

SYNERGY GRAND STRATEGY MATRIX, SWOT AND QSPM AS DETERMINANTS OF TEMPEH PRODUCT DEVELOPMENT STRATEGY

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Abstract: Making a city a culinary tourism destination is a new innovation of the Surakarta government. In order to realise this goal, the government of Surakarta needs to formulate a strategy based on one of its superior food products. This research aims to determine the strategic factors: Strengths, weaknesses, opportunities and threats affecting small and medium enterprises (SMEs). The main purpose of this research is a formulation of strategies for how tempeh is used to increase culinary tourism in a city. The basic method of research is descriptive-analytical through in-depth interview techniques. Data collection methods use interviews, observations and notes. The main informant is selected purposively based on the mastery of information related to the purpose of the research. Key informants in this study were tempeh entrepreneurs, consumers, suppliers of raw tempeh materials, cooperatives, academics and the Surakarta government. The selection of locations is confirmed purposive according to the purpose of the research, namely the city of Surakarta. Data analysis methods use the synergy of Grand Strategy Matrix, SWOT Matrix and QSPM. The results showed that the commodity tempeh is in quadrant I. There is a need to adopt a right strategy by the Surakarta government to develop tempeh processed products.

Keywords: Product development, tempeh, SMEs, strategy, SWOT, Surakarta.

Introduction

Culinary tourism is a prospective alternative tour allowing tourists to get a different experience while travelling. This unique experience is what distinguishes culinary tourism from tourism in general. Therefore, culinary tourism has the potential to grow because the food and drink in each region is unique (Hjalager, 2002). Culinary connoisseurs will have a unique experience when consuming such foods (Chaney & Ryan, 2012; Ellis *et al.*, 2018).

The desire of tourists to impart in local food and drinks at tourist destinations is to experience a new culture. This is in line with the opinion that culinary tourism is part of cultural tourism because food and drink are cultural expressions (Reddy & van Dam, 2020). As the centre of Javanese culture, Surakarta has excellent potential to be developed as a city for culinary tourism (Putri *et al.*, 2016; Wardani *et al.*, 2018).

The City of Surakarta has created a culinary map and designed a culinary tour package (Wardani *et al.*, 2018). This policy is a follow-up to the number of culinary-linked small- and medium-sized enterprises (SME) in Surakarta which involves as many as 1,224 businesses (Giyanti & Indriastiningsih, 2018). In addition, the Surakarta City Government has also encouraged culinary SME's to obtain halal food certifications from the Indonesian Ulema Council (Giyanti & Indriastiningsih, 2018; Qurniawati, 2020). The momentum to develop culinary tourism is also driven by consumer-style marketing via social media like Instagram so that every consumer markets culinary tourist destinations that they have visited (Asrihapsari & Setiawan, 2020; Lamidi & Rahadhini, 2021). Suwandi and Sutrisno (2017) and Achmad *et al.* (2020) have reported that another policy of the Surakarta city government is to localise some of the culinary offerings in an area/region as

mainstays, making it easier for tourists to enjoy various culinary experiences in one location.

One food that has the opportunity to be developed as an attraction for culinary tourist destinations in Surakarta is processed tempeh. Based on the many tempeh SMEs in Surakarta, the product has yet to reach its maximum production capacity. Additionally, the agroindustry involved in the processing of tempeh also employs a lot of labour (Harisudin *et al.*, 2021).

As a result, the development of the tempeh processed industry will have many positive impacts for the people of Surakarta. This research aims to formulate the best strategy to be applied by the Surakarta city government to make tempeh processed commodities a superior product that can increase the number of culinary tourists in Surakarta city.

Literature Review

Tempeh

Tempeh is a typical Indonesian food made from soyabean seeds, which are fermented using several types of *Rhizopus* such as *Rhizopus oligosporus* (Jati Kusuma & Ermamilia, 2018) and *Rhizopus oryzae* (Sar *et al.*, 2020).

Tempeh is a typical Indonesian food that has been produced and eaten in the region for centuries, especially in Javanese society in Yogyakarta and Surakarta. Currently, tempeh is being consumed by people around the world. Many vegetarians worldwide use tempeh as a substitute for meat (Erkan *et al.*, 2020).

As a result, tempeh is produced not only in Indonesia and but in many places around the world. The fermentation process breaks down the complex nutritional components in soybeans by fungi due to an enzymatic reactions to create simple compounds.

Tempeh is a traditional and functional food (Das *et al.*, 2020). In Indonesian society, tempeh functions as a substitute for fish and meat. Besides that, tempeh is also used as a snack as fried tempeh and tempeh chips. Surakarta City

is one of the big cities in Central Java that has many tempeh production industries.

However, the tempeh industry in Surakarta is still on the scale of SMEs as many as 57 tempeh SMEs provide jobs from upstream to downstream industries (marketing). The large number of tempeh SMEs also shows the high level of competition for the marketing and sale of the products. It indicates that the tempeh industry is needed in Surakarta and has the potential for development.

All tempeh SMEs do not have an organisational structure or business model as most of them are home businesses, so it is not surprising that 71% of SMEs still rely on family labour (Daminato & Pistaferri, 2020). The take away from this is that SMEs involved in tempeh production does not have a sound management or administration system in place (Akindipe, 2014). Even significant aspects such as quality control and the correct recording of finances and cash flows have not been implemented properly. The weaknesses in such a poor setup can also be seen in the small number of tempeh SMEs (24%) who have business licenses from the Surakarta City Health Office, even though this aspect can have a significant impact on the growth of an SME from a small or medium-sized business into a conglomerate or multinational company (Chege & Wang, 2020). It is necessary for tempeh SMEs to continually monitor the commercial situation (both external and internal factors) to look for opportunities to improve competitiveness (Zulkiffli & Padlee, 2021).

The development of tourism trends has branched out to culinary tourism (Saeroji & Wijaya, 2017). Food is used as a tourist draw as tourists must visit to enjoy the local or regional food, this trend has given rise to a new branch of tourism known as culinary tourism. According to Testa *et al.* (2019) and Tiberghien *et al.* (2020), the character of culinary tourism emphasises a tourist's gastronomical experience and the enjoyment of the food or drink consumed.

In recent years, tourism trends in Indonesia have shifted towards culinary tourism (Saeroji & Wijaya, 2017). Currently, the unique and

delicious food in an area is used as a draw to get people to pick that destination for travel. Enjoying food where it originates from is a huge part of tourism. If the food is the lure for visitors, then the term culinary tourism applies. The main point of culinary tourism is to emphasise the experience of tourists in enjoying the food at its point of origin (Testa *et al.*, 2019; Tiberghien *et al.*, 2020).

Food Product Development in Tempeh SME

Product development is an effort to create a new product or develop an existing product and bring it to market (Loredana, 2017; Azanedo *et al.*, 2020). Product development is also a common strategy used by many companies to overcome declining sales or when the product has entered the fourth stage of the product life cycle the product has essentially reached its saturation point and is in decline (Tan & Vicente, 2019; Wu & Chen, 2021). According to Claudy *et al.* (2016), product development is the primary source of a product that can win the competition, so this strategy is the centre of any marketing strategy.

The keyword of product development is quality innovation and product attribute innovation (Wu & Chen, 2021) and to be able to establish both the good qualities (according to consumer needs and taste) is to understand precisely the wishes of the target consumer through the latest data collection techniques and their trends (Horvat *et al.*, 2019). With the above understanding, product development is also the best strategy when the product first enters the market (Iheanachor *et al.*, 2021).

Successful products in the market are products that have a competitive advantage over similar products in the market and that have product development strategies in place to maintain the competitive edge for as long as possible.

From the perspective of the Ansoff (Martinet, 2010), product development strategy - a strategy with a moderate risk in overcoming market and product dynamics (Loredana, 2017), as well as positively impacting both the medium

and long term survival of a company (Claudy *et al.*, 2016).

Product development problems are a major issue for SMEs as many fails to carry out successful product development strategies. The businesses fail at product development due to an absence of product development processes that take innovation and planning into consideration (Carneiro *et al.*, 2021).

SMEs consider product development process to be expensive and time-consuming and as such do not do it (Carneiro *et al.*, 2021), therefore, product development is only done from following very subjective internally driven initiatives, without regard of the needs and tastes of consumers (Moultrie *et al.*, 2007).

In recent years, however, product development has not only involved internal forces but it has also involved external parties (project teams, designers and other entities) to help SME develop products successfully (Czarnitzki & Thorwarth, 2012; Carneiro *et al.*, 2021). External involvement can help better utilise scarce resources and assist companies be less risk averse, ensure quality market-ready products are made, shore up weak functional skills, boost silent marketing and ensure sufficient user and customer involvement.

The involvement of external parties can also assist companies with the creation of unconventional teams, improve bureaucratic processes and managerial control and reduce or better organisational turbulence (Moultrie *et al.*, 2007).

Thus, product development must be integrate internal and external knowledge (Czarnitzki & Thorwarth, 2012). Internal knowledge includes marketing, production, distribution and other complementary assets while external knowledge includes external technology consumer needs. The combination of internal and external knowledge can result in more innovation and better company performance (Moultrie *et al.*, 2007).

Internal and external integration with a greater emphasis on external needs is a

consequence of a demand that internal needs do not drive product development but rather by external demands consisting of competition, demands of the target market/consumer needs (Klein *et al.*, 2021) through information excavation of the target market/consumer. All information gathered from internal and external sources is to be used to ensure that the products developed can provide a better, longer lasting competitive edge (Varl *et al.*, 2021).

Extracting information from consumers should be a major part of product development strategies and all manufacturers must carry out product development to help their business remain competitive (Gao & Bernard, 2018). The key to being able to win and retain a place in a competitive market is the quality of the products offered and the ability of the company to be able to establish the right product quality according to consumer needs is to understand precisely the wishes of the target audience through the latest data collection techniques and trends (Horvat *et al.*, 2019).

Nailuvary *et al.* (2020) said that the company must implement a product development strategy that is consumer-oriented or driven by consumer needs in developing its products (Horvat *et al.*, 2019). Consumer-oriented product development aims to maintain a company's position in the market or increase its market share (Nurcahyani, 2018).

From a different perspective, consumer-oriented product development aims to achieve an optimal level of conformity between new products made and consumer needs. Various methods have been established to determine the optimal level of conformity between new products and the needs of target consumers, including techniques involving consumers, adjusting food trends, environmental factors, differences between data types - time frames and specifics (Horvat *et al.*, 2019).

The Synergy of the Grand Strategy Matrix, SWOT and QSPM

Many researchers have used the SWOT matrix, a strategic planning and management tool.

It can help a person or organization identify their strengths, weaknesses, opportunities and threats in business competition or a project, as an analytical tool in formulating strategies (Soetrisno *et al.*, 2020; Jatmiko *et al.*, 2021).

The SWOT matrix can develop several alternative strategies of opportunity-strength, threat-strength, weakness-opportunity and weakness-threat. Alternatives to strategies resulting from the SWOT matrix have a broad spectrum. This broad-spectrum makes it difficult to determine which strategies business organisations (including SMEs) will choose.

F. R. David (2011) and Tafti *et al.* (2013) assist strategists in determining the best strategy among many available strategy alternatives through an analytical tool called quantitative strategic planning matrix (QSPM). QSPM helps many strategists consider critical success factors that have been formulated in determining the strategic priorities of the alternative strategies formulated (Mallick *et al.*, 2020). The working principle of QSPM is to consider the critical success factors of business organizations (external and internal) as criteria in assessing the success rate ranking of each formulated alternative strategy (F. R. David, 2011).

An essential question for a researcher or strategy formulator is choosing many alternative strategies (SO, ST, WO, WT) to obtain the best strategy with QSPM. Currently, to determine the best strategy only through the stages of the results of alternative formulation strategies on the SWOT matrix directly evaluated using QSPM (Tafti *et al.*, 2013; Ghorbani *et al.*, 2015; Mallick *et al.*, 2020). The use of such methods contains weaknesses because it violates the working principle of QSPM (F. R. David, 2011; M. E. David *et al.*, 2016). To that end, the study uses three analytical tools as a set of strategy formulations is a novelty in this study.

The Grand Strategy Matrix analysis tool is used to determine the position of the tempeh SME quadrant. An alternative strategy is formulated using the SWOT matrix based on the selected quadrant.

Furthermore, strategic priorities are set with QSPM. The synergy of the three analytical tools (Matrix Grand Strategy-SWOT matrix and QSPM) has been carried out by Harisudin (2019).

Methods

The main method of research used is descriptive-analytical. This research method was chosen because researchers want to describe the current problem of tempeh SMEs. Data is collected via observation, interview and recording techniques. The collected data is then compiled, analysed and explained (Hsu, 2005). The research location chosen was the city of Surakarta because there are 21 SMEs with tempeh production capacity that have not reached its maximum and SMEs in Surakarta are experiencing a slowdown in business development. This complements the city government of Surakarta policy to boost culinary tourism as a means of increasing the population's income.

Data collection methods used in this study include observation and in-depth interviews of several respondents and key informants (Hsu, 2005; Maxwell & Reibold, 2015; Sanjek, 2015; Kabir *et al.*, 2018). The in-depth observations and interviews conducted include those involved in the production, Surakarta tempeh cooperatives, the Surakarta City Government, soyabean suppliers, tempeh sellers and tempeh buyers. The determination of essential success factors was done using the data collected from the in-depth interviews (Trkman, 2010). Variations of answers from key informants were aggregated using source triangulation techniques (Kabir *et al.*, 2018; Flämig *et al.*, 2019; Sullivan *et al.*, 2020). The primary purpose of the triangulation was to obtain the truth from the information gathered from different sources. The analysis model is conducted interactively, consisting of subtraction, presentation and conclusion (Miles *et al.*, 2014).

The analytical techniques used to formulate strategies are the Grand Strategy matrix, SWOT matrix and QSPM. Critical success

factors (opportunities, threats, strengths and weaknesses) are obtained by triangulation of the source from the answers of several successful tempeh entrepreneurs, tempeh experts and the Surakarta city government (Dorcheh *et al.*, 2021). After identifying critical success factors, the next step was to weigh every critical success factor to five tempeh experts in Surakarta City through the discussion group focus technique.

This was then mapped to the evaluation matrix of external factors and the evaluation matrix of internal factors, the attractiveness value of each critical success factor is determined to the head of the Cooperative Office, Small and Medium Enterprises of Surakarta City, as the party that will carry out the strategy.

The External Factor Evaluation (EFE) matrix and the Internal Factor Evaluation (IFE) matrix formed are then synthesised using a grand matrix of strategies resulting in the main strategy. From this main strategy are formulated alternative strategies with the SWOT matrix. The last step was to determine the best strategy among the alternative strategies obtained from the SWOT matrix using QSPM analysis tools (F. R. David, 2011; Harisudin, 2019). The formulation of alternative strategies (on SWOT matrix) and priority strategy determination (in QSPM) is carried out by the head of the Cooperative Office, Small and Medium Enterprises of Surakarta City (Harisudin *et al.*, 2014; Dorcheh *et al.*, 2021).

This method is summarised into the following working stages:

Stage 1: Identifying internal and external environmental situations so that weaknesses and opportunities are identified. This stage is carried out through in-depth interviews with experts consisting of academics and businessmen who processed tempeh, determination of threats and opportunities using the technique of triangulation source.

Stage 2: Making an IFE and EFE matrix. After identifying internal factors

(strength-weaknesses) and external factors (opportunity-threats), then, rated weights and attractiveness values (1-4).

Stage 3: Designing a Grand Strategy Matrix Formula. Synthesize IFE and EFE matrix to determine quadrant UKM tempeh in Surakarta.

Stage 4: Deriving a SWOT Matrix. The SWOT matrix is created to formulate alternative strategies.

Stage 5: Implementation of method QSPM is carried out. Comparing each alternative strategy so that the best strategy priorities can be selected.

Overall, the flow chart of the research methods used can be seen in Figure 1 of the following:

Results

External Strategic Factors

External factors are those that affect tempeh SMEs, which cannot be controlled. The external factors identified consist of opportunities and threats affecting tempeh SMEs in Surakarta. Based on the analysis of source triangulation,

the critical success factors that become opportunities for tempeh SMEs in Surakarta are high demand for tempeh, the city of Surakarta is known as a city for culinary tourism, strategic location of the city, guaranteed supply of raw materials, there are many tempeh sellers, tempeh is readily processed into a variety of foods and digital technology makes promotion easy.

Meanwhile, external strategic factors that pose a threat to tempeh SMEs in Surakarta are: Other tourist destination city with innovative culinary products, products available in gift shops in other cities, better branding of competitors' products, the cooperative does not have a vision for tempeh development and online business competition.

Internal Strategic Factors

Based on the results of triangulation analysis, critical success factors of internal strengths and weaknesses can be identified. A critical success factor that is the strength of tempeh businesses in Surakarta is good tempeh quality, accommodation availability for the workforce, production technology has been mastered, tempeh that is not sold can be sold as other products and can be processed into a variety of foods.

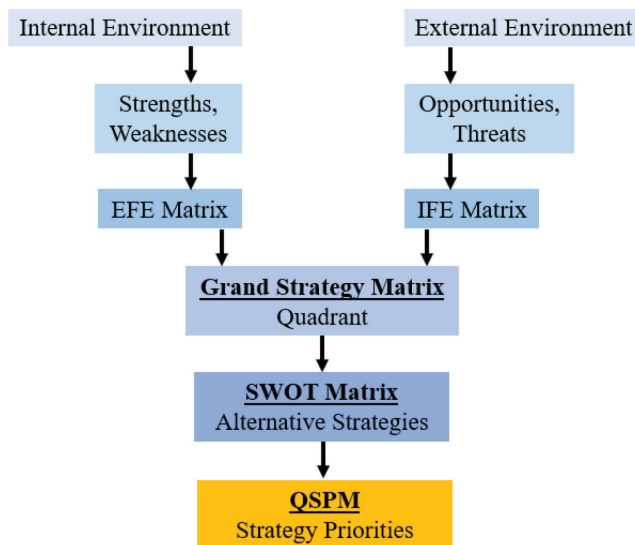


Figure 1: Process of formulating tempeh product developer strategy

While, the internal weakness of SME tempeh in Surakarta are: Lack of proper management principles, not application of quality management, shelf life tempeh relatively short, not using one’s business network, education level is still low, tempeh manufactures do not have any visionary goals.

Strategy Formulation

EFE matrix analysis, identifies external environmental factors for tempeh SMEs and classifies them into opportunities and threats affecting SMEs in Surakarta. These external environmental factors are grouped into opportunities and threats.

At the same time, the total score was obtained by multiplying the weight and rating (David, 2011). The results of the EFE matrix analysis on tempeh-making SMEs in Surakarta can be seen in Table 1.

IFE matrix analysis identifies internal environmental factors for tempeh SMEs and classifies them into strengths and weaknesses affecting SMEs in Surakarta. These internal environmental factors are grouped into strengths and weaknesses in weight and rank while the total weighted values are obtained by multiplying weight and rating (David, 2011). The results of the IFE matrix analysis on SMEs in Surakarta can be seen in Table 2.

Table 1: External Factor Evaluation matrix of tempeh SMEs in Surakarta city

The Opportunity of Strategic Factors		Weight	Rating	Weighted Score
1	High demand for tempeh	0,081716	4	0,326864
2	The city of Surakarta is known as a city for culinary tourism	0,081716	3	0,245148
3	Strategic location of the city of Surakarta	0,086823	3	0,260470
4	Guaranteed supply of raw materials	0,086823	3	0,260470
5	There are many tempeh sellers	0,071502	3	0,214505
6	Tempeh is readily processed into a variety of foods	0,074566	4	0,298264
7	Digital technology makes promotion easy	0,089888	4	0,359551
				1,965271
The Threat of Strategic Factors		Weight	Rating	Weighted Score
1	Another tourist destination city with innovative culinary products	0,081716	4	0,326864
2	Some products in a gift shop from another city	0,086823	3	0,260470
3	Better branding of competitors’ products	0,087845	4	0,351379
4	The cooperative does not have a vision for tempe development	0,081716	2	0,163432
5	The graying of online business competition	0,088866	4	0,355465
				1,457610
EFAS = 1,965271 - 1,45761 = 0,507661				

Source: Primary Data Analysis, 2020

Table 2: Internal Factor Evaluation matrix of tempeh SMEs in Surakarta city

The Strength of Strategic Factors		Weight	Rating	Weighted Score
1	Good quality of tempeh	0,090652	4	0,362606
2	Accommodates a lot of workforce	0,07932	3	0,237960
3	Production technology has been mastered	0,101983	4	0,407932
4	Tempeh that is not sold can be sold in other products	0,084986	4	0,339943
5	Can be processed into a variety of foods	0,096317	3	0,288952
				1,637394
The Weaknesses of Strategic Factors		Bobot	Rating	Weighted Score
1	Managed not applying management principles	0,093484	2	0,186969
2	Not implementing quality management	0,096317	2	0,192635
3	The shelf life of tempeh is relatively short	0,096317	3	0,288952
4	Not yet utilizing the network	0,101983	2	0,203966
5	Education is still low	0,090652	2	0,181303
6	SMEs tempeh does not have visionary goals	0,067989	2	0,135977
		1		1,189802
IFAS = 1,637394-1,189802 = 0,447592				

Source: Primary Data Analysis, 2020

Discussion

Two matrices (EFE and IFE) are synthesised into a new matrix called the Grand Strategy matrix (Mukhtar *et al.*, 2018; Harisudin, 2019). This matrix is used to identify the quadrant of the strategic position of tempeh producing SMEs. The quadrant formed is an intersection between ordinates (EFE matrix, 0,51) and abscission (IFE matrix, 0,45). The intersection is on the one quadrant as seen in Figure 1.

The tempeh SMEs in Surakarta are in quadrant I (positive, positive/opportunity, strength) with intersections of 0.45 and 0.51. The value of 0.45 is derived from the difference in the number of strengths (1.6373) with the number of weaknesses (1.1898).

While the value of 0.51 is obtained from the difference in the total value of the opportunity (1.9652) and the threat value (0.4576). Quadrant I means that tempeh SMEs in Surakarta are in the progressive quadrant. The progressive quadrant means that Surakarta tempeh consumers view SMEs as good and can be developed through various actively progressive strategies.

Alternative strategies applied to quadrant 1 are market penetration, product development, integration and diversification (F. R. David, 2011). H. Igor Ansoff provides a solution that the right strategy related to product and market aspects is a product development strategy (Navarra & Scaini, 2016; Loredana, 2017).

Considering the results of the EFE and IFE analysis, the condition of the tempeh SMEs is in quadrant I (Progressive) in the Grand Strategy matrix (F. R. David, 2011), so, the strategy formulation is based only on strength (internal) and opportunity (external). The strategy is a match made by an organisation between internal (strengths and weaknesses) external strategic factors (opportunities and threats) in anticipating strategic issues to achieve the goals (Harisudin, 2019) of developing tempeh SMEs in Surakarta City. Alternative strategies are formulated only on the strength-opportunity cells in the SWOT matrix. The formulation of strategies from matching the elements of strength and elements of opportunity in the SWOT matrix related to the product development strategy are:

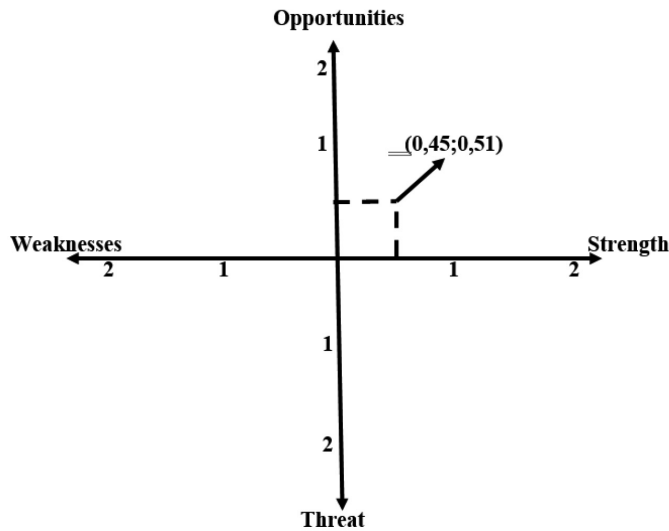


Figure 2: Quadrant matrix grand strategy of tempeh SMEs in Surakarta

Considering that tempeh SMEs are at quadrant I (Progressive) in the Grand Strategy matrix (F. R. David, 2011), strategy alternatives through the mechanism of synthesis of strength factors (internal) and opportunity factors (external) in the SWOT matrix. The formulation of a strategy from the synthesis of strength factors and opportunity factors in the SWOT matrix related to product development strategies is as follows:

The first alternative strategy is: Development of new products processed tempeh (S2, S4, S5, O2, O3, O6, O7); this strategy was formulated with the intention that the Surakarta city’s government encourages SMEs tempeh or entrepreneurs to innovate new products made from tempeh. A new product targets new consumers in an existing market (Martinet, 2010; Loredana, 2017; Harisudin et al., 2020). This strategy also brings benefits with the addition of new jobs (Stamolampros et al., 2019) at the tempeh production stage (Stübler et al., 2020) as well as its marketing stage (Okumus & Cetin, 2018; Yang et al., 2020).

The second alternative strategy is brand positioning tempeh in Surakarta by maximizing Digital technology (S1, S3, O2, O3, O6, O7). This strategy is intended so that the quality of

tempeh can result in an increase sales with the help of digital technology (Butot et al., 2020; Yang et al., 2020). Using the power of digital technology, the quality of tempeh from Surakarta can be better known which will result in demand from outside the city (Butot et al., 2020; Yang et al., 2020). This strategy supports one of the goals of the city government which wants to make Surakarta city a place for culinary tourism in Indonesia (Suyatno et al., 2015; Saeroji & Wijaya, 2017).

The third alternative strategy is strengthening the technology involved in the production process to increase productivity (S1, S3, O1, O2, O3, O4, O5). This strategy was formulated in response to the increasing demand due to population additions and increased consumer income. Improvements in production technology lead to a significant increase in productivity, lower product failure rates (Chege & Wang, 2020). The development of production processes through the revitalization of machinery and equipment is one of the right strategies to develop SMEs (Jatmiko et al., 2021) because there is an increase in efficiency (de Jesus & Mendonça, 2018; Blasi et al., 2021) as well as improving the company’s financial performance (Machado et al., 2020).

Based on consideration of critical success factors that have been identified before, further analysis was carried out to determine the most compelling priorities through the Quantitative Strategic Planning Matrix (QSPM) (F. R. David, 2011). QSPM was chosen because it is recommended to help determine the most effective strategy among the alternative strategies previously formulated (F. R. David, 2011; M. E. David *et al.*, 2016).

QSPM analysis uses important success factors (external and internal) as the basis in determining the relative appeal of each alternative to the comparable strategy (M. E. David *et al.*, 2016). The results of the QSPM analysis on this study are illustrated in Table 3.

Table 3 describes the results of QSPM calculations based on the multiplication of attractive scores with weight from the External Factor Evaluation matrix and the Internal Factor Evaluation Matrix in comparing alternative strategies from the SWOT matrix. The appraiser of the attractiveness rating of every critical success factor is the Surakarta City Government. The Calculation of Total Attractive Score (TAS) comes from the multiplication between weight and attractive score (AS). Based on the QSPM analysis in Table 3, the TAS value for the first strategy is 5.524938, the second strategy is 5.11829 and the third strategy is 4.193875. Based on the value of the Total Attractive Score (TAS), the priority of the recommended strategy is new product development strategy for processed tempeh.

Tempeh's new product development innovation was chosen because it has more benefits than the other two alternative strategies (Loredana, 2017), having a dimension of future orientation and sustainability aspects (Jin & Lee, 2020; Klein *et al.*, 2021), services and markets in a difficult managerial environment and by moving proactively to dominate a competitive market. This study aims to examine the relationship between entrepreneurship and managerial innovation capacity by considering subfactors, such as innovativeness, proactiveness and risk-taking, as well as to explore the

relationship between managerial innovation capacity and management performance. The study determines the extent to which policy finance and management support for small and medium-sized enterprises (SMEs) as well as a significant influence in a competitive business environment and compliance with sustainable practices in SMEs (Chege & Wang, 2020). When discussing the innovation of new culinary products, the substance creates and provides value for consumers and ultimately generates profits because it supports sustainable trends in the product's life cycle (Lermen *et al.*, 2018; Tidd & Bessant, 2018; Amaya Rivas *et al.*, 2020).

As a city of culture, Surakarta is known as a culinary city (Saeroji & Wijaya, 2017); this presents an opportunity for tempeh to be developed as a new product. Tempeh has excellent potential to be developed as a culinary attraction because tempeh has been used as one of the main sides in many dishes consumed by the Indonesian public (Sumaedi & Sumardjo, 2020). In addition, the development of processed tempeh products can also be a superior product that can be used as souvenirs by culinary tourists who visit the city of Surakarta (Chaney & Ryan, 2012).

New tempeh products developed should consider many aspects of consumer needs (Mokhtar *et al.*, 2014; Chang & Taylor, 2016; Horvat *et al.*, 2019), so the process of developing tempeh products must involve consumers (Mokhtar *et al.*, 2014; Dijksterhuis, 2016; Horvat *et al.*, 2019; Nikmah *et al.*, 2020). Successful product development will extend the product life cycle (Gmelin & Seuring, 2014). For this to work, however, tempeh producers must understand the life cycle structure of the product. Understanding the product life cycle will help producers understand when product development is to be carried out (Gmelin & Seuring, 2014).

One way to develop products that are consumer desire oriented is via the house of quality concept (Riesener *et al.*, 2019). This product development concept integrates the

Table 3: QSPM of tempeh SMEs in Surakarta city

No.	Strategic Factors	Weight	Strategy 1		Strategy 2		Strategy 3	
			AS	TAS	AS	TAS	AS	TAS
1	Good quality of tempeh	0,090652	2	0,181304	3	0,271956	4	0,362608
2	Accommodates a lot of workforce	0,079320	4	0,317280	3	0,237960	2	0,158640
3	Production technology has been mastered	0,101983	3	0,305949	2	0,203966	4	0,407932
4	Tempeh that is not sold can be sold in other products	0,084986	4	0,339944	2	0,169972	1	0,084986
5	Can be processed into a variety of foods	0,096317	4	0,385268	2	0,192634	1	0,096317
6	Managed not applying management principles	0,093484	3	0,280452	2	0,186968	1	0,093484
7	Not implementing quality management	0,096317	1	0,096317	2	0,192634	4	0,385268
8	The shelf life of tempeh is relatively short	0,096317	3	0,288951	2	0,192634	1	0,096317
9	Not yet utilizing the network	0,101983	2	0,203966	3	0,305949	1	0,101983
10	Education is still low	0,090652	1	0,090652	2	0,181304	3	0,271956
11	SMEs tempeh does not have visionary goals	0,067989	2	0,135978	3	0,203967	1	0,067989
12	High demand for tempeh	0,081716	3	0,245148	1	0,081716	4	0,326864
13	The city of Surakarta is known as a city for culinary tourism	0,081716	3	0,245148	4	0,326864	1	0,081716
14	Strategic location of the city of Surakarta	0,086823	2	0,173646	3	0,260469	1	0,086823
15	Guaranteed supply of raw materials	0,086823	2	0,173646	1	0,086823	3	0,260469
16	There are many tempeh sellers	0,071502	3	0,214506	2	0,143004	4	0,286008
17	Tempeh is easily processed into a variety of foods	0,074566	4	0,298264	2	0,149132	1	0,074566
18	Digital technology makes promotion easy	0,089888	3	0,269664	4	0,359552	2	0,179776
19	Another tourist destination city with innovative culinary products	0,081716	4	0,326864	3	0,245148	2	0,163432
20	Some products in a gift shop from another city	0,086823	4	0,347292	2	0,173646	3	0,260469
21	Better branding of competitors' products	0,087845	3	0,263535	4	0,35138	2	0,175690
22	The cooperative does not have a vision for tempeh development	0,081716	2	0,163432	3	0,245148	1	0,081716
23	The graying of online business competition	0,088866	2	0,177732	4	0,355464	1	0,088866
Total		1	64	5,524938	59	5,11829	48	4,193875

Source: Primary Data Analysis, 2020

production processes and technologies to ensure sustainable product development (Gmelin & Seuring, 2014).

From a different perspective, product development should start with:

- (1) Correct business models (Kozlinska *et al.*, 2020).
- (2) Clear product concepts.
- (3) Designs for products according to consumer expectations.
- (4) Understanding what consumers like and dislike.
- (5) Knowing trends in consumer desire towards food (healthy food, functional food, halal food and innovative).
- (6) Ensuring quality products and competitive prices (Dijksterhuis, 2016; Kozlinska *et al.*, 2020; Kubicová *et al.*, 2021).

To create sustainable economic growth, the Surakarta city government must provide a correct understanding of business to tempeh processed businesses, equip entrepreneurial capacity and facilitate collaboration with other stakeholders (Nikmah *et al.*, 2020; Pakura & Rudeloff, 2020; Journeault *et al.*, 2021).

Conclusion

This research aims to identify opportunities and threats from the external environment and the strengths and weaknesses of the internal environment of the tempeh production system in Surakarta City. The main purpose of this research is to formulate the best strategy to develop the tempeh industry in Surakarta City.

The results show critical success factors that influenced the development of the tempeh industry consist of seven opportunities, five threats, five strengths and six weaknesses. Based on the EFAS and IFAS analysis, the competitive position of tempeh producers is in quadrant one (strength, opportunity). In quadrant one, the recommended strategy is progressive. Alternative strategies to develop SMEs in the

tempeh-making industry formulated by the Surakarta City Government are:

- (a) Developing new products processed tempeh.
- (b) Branding of tempeh Surakarta by maximising digital technologies.
- (c) Strengthening production process technology to increase productivity.

Based on the results of the QSPM analysis, the recommended strategy is to develop new products processed tempeh. This study shows that the synergy of Grand strategy, SWOT matrix and QSPM results in a single decision that is both methodological and measurable.

The synergy of the three analytical tools can be adopted as an alternative in determining a decision priority. In order to maximise the results that the Surakarta City Government will obtain, the next research should explore the concept of products and the form of new consumer-oriented tempeh processed preparations. By developing new products that are by the wishes of consumers, new products processed tempeh is expected to be an attraction to increase culinary tourism visits as the primary purpose of this research.

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