.

5.3 Limitations

This study is not without its limitations. First, the focus on smallholder sorghum farmers may not provide a comprehensive view of the entire sorghum value chain, which includes larger commercial operations that could offer different insights. Second, the study relies heavily on observational, which, while valuable for generating

hypotheses and providing qualitative insights, may not allow for causal inferences. Additionally, the study is geographically limited, and the findings may not be generalizable to sorghum farmers in different regions or countries with varying socio-economic and climatic conditions.

5.4 Suggestions for Future Research

Given these limitations, several avenues for future research are suggested. Expanding the scope to include larger commercial sorghum farming operations could provide a more holistic view of the challenges and opportunities in the sorghum value chain. Employing a mixed-methods approach that combines qualitative and quantitative research could offer a more robust understanding and allow for the testing of hypotheses generated in this study. Furthermore, cross-regional or international studies could offer comparative insights that are invaluable for both policymakers and practitioners. Such research could also delve deeper into the impact of climate change on sorghum production, exploring adaptive and mitigative strategies that could be employed across different contexts. Where commercial sorghum farming, the commercial sorghum food processing sector, and the sorghum processing industry will decide the success of job creation and support current sales channels, sorghum entrepreneurship is a business development, with the appropriate strategy being key.For private/public investors to join the chain, government laws, support, and restraints must be pared down to the barest essentials so that small business owners can learn about the strategy's successes and offer feedback on enhancing the sales system. Entrepreneurial growth fosters creativity and self-assurance; this self-motivation may advance people's reliance on what they can achieve rather than waiting for government action, provided a conducive climate is established.

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