AL-ADABIYAH: Jurnal Pendidikan Agama Islam
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Entrepreneurship Education through Pesantren-Based Business Units: A Case Study of Female Vocational High School Students at Al-Faruqi Islamic Boarding School

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Abstract

This study examined how entrepreneurship education was implemented through pesantren-based business units for female vocational high school students at Al-Faruqi Islamic Boarding School and explored the educational role attributed to these units by a key institutional stakeholder. An exploratory qualitative single-case study was conducted using a semi-structured interview with the coordinator of both the vocational school and pesantren business units. The transcript was examined through reflexive thematic analysis focusing on program planning, implementation, evaluation, and perceived student outcomes. The business units served dual institutional and educational functions by supporting pesantren operations while connecting the Fashion and Culinary Arts programs with production, business management, public marketing, and collaboration among students, teachers, and alumni. Program evaluation primarily involved resolving scheduling conflicts between entrepreneurial, academic, vocational, and religious activities. The informant associated student participation with vocational skill application, budgeting ability, opportunity recognition, independence, entrepreneurial aspirations, and selected alumni businesses. These outcomes represent stakeholder perceptions rather than independently verified effects. The study conceptualizes the pesantren-based business unit as a potential entrepreneurial learning ecosystem in which vocational learning, institutional enterprise, religious formation, and female students' participation intersect. It also demonstrates that concrete business participation alone does not establish a complete experiential learning process without structured reflection, feedback, conceptualization, and assessment. The study extends entrepreneurship education research into a female vocational pesantren context and provides a framework for strengthening program design through explicit learning outcomes, progressive responsibilities, reflective activities, gender-responsive mentoring, competency-based assessment, systematic evaluation, multisource evidence, and longitudinal tracking.

Keywords: entrepreneurship education; entrepreneurial learning ecosystem; female vocational students; pesantren-based business units; experiential learning

Introduction

Entrepreneurship education has become an important component of contemporary education because of its potential to prepare young people to respond proactively to economic, technological, and labor-market changes. In addition to academic and occupational competencies, graduates increasingly require creativity, initiative, adaptability, opportunity-recognition skills, and the ability to generate economic and social value. Entrepreneurship education can support the development of these capacities by enabling students to understand entrepreneurial processes and engage with the uncertainties associated with identifying opportunities, mobilizing resources, solving problems, and creating new products or services. Nevertheless, its educational outcomes depend substantially on program design, pedagogical orientation, institutional context, and the extent to which students participate actively in the learning process. Systematic reviews have found that entrepreneurship education may improve entrepreneurial knowledge, attitudes, intentions, self-efficacy, and competencies, although the magnitude and persistence of these outcomes vary across programs and learner populations (Nabi et al., 2017; Martínez-Gregorio et al., 2021; Carpenter & Wilson, 2022).

Accordingly, entrepreneurship education should not be understood merely as the transmission of knowledge about establishing and managing a business. It can also be conceptualized as an educational process through which learners develop an entrepreneurial mindset and related personal capacities, including independence, creativity, innovation, responsibility, discipline, perseverance, leadership, calculated risk-taking, and decision-making. These attributes are relevant not only to business creation but also to students' employability, personal agency, and capacity to respond productively to changing social and occupational conditions. However, classroom-based instruction alone may not be sufficient to develop such capacities. Experiential and practice-oriented pedagogies allow students to learn by undertaking authentic tasks, encountering real constraints, reflecting on their experiences, and applying the knowledge gained to subsequent situations. Recent evidence indicates that experiential entrepreneurship education can facilitate the development of entrepreneurial skills and competencies, although its effectiveness depends on the quality of facilitation, reflection, assessment, and institutional support (Motta & Galina, 2023).

This experiential orientation is particularly relevant to vocational education, which is expected to connect occupational knowledge with workplace practices and changing market demands. Vocational high school students require more than technical proficiency; they also need the capacity to recognize opportunities, communicate with customers, calculate costs, maintain product quality, collaborate with others, and adapt their skills to income-generating activities. Research on vocational education and training emphasizes the value of demand-driven and context-sensitive learning that provides meaningful exposure to authentic occupational environments (Nayak et al., 2024). Within this framework, school-based production facilities and

business units may function as learning environments in which students connect their vocational competencies with actual production, service delivery, marketing, and business management. Such environments may therefore bridge the persistent divide between entrepreneurship as a classroom subject and entrepreneurship as a situated practice.

In Indonesia, Islamic boarding schools, commonly referred to as *pesantren*, provide a distinctive institutional context for this form of education. Pesantren traditionally integrate religious learning, moral formation, communal living, discipline, and close interaction between students and educators. Many contemporary pesantren have also established entrepreneurship programs and institutional business units to strengthen students' life skills, support institutional economic sustainability, and connect vocational learning with Islamic values. Unlike conventional vocational schools, pesantren provide a residential educational environment in which formal instruction, religious formation, everyday routines, peer interaction, and practical work may operate simultaneously. Entrepreneurship education in this setting can therefore involve not only the acquisition of business knowledge and technical skills but also the negotiation of ethical responsibility, self-reliance, cooperation, service, and accountability within a religious community.

Previous studies have demonstrated the growing importance of entrepreneurship education in pesantren. Fatchurrohman and Ruwandi (2018) reported that entrepreneurship education in pesantren is implemented through curricular, extracurricular, noncurricular, and institutional flagship programs intended to equip students with life skills and improve their readiness for employment. Lucksha and Baharuddin (2025) found that the integration of Islamic values into entrepreneurship education supported the development of independence and responsibility among *santri*. Similarly, Ibrahim et al. (2026) showed that religiously grounded entrepreneurship education contributed to students' independence through the integration of instruction and entrepreneurial practice. Apriyana et al. (2026), however, found that although pesantren education contributed to students' entrepreneurial character, the entrepreneurship curriculum itself did not exert a statistically significant influence on that character. Considered together, these findings suggest that entrepreneurial development in pesantren may be shaped not by the formal curriculum alone but by the broader interaction among educational practices, institutional culture, role models, practical activities, and opportunities for participation in real business operations.

Despite these contributions, the existing literature presents several limitations. First, previous studies have generally concentrated on broad models of pesantren entrepreneurship education, selected character outcomes such as independence and responsibility, or statistical relationships between entrepreneurship curricula and entrepreneurial character. Less attention has been given to the organizational and pedagogical processes through which pesantren-based business units become learning environments for vocational

students. Consequently, limited evidence is available regarding how these units are planned, how students participate in their daily operations, what forms of learning occur through production and marketing activities, and how program implementation is coordinated with formal schooling and residential religious education. Second, the experiential mechanisms underlying these programs remain insufficiently explained. Participation in a business activity does not automatically constitute meaningful experiential learning; its educational value also depends on opportunities for guided reflection, conceptual understanding, feedback, progressive responsibility, and the application of learning to new situations (Motta & Galina, 2023).

A further gap concerns the experiences of female vocational students. Entrepreneurship is not a gender-neutral social field, because access to entrepreneurial resources, role models, networks, confidence, and socially recognized entrepreneurial identities may differ between women and men. Research indicates that female students may experience a wider entrepreneurial identity gap when dominant representations of successful entrepreneurs remain implicitly masculine (Jones et al., 2021). Research on women's entrepreneurship in emerging and developing economies similarly demonstrates that entrepreneurial behavior is shaped by interactions among individual agency, family expectations, sociocultural norms, institutional conditions, and access to resources (Panda, 2018; Cardella et al., 2020). These issues make the study of female students important in its own right rather than treating gender merely as a demographic characteristic. In the pesantren context, entrepreneurship education may provide female students with spaces to develop vocational confidence and economic agency, but their participation may also be shaped by religious norms, institutional routines, gendered expectations, and the types of business activities made available to them. These context-specific dynamics remain underexplored.

Al-Faruqi Islamic Boarding School represents a relevant case for examining these issues because it combines formal vocational education with pesantren-based entrepreneurship programs for female students. The school operates business units related to its Fashion and Culinary Arts vocational programs, including garment production, a boutique, food-service facilities, and product outlets. These units are intended to provide opportunities for students to participate in production, business operations, and product marketing while remaining within the institutional and educational environment of the pesantren. Nevertheless, little is known about how these business units are incorporated into the educational process, how participation is organized, how entrepreneurial activities are coordinated with academic and religious schedules, and what educational significance institutional stakeholders attribute to students' involvement. A detailed examination of this case can therefore contribute to understanding pesantren-based business units as contextually embedded learning environments rather than merely as income-generating institutional enterprises.

Against this background, the present study examines the implementation of entrepreneurship education through pesantren-based

business units for female vocational high school students at Al-Faruqi Islamic Boarding School. It addresses two research questions: (1) How is entrepreneurship education planned, implemented, and evaluated through the business units of Al-Faruqi Islamic Boarding School? and (2) How does the key program stakeholder perceive the educational role of these business units in supporting female vocational students' entrepreneurial learning and character development? Correspondingly, the study aims to describe the organizational and pedagogical implementation of the program and to explore the educational meanings attributed to students' participation in authentic business activities. By focusing on a female vocational education setting within a residential Islamic institution, this study extends the literature on entrepreneurship education beyond conventional classroom and general vocational-school contexts. It also offers a context-sensitive account of how vocational learning, institutional enterprise, religious education, and the perceived development of entrepreneurial capacities intersect within a pesantren environment.

Method

Research Design

This study employed a qualitative approach with an exploratory single-case study design. A case study design is appropriate for examining a contemporary phenomenon within its real-life institutional setting, particularly when the phenomenon cannot be separated clearly from the context in which it occurs (Crowe et al., 2011). In this study, the bounded case was the entrepreneurship education program implemented through the business units of Al-Faruqi Islamic Boarding School at the vocational high school level. The program constituted the primary unit of analysis, while program planning, implementation, evaluation, and its perceived educational role constituted the main areas of inquiry.

The design was selected to develop a context-sensitive understanding of how entrepreneurship education was organized within an educational institution integrating vocational education, residential pesantren education, religious formation, and institutional business activities. Because the empirical data were obtained from one key institutional informant, the study was positioned as an exploratory account of program implementation from a managerial stakeholder's perspective. It was not designed to measure changes in students' entrepreneurial character or to establish a causal relationship between participation in the program and student outcomes. Statements about students' entrepreneurial learning and character development were consequently interpreted as the key informant's perceptions rather than as independently verified changes among the students.

Research Setting and Case Boundaries

The study was conducted at Al-Faruqi Islamic Boarding School in Indonesia. The institution combines formal vocational high school education

with a residential Islamic boarding school system and implements entrepreneurship education through several pesantren-based business units. At the vocational high school level, the entrepreneurship program is primarily connected to the Fashion and Culinary Arts programs. The business units associated with these vocational areas include garment production and a boutique for the Fashion program, as well as a restaurant, cafeteria, bakery activities, and product outlets for the Culinary Arts program. Students are provided with opportunities to participate in production, business operations, and product-marketing activities.

The case was institutionally bounded to Al-Faruqi Islamic Boarding School and programmatically bounded to entrepreneurship education implemented through its vocationally related business units. The analysis focused on how the program was planned, how students' involvement in the business units was organized, how products were marketed, what operational challenges were encountered, and how program evaluation and institutional support were perceived by the program coordinator. Other educational, religious, and extracurricular activities were considered only when they directly affected the implementation of the entrepreneurship program, particularly when scheduling conflicts occurred between business-unit activities and other pesantren responsibilities.

Participant and Sampling

The participant was one key informant, identified by the pseudonym HYP to reduce the disclosure of personal identity. At the time of the study, the informant held two relevant managerial responsibilities: coordinator of the vocational high school and coordinator of the pesantren business units. The informant was selected through criterion-based purposive sampling because of her direct knowledge of and involvement in the planning, implementation, coordination, and evaluation of the entrepreneurship program.

The informant's dual managerial role provided access to detailed institutional information about the objectives, structure, business units, student participation, program constraints, and perceived outcomes of entrepreneurship education. However, the use of one key informant also limited the range of perspectives represented in the study. The resulting data did not provide direct access to the experiences of female students, teachers, alumni, parents, customers, or other business-unit personnel. Accordingly, the findings were treated as a managerial stakeholder's account of the program rather than as a comprehensive representation of the experiences of all stakeholders.

In qualitative interview research, sample adequacy is determined not only by the number of participants but also by the specificity of the sample, the focus of the study, the participant's knowledge, the quality of the dialogue, the theoretical foundation, and the analytical strategy (Malterud et al., 2016). The narrowly bounded institutional focus and the informant's specific managerial responsibilities provided relevant information for an exploratory description of the case. Nevertheless, the study did not claim data saturation,

population representation, or broad transferability on the basis of a single interview.

Data Collection

Data were collected through an individual semi-structured interview with the key informant. The interview was conducted in Indonesian and focused on the implementation of entrepreneurship education through the pesantren's business units. A semi-structured format was employed to provide consistency with the research questions while allowing the informant to elaborate on institutional practices, experiences, challenges, and perceived program outcomes.

The interview guide was developed from the objectives and conceptual focus of the study. It covered four areas: (1) the objectives, planning, and institutional organization of entrepreneurship education; (2) the implementation of the program through students' participation in production, business management, product promotion, and marketing; (3) program evaluation, scheduling constraints, institutional coordination, and organizational support; and (4) the informant's perceptions of the role of business-unit participation in supporting female students' entrepreneurial learning, independence, initiative, opportunity recognition, business-planning ability, and future entrepreneurial aspirations. Probing questions were used to clarify program activities, obtain examples, distinguish current students' experiences from alumni outcomes, and identify challenges affecting program implementation.

The interview data were converted into a written transcript and reviewed as the primary dataset. Because the study relied on a single interview source, it did not claim methodological or source triangulation. The reporting of the research was instead guided by relevant components of the Consolidated Criteria for Reporting Qualitative Research, including explicit reporting of the research design, participant selection, institutional context, data-collection method, analytical procedure, and study limitations (Tong et al., 2007).

Data Analysis

The interview transcript was analyzed using reflexive thematic analysis following Braun and Clarke (2006, 2021). This analytical method was selected because it provides a theoretically flexible procedure for identifying and interpreting meaningful patterns in qualitative data. Given the size and nature of the dataset, the analysis was case-centered and primarily semantic, focusing on meanings explicitly communicated by the informant. The analysis combined deductive attention to the research questions—planning, implementation, evaluation, and perceived educational role—with inductive attention to issues arising from the informant's account, including institutional business development, collaboration with teachers and alumni, product marketing, scheduling conflicts, organizational support, and perceived student outcomes.

The analysis proceeded through six recursive phases. First, the researchers read the transcript repeatedly to become familiar with the complete account and recorded preliminary analytical observations. Second, meaningful data segments were assigned initial codes reflecting activities, processes, constraints, stakeholder roles, and perceived educational outcomes. Third, related codes were grouped into candidate themes. Codes concerning the development and institutional purposes of the business units were organized under program planning; codes concerning production, business management, marketing, and stakeholder participation were organized under program implementation; codes concerning scheduling constraints, coordination, and institutional support were organized under program evaluation; and codes concerning independence, opportunity recognition, business planning, and entrepreneurial aspirations were organized under the perceived educational role of the program.

Fourth, the candidate themes were reviewed against both the coded extracts and the complete transcript to evaluate their coherence and correspondence with the data. Fifth, each theme was defined and named in relation to the research questions. Sixth, the analytical narrative was developed by integrating the researchers' interpretations with selected interview excerpts. The analysis was recursive rather than strictly linear, as the researchers moved repeatedly between the complete transcript, codes, candidate themes, and research questions.

Themes were treated as interpretive products generated through the researchers' engagement with the data rather than as objective entities that emerged independently from the transcript (Braun & Clarke, 2021). Consequently, the analysis distinguished among the informant's factual descriptions of program activities, evaluative judgments about program implementation, and perceptions of students' entrepreneurial development. Claims concerning student character or competence were coded as perceived outcomes unless they were supported by specific behavioral examples supplied by the informant. Even when such examples were provided, they were not treated as independently verified evidence.

Trustworthiness and Reflexivity

Several measures were applied to strengthen the credibility and transparency of the analysis. First, the interpretation was checked against the complete interview transcript to ensure that the analytical statements remained consistent with the informant's account. Second, the researchers maintained a documented relationship among relevant interview excerpts, initial codes, themes, and interpretive claims. Third, representative excerpts were included in the findings so that readers could assess the correspondence between the empirical material and the researchers' interpretations. Fourth, the researchers actively differentiated descriptions of observable program activities from subjective assessments of program success and students' character development.

Reflexivity was particularly important because the key informant held managerial responsibility for the program and therefore had an institutional interest in its continuation and perceived success. The researchers considered the possibility of social-desirability bias, institutional self-presentation, selective recall, and overemphasis on successful students or alumni. Positive statements about students' independence, entrepreneurial motivation, business-planning ability, and postgraduation business activities were therefore interpreted as the informant's perceptions and examples rather than as evidence of program effectiveness across the student population.

The researchers also considered the limitations arising from the absence of direct interviews with female students and alumni, classroom or business-unit observations, and systematic documentary analysis. Interpretations were kept within the evidentiary boundaries of the dataset, and deviant or constraining information—such as scheduling conflicts and the need for stronger institutional support—was retained in the analysis rather than excluded from the final thematic account. These procedures were intended to produce a credible and transparent interpretation without overstating the explanatory power of a single-informant dataset.

Ethical Considerations

The study involved one adult key informant and did not collect data directly from vocational high school students. The informant's name was replaced with the pseudonym HYP in the transcript and research report, and personal information not required for the analysis was excluded. Participation was treated as voluntary, and the interview data were used only for the stated research purpose. The study also avoided attributing specific behaviors, attitudes, or character traits to identifiable students.

The available methodological record did not contain a formal research-ethics approval number or sufficient information about the approving committee. Therefore, no ethics approval number is reported in this manuscript. Before submission, the authors should ensure that the description of informed consent, institutional permission, data protection, and ethical review accurately reflects the procedures that were actually followed. An approval or exemption statement should only be added if it can be supported by an official institutional record.

Results and Discussion

Results

The findings are organized into four themes corresponding to the principal aspects of the entrepreneurship education program: (1) the dual institutional and educational purposes of the business units; (2) practice-based learning through production, business operations, and marketing; (3) operational evaluation through schedule coordination and institutional support; and (4) the perceived role of the program in students' entrepreneurial learning and future orientation. Because the data were obtained from one key

informant, descriptions of program structures and activities are distinguished from the informant's assessments of student development. The interview excerpts below were translated from Indonesian into English without altering their substantive meaning.

Business Units as Institutional Enterprises and Learning Environments

The informant described the pesantren's business units as serving two interconnected purposes. First, they were established to support the institution's operations. Second, they were intended to provide a space in which female students and alumni could participate in entrepreneurial activities. According to the informant, Al-Faruqi Islamic Boarding School operated approximately ten business units: "Al-Faruqi Islamic Boarding School has approximately ten different business units. These business units are intended to facilitate and support the operations of Al-Faruqi Islamic Boarding School. Through these business units, we can collaborate with female students and alumni to expand the reach of our enterprises." (HYP)

This account indicates that the business units were not conceived exclusively as instructional facilities. They were also part of the pesantren's institutional and economic development strategy. The involvement of students and alumni connected the educational, community, and commercial functions of the units. Nevertheless, the interview did not provide detailed information about the planning documents, financial structure, governance arrangements, learning targets, or division of responsibilities within all ten units. The available evidence therefore supports the conclusion that the units had both institutional and educational purposes, but it does not establish how consistently these purposes were translated into formal learning plans.

At the vocational high school level, the entrepreneurship program was concentrated in the Fashion and Culinary Arts programs. The informant identified garment production and a boutique as the principal business facilities associated with Fashion, while the Culinary Arts program was connected to a restaurant, cafeteria, and product outlets: "We implement several entrepreneurship programs here, particularly at the vocational high school. The programs are provided for the Fashion and Culinary Arts departments. The Fashion department has a garment-production unit and a boutique, while the Culinary Arts department has a restaurant, a cafeteria, and product outlets." (HYP)

The alignment between the students' vocational specializations and the types of business units suggests that the program was intended to connect subject-specific competencies with commercial activities. Fashion students could apply garment-production skills in the garment unit and boutique, while Culinary Arts students could apply food-production and service skills in the restaurant, cafeteria, and outlets. From the informant's managerial perspective, this arrangement positioned entrepreneurship education beyond the conventional classroom by linking vocational learning to the operation of actual institutional enterprises.

Practice-Based Learning through Production, Business Operations, and Marketing

The implementation of entrepreneurship education involved the participation of female students, teachers, and alumni in the pesantren's business activities. The informant described these groups as the human resources responsible for developing the enterprises: "The personnel or human resources involved in developing these two programs come from the female students, teachers, and alumni." (HYP)

This statement points to a collaborative implementation structure, although the precise responsibilities assigned to each group were not specified. The interview did not explain whether all students participated, how participants were selected, how frequently they worked in the units, or how their performance was assessed. It nevertheless showed that entrepreneurship education was implemented through participation in an institutional network that extended beyond student–teacher classroom interaction and included alumni as business actors.

Students' involvement was not limited to making products. The informant also described opportunities to introduce and market products to the public through bazaars, institutional partnerships, national-event activities, shopping-center events, university bazaars, and weekly car-free-day programs: "The school's programs also participate in various bazaars and activities held during major national events, such as bazaars at shopping centers or universities that have established partnerships with the school. The Fashion and Culinary Arts programs also participate in the weekly car-free-day activities. We attend these events and bring products made by the female students." (HYP)

The reported activities exposed students' products to consumers outside the pesantren. Such activities created potential learning opportunities related to product presentation, promotion, customer interaction, and market response. However, the interview did not specify whether students directly negotiated with customers, determined prices, recorded sales, evaluated customer feedback, or reflected systematically on their marketing experiences. Consequently, the evidence establishes that student products were marketed in public settings, but the specific learning processes occurring during these activities require confirmation through direct student accounts or observational data.

The informant further connected program implementation with efforts to improve product quality and market competitiveness. Products made through the vocational programs were expected to compete with those produced by micro, small, and medium-sized enterprises in Pekanbaru and Kampar Regency. The institution was also seeking halal certification and authorization from the Indonesian Food and Drug Authority: "The implementation we have achieved here is that we can present our students' products and show that they are capable of competing with products from other micro, small, and medium-sized enterprises, particularly those in

Pekanbaru City and Kampar Regency. Hopefully, this year, the products will obtain halal certification and recognition from the Indonesian Food and Drug Authority." (HYP)

This excerpt demonstrates an institutional aspiration to move beyond internal production toward external standards of product legitimacy and competitiveness. At the time represented in the interview, however, halal certification and authorization from the Indonesian Food and Drug Authority remained anticipated outcomes rather than completed achievements. Similarly, the claim that the products could compete with those of external enterprises reflected the informant's assessment; the interview did not provide comparative data concerning product quality, prices, sales volume, consumer evaluation, or market share.

The informant also associated the program with continuity after graduation. Several alumni were reported to have established or expanded food-related enterprises: "Several of our alumni already have branches of their businesses. It is remarkable that they have opened cafeterias and bakery outlets. This is a tangible form of implementation undertaken by our students after graduating from Al-Faruqi Islamic Boarding School." (HYP)

The alumni examples suggest that skills and interests developed during vocational education may have been applied after graduation. However, the number and characteristics of these alumni, the relationship between their school experiences and subsequent enterprises, and the sustainability of their businesses were not independently documented. The excerpt was therefore treated as a positive example supplied by the informant rather than as evidence that the program produced the same outcome for graduates generally.

Overall, the implementation data show that the program connected vocational specializations with production, institutional business operations, public product promotion, and participation by students, teachers, and alumni. These features indicate the presence of practice-oriented entrepreneurship activities. The available interview data, however, do not demonstrate the frequency, depth, or quality of every student's participation and therefore do not support claims that all students experienced the program in an equivalent manner.

Program Evaluation as Operational Adjustment

The informant's description of program evaluation focused primarily on operational constraints rather than on a formal assessment of student learning or business performance. The principal challenge was the potential overlap between entrepreneurship activities and other academic or religious responsibilities within the pesantren: "Regarding program evaluation, we are an Islamic boarding school characterized by both religious and entrepreneurial activities. At certain times, the business-unit programs conflict or overlap with other activities. The aspect evaluated most frequently is probably the timing of program implementation." (HYP)

This scheduling problem illustrates the institutional complexity of implementing entrepreneurship education in a residential pesantren. Students' participation had to be coordinated with vocational classes, religious instruction, and other boarding-school obligations. The statement also indicates that evaluation was directed mainly toward maintaining compatibility among these activities. The interview did not identify formal evaluation indicators, assessment instruments, evaluation schedules, documented results, or procedures for collecting student feedback.

To address scheduling conflicts, the program managers attempted to align the timing of pesantren and vocational activities: "Nevertheless, this problem can be addressed by matching the circumstances and arranging the time required for both the pesantren and the respective vocational departments." (HYP)

The adjustment described by the informant represents a form of operational problem-solving. It shows that implementation was modified in response to competing schedules. However, the data did not explain who participated in these decisions, whether adjustments were formally documented, or how the institution determined whether the revised schedules improved student participation and learning.

The informant also emphasized that the sustainability of the program depended on stronger institutional support: "We hope that the pesantren will provide its full support for the entrepreneurship activities in our Islamic boarding school." (HYP)

The expression of this expectation suggests that institutional support may not yet have been considered fully adequate by the program coordinator. Although the interview did not specify whether the required support concerned funding, facilities, staffing, policy, scheduling authority, or marketing access, the statement identifies institutional commitment as an important condition for program continuity.

The evidence therefore characterizes evaluation primarily as an informal mechanism for identifying operational difficulties and adjusting implementation. It would be inaccurate, on the basis of the interview alone, to describe the program as having a comprehensive evaluation system. No direct evidence was provided of systematic assessment of student competencies, entrepreneurial-character outcomes, customer satisfaction, financial performance, product quality, or alumni trajectories.

The Perceived Educational Role of the Program

The fourth theme concerns the informant's perception of how participation in entrepreneurship activities supported students' entrepreneurial learning and orientation. Because the students themselves were not interviewed and no observational records were provided, this theme represents the key stakeholder's interpretation rather than direct evidence of changes in students' character.

Applying Vocational Skills to Income-Generating Activities

The informant reported that female students used their fashion and culinary skills to accept customer orders during school holidays, particularly during Ramadan and the period preceding Eid al-Fitr: “The evidence can be seen during Eid al-Fitr or the month of Ramadan. Many of our female students already accept sewing orders and orders for cookies in their own homes while they are on holiday during the holy month of Ramadan.” (HYP)

The examples describe students applying vocational skills outside the school environment and responding to seasonal market demand. Accepting sewing and food orders may indicate initiative, confidence, and the recognition of income-generating opportunities. However, the account did not establish how many students were involved, how often they received orders, whether the businesses were independently managed, or whether family members provided substantial assistance. These activities were therefore interpreted as examples of entrepreneurial application reported by the informant, not as measured changes across the student population.

Budgeting and Business Planning

The informant also reported that students had developed basic knowledge of budgeting and business planning: “The female students have become familiar with entrepreneurship, or they have begun to develop an entrepreneurial spirit. They are already able to calculate a budget or prepare a cost plan for starting a business opportunity.” (HYP)

This statement connects entrepreneurship education with the ability to calculate costs and prepare a *Rencana Anggaran Biaya*—a cost or budget plan—for a prospective enterprise. Among all the perceived outcomes described in the interview, budgeting constitutes a relatively specific competency. Nevertheless, no student-produced budget plans, assessment rubrics, or direct demonstrations of the competency were included in the dataset. The finding should therefore be presented as a competency attributed to the students by the key informant.

Entrepreneurial Aspirations and Muslim Women’s Business Identity

According to the informant, entrepreneurship activities also influenced students’ aspirations. When students were asked about their future goals, many reportedly expressed an intention to become successful entrepreneurs while retaining the values acquired through their pesantren education: “When we ask our students what they want to become in the future, most of them say that they want to become successful entrepreneurs, equipped with what they have learned at the pesantren, and to develop businesses as Muslim women.” (HYP)

This account connects students’ entrepreneurial aspirations with a specifically Muslim female identity. It suggests that the envisioned entrepreneurial role was not understood solely in economic terms but was associated with values and dispositions acquired within the pesantren. Nevertheless, future aspirations should be distinguished from actual

entrepreneurial behavior. The interview did not provide direct student narratives or evidence regarding the stability of these aspirations over time.

The informant again referred to alumni businesses as examples of the program's longer-term relevance: "Several of our alumni already have branches of their businesses and have opened cafeterias and bakery outlets. This is tangible implementation by our students after they graduated from Al-Faruqi Islamic Boarding School." (HYP)

These alumni cases offer preliminary indications that entrepreneurial learning may extend beyond graduation. However, the interview data did not permit an assessment of how common this outcome was or whether it resulted specifically from participation in the pesantren's business units. Longitudinal alumni data would be necessary to evaluate the relationship between school-based entrepreneurship education and subsequent venture creation.

Taken together, the key informant associated the program with four perceived educational outcomes: the application of vocational skills to customer orders, basic budgeting and business-planning abilities, entrepreneurial aspirations, and examples of alumni business creation. These accounts indicate how the program's educational role was understood by a principal managerial stakeholder. They do not, however, independently demonstrate that participation caused changes in students' entrepreneurial character. Verification would require direct interviews with female students and alumni, observations of their participation in the business units, analysis of student work and assessment records, and evidence collected across different stages of the program.

Discussion

Pesantren-Based Business Units as an Entrepreneurial Learning Ecosystem

The findings indicate that the business units at Al-Faruqi Islamic Boarding School were assigned both economic and educational functions. From the key informant's perspective, the units were intended to support the institution's operations while providing female vocational students and alumni with opportunities to participate in entrepreneurial activities. This dual function distinguishes the units from conventional classroom-based entrepreneurship instruction because entrepreneurial learning was embedded in the everyday economic activities of the pesantren. The connection between the Fashion and Culinary Arts programs and their corresponding business units also suggests an attempt to align vocational competencies with relevant production and service contexts.

This institutional arrangement can be interpreted through Kolb's (1984) experiential learning theory. In Kolb's model, learning involves a recurring process of concrete experience, reflective observation, abstract conceptualization, and active experimentation. The business units appeared to provide the first component by exposing students to production, product marketing, and business operations. Nevertheless, the available data provide

limited evidence regarding the other stages of the experiential learning cycle. The interview did not explain whether students participated in structured reflection, connected their experiences with entrepreneurial concepts, received systematic feedback, or tested revised strategies in subsequent activities. Therefore, the mere presence of business activities should not be treated as sufficient evidence of complete experiential learning. Business participation becomes educationally meaningful when experience is intentionally connected to reflection, conceptual understanding, feedback, and opportunities for further action.

This interpretation is consistent with Motta and Galina's (2023) systematic review, which found that experiential entrepreneurship education can support entrepreneurial knowledge, skills, competencies, and intentions. However, they also emphasized that different experiential activities produce different educational benefits and present distinct implementation challenges. Similarly, Nabi et al. (2017) concluded that entrepreneurship education outcomes depend considerably on pedagogical design and the type of outcome being assessed. These studies imply that the educational value of the Al-Faruqi business units cannot be inferred solely from their operation. It depends on how students' roles are structured, how learning objectives are communicated, how reflection and assessment are facilitated, and whether participation allows students to make meaningful decisions rather than merely perform routine production tasks.

The findings are also related to Hasanah et al. (2023), who reported that integrating entrepreneurship education with a Teaching Factory model improved vocational students' entrepreneurial readiness. Kuat and Purnawan (2022) similarly found that edupreneurship implemented through Teaching Factory activities provided opportunities for students to engage in production, service delivery, and marketing. These studies support the relevance of linking vocational education with authentic business processes. Nevertheless, the Al-Faruqi program should not automatically be classified as a fully developed Teaching Factory. According to the Directorate of Vocational High School Development (Direktorat Pembinaan SMK, 2017), a Teaching Factory involves the deliberate integration of learning with production or service processes that approximate industry standards. The present study did not examine whether the business units had formal competency standards, industry-equivalent workflows, structured student assessment, quality-control procedures, or partnerships that met the defining requirements of that model. It is therefore more accurate to describe the units as practice-based or enterprise-based learning environments with characteristics resembling a Teaching Factory.

The pesantren setting adds an institutional dimension that is not fully represented in studies of conventional vocational schools. The business units operated within a residential religious community in which academic learning, vocational education, religious formation, institutional economic needs, and communal responsibilities intersected. This arrangement potentially enabled entrepreneurial activities to be connected with independence, responsibility, cooperation, service, and work discipline. However, these values should not

be assumed to arise automatically from the pesantren environment. Their development would require explicit modeling, guided reflection, equitable allocation of responsibilities, and assessment of how students understand and apply such values. The findings therefore point to the potential of a pesantren-based entrepreneurial learning ecosystem while also demonstrating the need for a more explicit pedagogical design.

Practice-Based Implementation and Exposure to External Markets

The implementation of the program extended from product creation to participation in public marketing activities. The informant reported that students' fashion and culinary products were promoted through shopping-center bazaars, university events, institutional partnerships, and weekly car-free-day activities. These external activities potentially expanded the learning environment beyond the boundaries of the pesantren by exposing students and their products to consumers, market expectations, and competing products. Such exposure may be particularly valuable in vocational entrepreneurship education because it allows students to encounter practical issues that are difficult to reproduce through classroom instruction alone.

The reported integration of production, business operations, and marketing is compatible with the practice-oriented pedagogies emphasized in entrepreneurship education research. Carpenter and Wilson (2022) found that experiential and extracurricular entrepreneurship programs offered some of the stronger evidence of positive educational outcomes, although entrepreneurship education research continues to face methodological weaknesses and difficulties in demonstrating causal effects. Their findings are relevant to the Al-Faruqi case: practical exposure may create valuable learning opportunities, but the presence of activities alone does not demonstrate that every student develops the same competencies or receives equivalent educational benefits.

The marketing activities could support several forms of entrepreneurial learning, including product presentation, customer communication, opportunity recognition, pricing, market adaptation, and confidence in presenting one's work. However, the current findings do not establish the extent to which students themselves performed these functions. It remains unclear whether students negotiated with consumers, calculated prices, recorded sales, analyzed customer feedback, managed inventory, or made decisions concerning product improvement. Without such evidence, it would be premature to conclude that participation developed comprehensive business-management competencies. Future implementation should define progressive student roles and document what students actually do at each stage of the business process.

The program's effort to obtain halal certification and authorization from the Indonesian Food and Drug Authority also indicates an orientation toward external regulatory and quality standards. This objective may introduce students to food safety, legal compliance, product consistency, packaging, labeling, and consumer trust. Nevertheless, these certifications were described

by the informant as anticipated rather than completed achievements. They should therefore be interpreted as indicators of institutional aspiration and program development, not as evidence that the products had already achieved formal regulatory recognition.

The informant's assertion that student products could compete with those of external micro, small, and medium-sized enterprises similarly requires a cautious interpretation. Market competitiveness would normally need to be demonstrated through evidence such as product-quality assessment, consumer evaluation, repeat purchases, sales growth, price comparison, or market reach. Such evidence was not available in the present study. The claim is nevertheless analytically useful because it shows that the program coordinator evaluated the business units not only in educational terms but also in relation to external market expectations.

Participation by students, teachers, and alumni further suggests that the program operated through an institutional community rather than through isolated classroom instruction. Teachers could potentially provide pedagogical and technical guidance, while alumni could function as entrepreneurial role models, mentors, and links to postgraduation business experience. Yet the present data do not specify how authority, decision-making, income, workload, and learning opportunities were distributed among these groups. This issue is important because participation in a school enterprise can range from meaningful entrepreneurial learning to routine labor. A reputable entrepreneurship education program should therefore ensure that student participation is educationally purposeful, developmentally appropriate, supervised, and accompanied by opportunities to exercise increasing levels of initiative and responsibility.

Evaluation, Coordination, and Institutional Support

The findings show that program evaluation was primarily concerned with scheduling conflicts between entrepreneurship activities and other academic and religious obligations. The program coordinator's effort to align vocational, entrepreneurial, and pesantren schedules represents a form of operational adjustment. It illustrates an important feature of this case: entrepreneurship education was not implemented as an independent activity but had to compete for time and institutional attention within a complex residential education system.

This finding supports Hasanah et al.'s (2023) argument that successful entrepreneurship education depends not only on practical activities but also on effective program management, stakeholder coordination, and institutional support. It is also consistent with demand-driven approaches to vocational education, which emphasize that experiential learning must be adapted to local institutional conditions and learner needs (Nayak et al., 2024). In the Al-Faruqi context, scheduling was not simply an administrative matter. It affected whether students could participate consistently, whether business activities could be integrated with vocational learning, and whether

entrepreneurial responsibilities could coexist with religious and academic commitments.

Nevertheless, the reported evaluation practices were narrower than a comprehensive program-evaluation system. The interview did not identify predetermined learning outcomes, evaluation criteria, assessment instruments, student-feedback mechanisms, financial indicators, product-quality benchmarks, or formal follow-up procedures. Consequently, the process described in the findings is more accurately characterized as operational monitoring and problem-solving than as systematic program evaluation. The statement that evaluation had become a mechanism of continuous improvement should therefore be qualified: schedule adjustment indicates responsiveness to an implementation problem, but continuous improvement requires documented goals, evidence-based review, agreed actions, and subsequent assessment of whether those actions produced improvement.

The informant's expectation that the pesantren should provide full support also suggests that the program's institutional foundation may remain incomplete. Support could involve budget allocation, facilities, qualified mentors, scheduling authority, access to markets, regulatory assistance, workload arrangements, or recognition within the formal curriculum. Because the interview did not specify which forms of support were insufficient, this statement should be treated as an indication for further inquiry rather than as evidence of a particular institutional deficiency.

A more rigorous evaluation system could distinguish among inputs, processes, outputs, and outcomes. Inputs could include facilities, mentors, funding, and curriculum integration; process indicators could capture participation, supervision, reflection, decision-making, and marketing activities; outputs could include products, business plans, sales activities, and completed certifications; and outcomes could include demonstrated entrepreneurial competencies, self-efficacy, opportunity recognition, ethical decision-making, and alumni business trajectories. Such a framework would allow the institution to evaluate educational development separately from the financial performance of its business units.

Perceived Entrepreneurial Learning and Character Development

The informant associated students' participation with increased entrepreneurial motivation, independence, opportunity recognition, budgeting ability, and future entrepreneurial aspirations. The examples of students accepting sewing and food orders during Ramadan are important because they indicate the application of vocational skills outside the formal school environment. They suggest that some students may have recognized seasonal market demand and converted their skills into income-generating activities. The reported ability to prepare cost plans similarly points to an aspect of entrepreneurial competence that extends beyond technical production.

These examples are consistent with Munjin's (2021) finding that entrepreneurial characteristics among pesantren students can develop

through habituation, participation in business units, and the cultivation of responsibility and independence. They also correspond with Apriyana et al. (2026), who found that the pesantren environment, role models, and participation in practical activities contributed to entrepreneurial-character development, even though the formal entrepreneurship curriculum did not have a statistically significant effect. This comparison strengthens the interpretation that entrepreneurial development may depend on the wider educational environment and practical participation rather than on curriculum content alone.

Ibrahim et al. (2026) likewise demonstrated that religiously based entrepreneurship education could support student independence through the integration of religious values, instruction, and business practice. In the present case, the informant's reference to students aspiring to become successful Muslim women entrepreneurs suggests that entrepreneurial identity was associated with the values acquired through pesantren education. However, the interview did not provide detailed evidence of how specific Islamic principles were taught, modeled, negotiated, or applied within business decisions. It would therefore be an overstatement to claim that ethical and religious entrepreneurial character had been empirically demonstrated. The findings show that the informant connected entrepreneurial aspirations with Muslim female identity, but the content and meaning of that connection require direct investigation with the students.

From an experiential learning perspective, accepting customer orders, preparing products, calculating costs, and participating in marketing may provide concrete experiences that support confidence and entrepreneurial thinking (Kolb, 1984). Nevertheless, the current evidence principally concerns reported activity and stakeholder perception. It does not establish whether students reflected on unsuccessful orders, revised their calculations, changed products in response to customers, or transferred learning across different contexts. These processes would be necessary to demonstrate more fully how experience became entrepreneurial learning.

The findings should also be interpreted in relation to the broader evidence on entrepreneurship education outcomes. Martínez-Gregorio et al. (2021) found that entrepreneurship education produced small positive effects on entrepreneurial intention and self-efficacy, with program duration influencing the magnitude of some outcomes. This evidence cautions against assuming that exposure to an entrepreneurship program necessarily produces substantial or uniform character change. Similarly, Nabi et al. (2017) distinguished between short-term subjective outcomes, such as attitudes and intentions, and more distal outcomes, such as venture creation and economic performance. In the Al-Faruqi case, entrepreneurial aspirations, the ability to prepare a budget, accepting seasonal orders, and alumni business ownership represent different levels of outcome and should not be combined into a single undifferentiated construct of "entrepreneurial character."

The alumni examples are potentially important because the establishment of cafeterias and bakery outlets may indicate continuity between vocational learning and postgraduation enterprise. However, the findings do not identify the number of alumni involved, the duration or performance of their businesses, or the extent to which school participation influenced their decisions. Alumni business ownership can therefore be presented as an illustrative outcome reported by the informant, but not as evidence of general program effectiveness. Longitudinal interviews and business-trajectory data would be required to assess the program's longer-term contribution.

The Gendered and Religious Context of Entrepreneurial Learning

A distinctive contribution of this case lies in its focus on female vocational students within a residential Islamic institution. Entrepreneurial learning does not occur in a socially neutral environment. Research has shown that female students may experience an entrepreneurial identity gap when entrepreneurship is represented through predominantly masculine assumptions and role models (Jones et al., 2021). More broadly, women's entrepreneurial activity is shaped by access to confidence, networks, resources, social legitimacy, family support, and institutional opportunity structures (Strawser et al., 2021).

In this context, the participation of female students in business units may provide opportunities to develop vocational confidence and to envision entrepreneurship as a legitimate future role for Muslim women. The reported involvement of female students in garment, boutique, culinary, cafeteria, bakery, and product-marketing activities demonstrates institutional support for their participation in economic activity. However, the study cannot determine whether this participation challenged restrictive gender expectations or reproduced a narrow association between women and traditionally feminized sectors such as clothing and food preparation. This tension deserves explicit attention because gender-inclusive entrepreneurship education should expand students' agency and opportunity horizons rather than merely prepare them for socially predetermined business roles.

The aspiration to become successful Muslim women entrepreneurs could represent an identity that integrates economic agency, religious commitment, and social responsibility. Yet this interpretation must be tested through students' own narratives. Direct research with female students would be necessary to examine how they understand entrepreneurship, negotiate family and religious expectations, perceive risk, access resources, and imagine their future roles. The current study provides an institutional stakeholder's account of these possibilities but cannot substitute for students' voices.

Theoretical and Practical Implications

Theoretically, the findings suggest that a pesantren-based business unit can be understood as a potential entrepreneurial learning ecosystem in which vocational instruction, institutional enterprise, community participation, and religious education intersect. The case also qualifies a simplistic application

of experiential learning theory. Concrete participation was clearly described, but reflection, conceptualization, feedback, and active experimentation were not sufficiently documented. The principal theoretical implication is therefore not that the complete Kolb cycle was demonstrated, but that the business units created conditions under which such a cycle could be developed if accompanied by deliberate pedagogical structures.

Practically, Al-Faruqi Islamic Boarding School could strengthen the educational function of its business units by formulating explicit learning outcomes, defining progressive student responsibilities, integrating reflective sessions, using competency-based assessment, collecting customer feedback, and documenting students' business plans and marketing decisions. Program evaluation should include both educational and commercial indicators while ensuring that financial objectives do not displace student learning. Scheduling should be coordinated formally across vocational, religious, and business activities, and students should have protected time for participation and reflection.

The institution should also adopt a gender-responsive approach by diversifying business exposure, involving women entrepreneurs as mentors, examining gendered barriers, and ensuring that female students participate in budgeting, negotiation, digital marketing, leadership, and strategic decision-making—not only production. Alumni tracking could provide evidence about venture creation, employment, further education, and the longer-term relevance of entrepreneurial learning.

Interpretive Boundaries of the Discussion

The findings and their theoretical interpretation must be considered within the study's evidentiary boundaries. The dataset was derived from one managerial informant who was directly responsible for the program and may therefore have had an institutional interest in presenting it positively. Students, alumni, teachers, customers, and other business-unit staff were not interviewed, and the supplied dataset did not include observational records, student work, financial documents, assessment results, or longitudinal evidence. The study therefore supports an exploratory interpretation of how the program was implemented and understood by a key stakeholder; it does not establish program effectiveness or causal character development.

Future research should incorporate interviews with female students, teachers, alumni, and parents; observations of production, marketing, and reflective learning; analysis of student portfolios and program documents; and longitudinal evidence concerning alumni outcomes. Such triangulation would enable researchers to examine whether the educational opportunities described by the key informant were experienced consistently by students and how participation generated—or failed to generate—specific entrepreneurial competencies and identities.

Conclusion

This study found that pesantren-based business units occupied a more central educational role than would be expected if they were viewed merely as income-generating facilities. From the key stakeholder's perspective, the business units connected the Fashion and Culinary Arts programs with production, business operations, public marketing, and collaboration among female students, teachers, and alumni. Program evaluation was primarily undertaken through operational adjustments, particularly the coordination of entrepreneurship activities with vocational, academic, and religious schedules. The informant also associated students' participation with the application of vocational skills to customer orders, basic budgeting and business-planning abilities, entrepreneurial aspirations, and examples of alumni business creation. These perceived outcomes, however, should not be interpreted as independently verified evidence of program effectiveness or causal changes in students' entrepreneurial character.

The findings challenge the assumption that establishing business units and involving students in production activities are sufficient to constitute comprehensive experiential entrepreneurship education. The program clearly provided opportunities for concrete experience, but the data did not demonstrate the systematic presence of reflective observation, conceptualization, feedback, progressive decision-making, or active experimentation. Thus, the educational value of pesantren-based business units depends not only on students' participation in commercial activities but also on how those experiences are intentionally structured, supervised, reflected upon, and assessed.

This study reinforces previous research emphasizing the importance of authentic and practice-oriented environments in entrepreneurship and vocational education. It supports the view that institutional enterprises can connect vocational competencies with production, marketing, and exposure to external consumers. At the same time, it qualifies claims that participation in business activities automatically develops entrepreneurial competence or character. Concrete experience creates an educational opportunity, but it does not by itself demonstrate learning or character development.

Conceptually, the study introduces the pesantren-based business unit as a potential entrepreneurial learning ecosystem. This concept refers to an institutionally embedded environment in which vocational education, business practice, religious formation, community participation, and institutional economic activities intersect. The concept enriches the entrepreneurship education literature by highlighting the distinctive conditions of a residential Islamic educational institution and the position of female vocational students within it. It also draws attention to the need to distinguish among program activities, learning processes, perceived character outcomes, entrepreneurial aspirations, and actual postgraduation business outcomes.

This study has several limitations. First, it examined a single institutional case and relied on one key informant who held managerial responsibility for both the vocational school and its business units. Although the informant possessed detailed knowledge of the program, her institutional position may have encouraged favorable interpretations of its implementation and outcomes. Second, the study did not include direct interviews with female students, teachers, alumni, parents, customers, or other business-unit personnel. Consequently, students' entrepreneurial learning, character development, and future aspirations were reported through the informant's perspective rather than through students' own accounts.

Third, the available dataset did not include systematic observational records, student portfolios, competency assessments, business documents, sales records, customer evaluations, or longitudinal alumni data. The study therefore could not determine the quality or frequency of student participation, compare experiences across students, verify product competitiveness, or establish a causal relationship between the program and entrepreneurial outcomes. These limitations restrict the transferability of the findings and prevent generalization to other pesantren, vocational schools, or female student populations.

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