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RISK PREVENTION AND PRODUCTION OF SAFE (HALAL) FOOD THROUGH SUSTAINABLE DEVELOPMENT AS PART OF BUSINESS STRATEGY

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ABSTRACT

The food industry encompasses the activities of procurement, production, distribution, and sale of food, exerting a significant impact on the world's population. As a vital sector meeting fundamental human needs, it also carries substantial implications for the environment and society.

AS Holding Group, the largest food chain in Bosnia and Herzegovina, has embraced a business strategy that acknowledges the necessity of adapting its operations to the challenges posed by climate change and aligning with the global objectives of sustainable development by 2030. It spearheads the concept of sustainability through conscientious, steady, and balanced development, aiming to meet the present generation's needs while leaving a positive legacy for future generations.

The primary drivers of ESG (Environmental, Social, and Governance) performance in the food industry are manifested in consumer preferences, investor expectations, regulatory frameworks, implemented standards, innovations, and engagement with all stakeholders.

The objective of this research is to explore how standardizing social, environmental, food safety, and sustainability standards, along with their integration and transition, can influence the realization of company objectives while upholding ESG principles.

This paper will elucidate the implementation and integration of the new iteration of Halal BAS 1049:2023 with sustainability standards such as RSPO (Roundtable on Sustainable Palm Oil) and RA (Rainforest Alliance) within the confectionery industry's supply chain, highlighting the benefits for all involved stakeholders. Enterprises transitioning towards renewable energy sources, curbing CO2 emissions, instituting recycling and waste management practices, reducing organic waste, embracing advanced technologies for minimal processing, and adhering to the trends and requirements of global food safety initiatives (GFSI) enhance and fortify their ESG performance.

To showcase the application of ESG principles within AS Holding's subsidiaries, a questionnaire was administered, yielding results that underscore the correlation between adherence to ESG principles, commitment to tools, and adherence to standard requirements with business viability, competitiveness, market independence, transparency, and a sustainable future.

Keywords: food industry, integrated standards, halal BAS 1049:2023, ESG, product safety, sustainability.

INTRODUCTION

With the development of new products and a greater presence in the global market, AS Holding and its subsidiaries recognize the necessity of adapting business operations to the challenges posed by climate change and aligning with the global sustainable development goals by 2030, with a focus on the safety and security of finished products. Within the largest food chain, the companies engage in core activities such as:

- Production and packaging of roasted and ground coffee, instant coffee, tea, soups, spices, and sweet powdered products, snack products, repackaging of parboiled rice, production and packaging of ready-made risotto blends, production of instant suti mixture.
- Fruit and vegetable procurement and processing company;
- Processing and production of milk and dairy products;
- Extraction and bottling of natural spring and mineral water;
- Production and sale of milling and bakery products, animal feed products;
- Development, production, and sale of standard and special types of bread and pastry flour, frozen semi-finished dishes, biscuits, tea cakes, sweets, pasta, and tahan halva;
- Cocoa bean processing and production of cocoa products, Chocolate production, Cream spread production, Jelly-filled biscuit production, Chocolate-coated biscuit production, Petit biscuit production, Tea ring production, Soup cube production, Spice blend production, Cocoa instant drink production, Pectin jelly production;
- Salt extraction, salt production;
- Production and distribution of food products;
- Logistics.

The priority in our work is to establish a balance between market growth and sustainable development, which represents a fundamental factor in the development of society for current and future generations. Through implemented

and integrated management systems, companies have identified risks, adopted risk management matrices aimed at achieving safe and healthful products. In order to establish a balance and increase awareness of sustainable development within business operations, basic requirements of ESG standards are being introduced. Environmental standards relate to the company's impact on the environment through the consumption of natural resources and raw materials. Social standards pertain to the company's impact on society, which is reflected in promoting workers' rights, diversity and inclusivity in the workplace, ensuring good labor practices through procurement systems, and collaborating with local communities. Management standards refer to practices and procedures adopted and implemented within the company to ensure compliance with laws and integrated standards arising from the requirements of stakeholders.

The Halal standard, as one of the integrated standards within companies, is compatible with other international standards governing quality management systems (ISO) and is in accordance with the Halal standards of the Organization of Islamic Cooperation (OIC/ S). Companies within AS Holding will align their implemented standard with the new revision requirements of BAS 1049:2023 by the year 2024. Sustainable standards in the production of confectionery products include integration of RA (Rainforest Alliance) and RSPO (Roundtable on Sustainable Palm Oil). Environmental management is regulated by the implemented and integrated ISO 14001:2015 standard, while health and safety at work are addressed by implementing ISO 45001:2018. The social aspect is defined by an ethical code and adopted internal policies in line with legal regulations, BSCI standards, and implemented ISO 37301.

The RA (Rainforest Alliance) standard focuses on food production processes such as coffee, cocoa, tea, bananas, and many other foods facing ecological and social challenges. The primary

goal of this sustainable RA standard is forest conservation, climate change mitigation, protection of human rights, and ensuring livelihoods for rural communities in the agricultural supply chain.

Certification according to the RSPO standard represents an assessment process of the supply chain and all its key components, their policies, and operational procedures for compliance validation by an independent third-party body, related to the following:

- Compliance with local and international laws and regulations
- Demonstrating a long-term focus on financial and economic sustainability
- Utilizing best agricultural practices by growers and millers
- Environmental responsibility, including the preservation of natural resources and biodiversity
- Preserving the well-being of employees and communities affected by cultivation or processing

- Responsible management of new plantings
- Focus on continuous improvement

All implemented and integrated standards ensure fair and transparent management, disclosure of information, prevention of corruption, and enable diversity while creating equal opportunities, transparent decision-making processes, and IT security.

MATERIALS AND METHODS

The research encompassed subsidiaries of AS Holding from the Sarajevo Canton, Tuzla Canton, Una-Sana Canton, and Zenica-Doboj Canton areas, and it was conducted through a questionnaire that addressed the basic requirements of sustainable development goals until 2030. Figure 1 depicts the 17 goals with the year 2030.



1. Eradication of poverty
2. Eradication of hunger
3. Health and well-being
4. Quality education
5. Gender equality
6. Drinking water and hygienic conditions
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reducing inequality
11. Sustainable citizens and sustainable communities
12. Responsible consumption and production
13. Response to climate change
14. Life under water
15. Life on land
16. Peace and justice/strong institutions
17. Partnership for goals¹

Figure 1. 17 Sustainable Development Goals by 2030

¹ <https://ksapa.org/an-antidote-for-sdg-washing-5-key-progress-points-for-businesses-and-investors-to-uphold-the-2030-agenda/>

With the year 2024, members within the AS Holding group will create and implement a new edition of Halal documentation and operating systems in accordance with the new revision of BAS 1049:2023. Unlike the BAS 1049:2010 standard for Halal quality, the BAS 1049:2023 standard includes references to six new standards applicable in this standard: OIC SMIIC 1, CAC/RCP, CAC/RCP 58, CODEX STAN 1, BAS ISO 22002, BAS ISO 22005.

In BAS 1049:2023, the standard version has been supplemented with terms and definitions that are not found in the 2010 version. Those added in the 2023 version include: enzymes, genetically modified food, food, microorganisms, processing aids, food additives, prerequisite programs (PRPs), aquatic animals, amphibians, food safety.

Considering that AS Holding is a leading group in the food sector, market growth and development are primarily reflected through the quality of the finished products they offer. In order to meet the requirements of all stakeholders, the members practice the integration of implemented standards in the area of business quality.

In response to the requirements, some members have integrated sustainable development standards (RSPO and RA) with the requirements of HALAL standard BAS 1049:2023, thereby streamlining operations in terms of good

manufacturing practices and internal as well as external communications within AS Holding.

The implementation of fundamental principles within AS Holding has been assessed based on a survey completed by 10 members of the food sector. The survey questions were formulated from basic requirements in environmental, social, and managerial aspects, which form the basis of the ESG strategy as well.

RESULTS AND DISCUSSION

Reducing the negative environmental impact, which includes effective waste management and investment in renewable energy sources, is being implemented at the level of AS Holding, as evidenced by the results of the conducted survey.

Among the surveyed members of the food sector, four members, or 40%, are holders of ISO 14001:2015 certification, indicating a commitment to structured environmental management. Additionally, six members (60%) possess environmental permits and meet the basic requirements of legal regulations, demonstrating adherence to environmental standards within the legal framework.

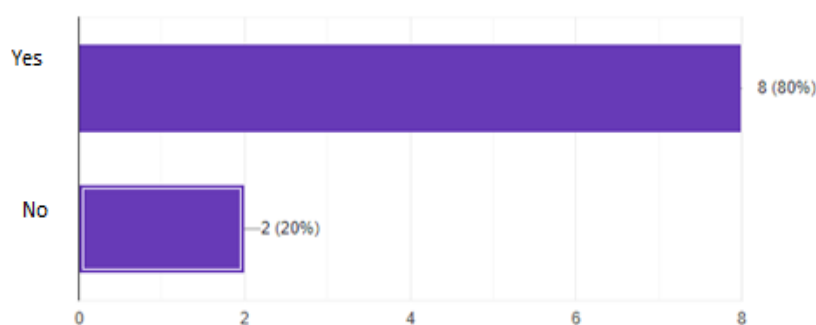


Diagram 1. Percentage of Responses to the Question: Has your company recognized the use of solar panels as a form of energy efficiency?

Based on the data shown in Diagram 1, we can conclude that AS Holding has a very satisfactory awareness regarding investment in renewable

energy sources. The use of solar panels is considered one of the cleanest and environmentally friendly methods of electricity

production in the future for companies within AS Holding.

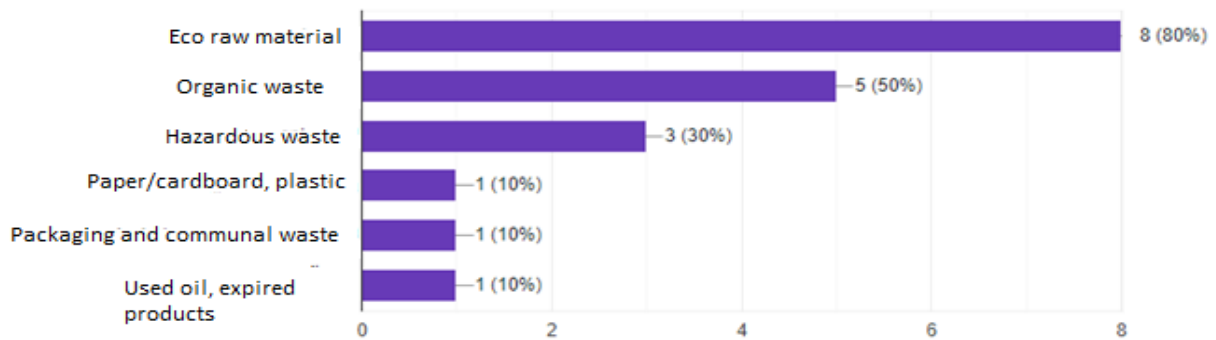


Diagram 2: Percentage Breakdown of Responses to the Question: How do you manage waste disposal?

Based on the data presented in Diagram 2, it is evident that the members effectively manage all types of waste generated during and after the production process.

Business strategy of AS Holding to reduce negative environmental impact is reflected through investments in renewable energy sources and promoting the use of sustainable resources. The most important aspect of this policy is that there is no waste at any stage of production, but rather waste is turned into profit.

Diagram 3 shows data on certified social standards within AS Holding. Two companies possess ISO 45001 certification, defining a system for occupational health and safety. By implementing ISO 45001 requirements, the possibility of work-related injuries is minimized, the health of employees is protected, and safe and healthy workplaces are ensured.



Diagram 3: Percentage Breakdown of Responses to the Question: Which social standards does your company possess?

To achieve social development, AS Holding promotes diversity and inclusivity in the work environment, ensures fair labor practices throughout its supply chains, and collaborates with local communities. The survey results indicate that 80% of the members have actively included workers with various forms of disabilities who are equally integrated into the work system.

Within the surveyed companies, 70% have adopted ethical codes aimed at promoting business ethics, good business practices, principles of awareness and integrity, as well as ensuring transparency. Diagram 4 illustrates the areas that the code additionally covers.

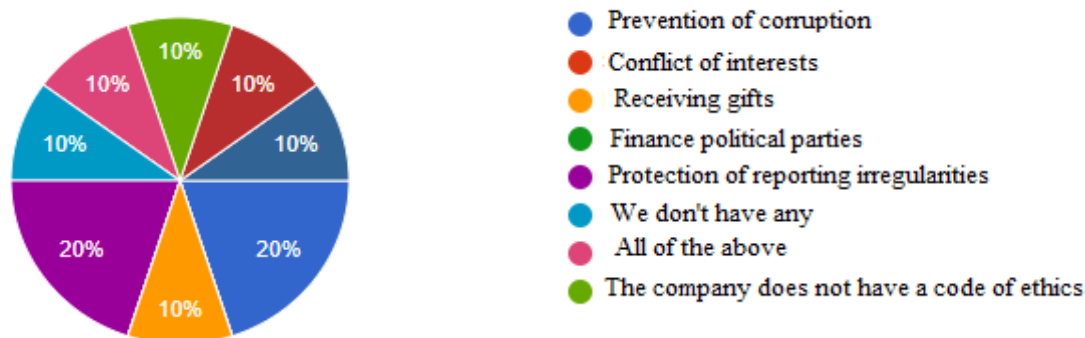


Diagram 4: Percentage Breakdown of Responses to the Question: If you have an ethical code, which areas does the ethical code cover?

Employee motivation, as an essential resource for company development, is reflected not only through internal and external education but also through incentives implemented by 60% of the surveyed companies. Among these companies, 70% have signed and aligned collective agreements with employee representatives, while 60% of companies have procedures and systems for monitoring and improving working conditions and the work environment.

To meet the requirements for monitoring potential violations of legal obligations in areas such as inequality and gender equality, as well as protecting client data, companies adhere to the provisions of the Labor Regulations and the Security and Personal Data Plan.

Security and health of customers are top priorities for AS Holding, consistently guided by the highest standards of product quality and safety for years. To more effectively achieve quality goals, ISO 9001:2015 standards have been implemented in 80% of the surveyed companies. This standard represents a cornerstone of quality management upon which other management systems have been subsequently integrated. These include ISO 14001:2015 for Environmental Management Systems, ISO 45001:2018 for Occupational Health and Safety Management Systems, RA and RSPO standards, as well as food safety and security standards as listed in Diagram 5.

As of 2024, out of a total of nine companies that hold Halal standards, four have completed the documentation and system revision according to

the new edition of BAS 1049:2023, while one company is currently undergoing revision. Taking into account the new edition, there have been no changes in the number of haram critical control points, and the same haram critical control point remains, which is the procurement process for the surveyed companies.

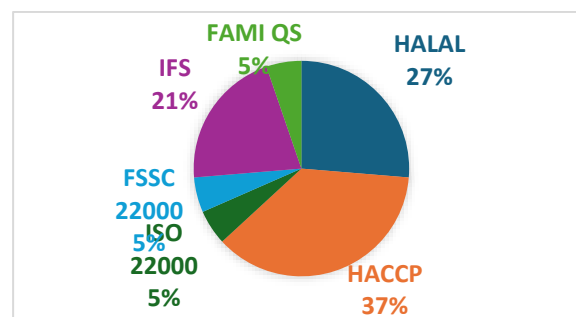


Diagram 5: Percentage Breakdown of Responses to the Question: Which food safety and quality standards does your company possess?

Since the requirements for halal and kosher diets share some common characteristics, such as restrictions on certain types of meat and the method of slaughtering, consuming kosher food that does not contain alcohol can be considered a practical solution when halal options are limited. Muslims may choose kosher food if halal options are not available due to travel, location, or other circumstances.

In companies that use animal-derived ingredients, collaboration with suppliers who adhere to Halal standards is mandatory. Two companies within

AS Holding meet the requirements of the RA and RSPO standards for grains and palm oil.

The Halal requirement also addresses the issue of genetically modified food, specifying that such ingredients or similar products cannot be used in the preparation of halal products. In line with this, one company within the group possesses NON GMO certification and responsibly markets GMO-FREE animal feed to meet market demands.

Companies that possess both Halal and RSPO/RA standards have efficiently integrated their systems to meet these requirements:

- 1. Procurement Departments' Responsibilities:** Member procurement departments are tasked with sourcing raw materials from suppliers who meet the requirements of all implemented and integrated systems. This means that cocoa beans and palm oil, as raw materials used in production, must adhere to both Halal and RSPO/RA standards.
- 2. Storage Requirements:** The requirement for storing RSPO/RA materials is that they must be separated from other materials by 1 to 2 meters, which is also a requirement for Halal materials to be separated and clearly marked from other non-permissible materials.
- 3. Traceability Requirement:** Accurate data regarding the purchased Halal and sustainably sourced materials must be known, including the exact quantity used in the production process (both in the finished product and by-products).
- 4. Production Line Segregation:** Production lines must be clearly marked to prevent cross-contamination with non-permissible or non-sustainable materials.

These measures ensure compliance with both Halal and sustainable sourcing standards throughout the production process, maintaining product integrity and meeting consumer expectations.

According to the conducted survey, market demands for sustainable products are increasing, with up to 50% visibility in these companies within AS Holding. This will result in an increased certification process within AS Holding and enhance product visibility in the

market. This trend indicates a growing consumer awareness of sustainability and environmental issues, and companies that manage to align their products with these demands will have a competitive advantage. AS Holding will likely need to invest more in certifications and marketing activities to highlight its sustainability advantage and attract more conscientious consumers.

CONCLUSION

Based on the conducted survey, monitoring documentation, and processes according to the new revision of the Halal standard BAS 1049:2023 and integration with RSPO and RA sustainable development standards, it can be concluded that the AS Holding group implements a business strategy that recognizes the necessity of adapting its operations to the challenges posed by climate change and aligning with global sustainable development goals by 2030.

Out of the total surveyed 10 members within the AS Holding group, nine possess the Halal standard, with five of them already having revised their documentation and aligned their production lines and processes with BAS 1049:2023. This demonstrates a proactive approach towards meeting industry standards and ensuring product quality and compliance with evolving regulatory requirements.

As a critical control point in the Halal standard and a fundamental requirement of implemented sustainable development standards, the procurement process is key. This means no raw material can enter the manufacturing company without having a "halal" status. By incorporating the requirements of RSPO and RA standards, the supply chain from suppliers to consumers is ensured to be aligned with both Halal and sustainability principles. This ensures that the sourcing of materials is ethical, environmentally responsible, and compliant with Halal standards, meeting the expectations of both Halal consumers and sustainable practices.

Based on the presented results of standardization in social, environmental, food safety, and sustainability standards, along with their integration and transition, it is evident that the

basic requirements of ESG (Environmental, Social, Governance) strategy are being met.

In many countries, Halal living is a lifestyle choice that extends into segments such as Halal baby food, indicating its potential as a growing sector in the coming years. Muslims currently spend around \$1.3 trillion on food and beverages, a figure predicted to reach \$1.9 trillion. The opportunities and challenges in the Halal food market are becoming highly promising segments for both products and services.

This highlights the importance of adhering to Halal standards and integrating sustainability practices, not just as ethical considerations but also as strategic business moves to tap into a significant and expanding market segment. AS Holding's focus on these standards positions it well to capitalize on these opportunities while meeting consumer demands and regulatory requirements.

AS Holding can serve as an example and driver of positive changes that will promote sustainable development not only in Bosnia and Herzegovina but also on a global scale. This mindset and approach have ensured AS Holding's competitiveness in both domestic and international markets, leading to excellent business results while respecting social and environmental responsibilities. By striving to minimize harmful impacts on the environment, AS Holding demonstrates its commitment to sustainability and responsible business practices, setting a benchmark for other companies to follow. This proactive approach not only benefits the company's bottom line but also contributes to a healthier and more sustainable future for communities and ecosystems.

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PREVENCIJA RIZIKA I PROIZVODNJA SIGURNE (HALAL) HRANE KROZ ODRŽIVI RAZVOJ KAO DIO POSLOVNE STRATEGIJE

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SAŽETAK

Prehrambena industrija obuhvata delatnost nabavke, proizvodnje, distribucije i prodaje hrane, koja ima značajan uticaj na svjetsko stanovništvo. Kao vitalni sektor koji zadovoljava osnovne ljudske potrebe, on takođe nosi značajne implikacije na životnu sredinu i društvo. AS Holding grupa, najveći prehrambeni lanac u Bosni i Hercegovini, prihvatila je poslovnu strategiju koja prepoznaje neophodnost prilagođavanja svog poslovanja izazovima koje postavljaju klimatske promjene i usklađivanja sa globalnim ciljevima održivog razvoja do 2030. godine. Ona predvodi koncept održivosti kroz savjestan, stabilan i uravnotežen razvoj, s ciljem zadovoljavanja potreba sadašnje generacije, ostavljajući pozitivno nasljeđe budućim generacijama. Primarni pokretači performansi ESG (Okoliš, društvo i vlada) u prehrambenoj industriji manifestuju se u preferencijama potrošača, očekivanjima investitora, regulatornim okvirima, implementiranim standardima, inovacijama i angažmanu sa svim zainteresovanim stranama.

Cilj ovog istraživanja je utvrditi kako standardizacija društvenih, ekoloških, standarda sigurnosti hrane i održivosti, zajedno sa njihovom integracijom i tranzicijom, može uticati na realizaciju ciljeva kompanije uz pridržavanje ESG principa. Ovaj rad će razjasniti implementaciju i integraciju nove iteracije Halal BAS 1049:2023 sa standardima održivosti kao što su RSPO (Okrugli sto o održivom palminom ulju) i RA (Rainforest Alliance) unutar lanca opskrbe konditorske industrije, naglašavajući prednosti za sve uključene. zainteresovane strane. Preduzeća koja prelaze na obnovljive izvore energije, smanjuju emisiju CO₂, uvode prakse recikliranja i upravljanja otpadom, smanjuju organski otpad, prihvaćaju napredne tehnologije za minimalnu preradu i pridržavaju se trendova i zahtjeva globalnih inicijativa za sigurnost hrane (GFSI) poboljšavaju i jačaju svoje ESG performanse.

Kako bi se prikazala primjena ESG principa u podružnicama AS Holdinga, administriran je upitnik koji je dao rezultate koji naglašavaju korelaciju između pridržavanja ESG principa, posvećenosti alatima i pridržavanja standardnih zahtjeva s poslovnom održivošću, konkurentnošću, tržišnom neovisnošću, transparentnošću i održiva budućnost.

Ključne riječi: Prehrambena industrija, integrirani standardi, Halal BAS 1049:2023, ESG, sigurnost proizvoda, održivost.
