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Value Stream Analysis of Fresh-Cut Vegetables in Bangladesh

Shakila Salam[1], Mousumi Saha[1] & Mahmuda Nasrin[2]

[1] Institute of Agribusiness and Development Studies, Bangladesh Agricultural University, Mymensingh, Bangladesh

[2] Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh, Bangladesh

Correspondence: Shakila Salam, Institute of Agribusiness and Development Studies, Bangladesh Agricultural University, Mymensingh, Bangladesh. Tel: 880-179-057-2293. E-mail: shampa.bau@gmail.com

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Abstract

Fresh-cut vegetable is a value added product and its demand shows remarkable growth tendency in Bangladesh. The study specifically examined the roles of value chain actors, value addition through marketing system and evaluating prospects of fresh-cut vegetables. Data obtained from a total of 103 vegetable customers (from Dhaka city), 10 outlet managers of SHWAPNO supermarket (from Dhaka city), 20 vegetable growers and 35 marketing intermediaries by using purposive sampling technique. Among available fresh-cut vegetables, 5 vegetables named taro root, amaranth stem, taro root stem, green pea and bean seed are considered in this study. Using marketing margin and value added models; the results indicate that each actor along the value chain starting from farmer to retailer (supermarket) added a significant amount of value. Processor and supermarket added highest value among all selected fresh-cut vegetables' value chain actors. There is enough scope to develop specific channel for fresh-cut vegetable marketing. Moreover, the evaluation results of SWOT analysis accurately reflected the fresh-cut vegetable market situation which made it possible to assess the potentiality and identify strategies for development of this market in Bangladesh.

Keywords: fresh-cut vegetables, value chain; supermarket, SWOT analysis, Bangladesh

1. Introduction

The concept of fresh-cut produce is mostly common in developed countries, but also not too primitive in the context of Bangladesh. At present, developing country's consumers get more concerned about the nutritional and sensory aspect as well as the safety of the food they eat due to growing health awareness (Da Costa *et al*., 2000; Quadri *et al*., 2015). With growing consumer demand for ready-to-eat products in Asian countries, Bangladesh is also likely to show a continuous growth trend for more convenience, fresh, nutritious, and safe fresh-cut products. Customer demand for these attributes has indeed, led to considerable innovation and diversification in the fresh-cut industry. "Fresh-cut" indicates to raw vegetables and fruits that have been cut, shredded, peeled, abraded, or otherwise prepared to produce convenient ready-to-eat or ready-to-cook portions (Brecht *et al*., 2004). The International Fresh-cut Produce Association (IFPA) defines fresh-cut produce as 'any fresh fruit or vegetable or any combination thereof that has been physically altered from its original form, but remains in a fresh state' (Qadri *et al*., 2015). As vegetables and fruits in our daily diet are the major sources of important antioxidants, maximum utilizations through proper fresh-cut processing of vegetables and fruits are highly desirable. International Food and Policy Research Institute (IFPRI) shows in research that during 2011-12 to 2015 average Bangladeshis have increased fruits and vegetable intake; fruits 35 g from 10 g, leafy vegetable 41 g from 38 g (Khan, 2020) and this change in diet is making us optimistic.

Though fresh-cut fruits and vegetables marketing has started in Bangladesh just in a recent past, anticipate that it has considerable rapid growth potential like many other developing and developed countries. United Kingdom is now in the top position in Europe based on fresh-cut fruits and vegetable sales (EUR 1.1 billion), while per capita spending on fresh-cut produces is highest in case of Switzerland and Netherland (FAO, 2010; Rabobank, 2009). With decreasing income level, the probability of consuming fresh-cut produces also decreased in USA (Sonti, 2003). Fresh-cut products market in Thailand and Vietnam shows a persistent growth tendency (FAO, 2010). Besides, fresh-cut vegetables command a larger market share than fresh-cut fruits in regular and upscale supermarkets of Thailand where price of fresh-cut produce was higher than that of intact fresh produce (Sa-nguanpuag *et al.,* 2007). Fresh-cut vegetables are only available at the supermarkets of Bangladesh, even not all supermarkets. Not only people in higher income bracket, but also people in mid income level have become the customers of supermarkets. Currently, around 30 companies operate about 200 supermarkets in Bangladesh where annual turnover in food items is estimated at about 2 percent of food retailing (Hussain & Leishman, 2013). Among them, some largest supermarkets named Shwapno, Agora, Meena Bazar preliminary started to market fresh-cut produces. Normally, they make these produces available only some largest outlets in the big cities like Dhaka, Chittagong, Cumilla, etc. Different types of fresh-cut vegetables like mixed vegetables, carrots (shredded, sticks, peeled), broccoli and cauliflower, capsicum, amaranth stem, onions (sliced, whole peeled), taro root, taro root stems, bitter gourd, green jackfruit, jackfruit seed, bean seed and green pea are available at different supermarkets of Bangladesh. Value-added can be almost anything that enhances the dimensions of a business. The key is that the value-adding activity must increase or stabilize profit margins, and the output must appeal to the consumer (AAFC, 2004). Still now, vegetable farmers have no influence in product pricing rather they are strongly managed and monopolized by giant traders, wholesalers, and retailer syndicate and they take the profitability and preference of farmers (Karim and Biswas, 2016). But farmers in Bangladesh cannot avoid intermediaries' for shifting their product to market. Generally, vegetable producers in Bangladesh hardly get the fair price for their produce, whereas city dwellers have to pay double, triple, sometimes even much more to meet their vegetable needs (Jamaluddin, 2017). Choice of fresh vegetables is often not influenced by the price of an individual item (Owen *et al.* 2002), when these vegetables reach at the final consumer hand at a fresh, convenient, easy-to-use format with minimal wastage, it pose more value to him/her. Fresh-cut vegetable is a more value added product as it's an innovation that enhances or improves the existing product, or introduces new perspective or new uses. This allows creating new markets, or differentiating the product from others and thus gaining an advantage over competitors.

As a new evolved concept in the context of Bangladesh, literature on fresh-cut vegetable is hardly available. Sporadic information that is available on other countries is mostly very specific and incomplete in nature. Wiryawan and Djatna (2020) conducted a study on value chain and sustainability analysis of fresh-cut vegetable at SSS Co., Indonesian, where value Chain analysis measured by green value stream mapping. They selected three competitive products namely bell peppers, lettuce head, and broccoli for this analysis. The result of value chain analysis indicated that the environmental impact was less than the productivity level of those competitive products. The sustainability analysis of fresh-cut vegetable in aggregated multidimensional scale showed that the fresh-cut vegetable agro-industry had "enough sustainable" status. Reddy *et al.* (2010) examined the growth and performance of modern retailing of fresh vegetables and fruits and its impact on traditional retailers in Andhra Pradesh, India. The study indicated that the number of players is less in modern retailing than in the traditional retailing. In the traditional value chain, only 10.8% of the gross value added by the traditional retailer, whereas highest percentage of the value (38%) held by supermarkets in modern retailing. Different forms of value additions also identified by the modern retailing system in this study like minimally process items which is closer to the final consumer product (e.g., fresh-cut vegetables and ready-to-eat salad mixes). This study concluded that the emergence of modern retail chains created new food value chains which helped in reduction of price and production risks and thereby increased returns from farming. Therefore, it is essential to provide information about this modern retailing of vegetables through supermarkets and its value additions in the context of Bangladesh. Besides, investors/supermarkets have keen interest to know future prospect and constraints of fresh-cut vegetable, and find out the environment to increase its demand tremendously as marketing of this produce has been started recently at supermarkets in Bangladesh. Customers are not always fully satisfied due to higher price where extra value addition than the traditional vegetable marketing might be responsible for this (Salam *et al.* 2020).

Though the demand for fresh-cut items is gradually increasing in Bangladesh, yet there has not been any research available on the fresh-cut vegetable topic. Therefore, identifying the existing value chain used in the fresh-cut vegetables helps to determine the market problems and reduce the unwanted cost in the value chain. As a consequence, farmer can get the maximum value of their products and customers can get fresh-cut vegetables at lower prices. This study attempts to explain the fresh-cut vegetables value stream analysis through the value chain map that will provide a way to identify the intermediaries' contribution in value addition, causes of higher price, and to improve efficiency. Present situation and future prospect of fresh-cut vegetables business venture are also evaluated through SWOT analysis. The findings will help to make appropriate marketing strategy and pricing policy of vegetables in Bangladesh.

2. Method

2.1 Data Sources

Due to wider availability of fresh-cut items, SHWAPNO supermarket was chosen among the top most supermarkets where fresh-cut vegetables are only available to sell (SHWAPNO, Agora and Meena Bazar). Among available fresh-cut vegetables, 5 different vegetables named taro root, amaranth stem, taro root stem, green pea and bean seed are considered in this study. These 5 types of fresh-cut vegetables are the only fresh-cut forms those are processed in outside of the supermarkets by suppliers/processors. Generally, processors purchase these vegetables from the local wholesale market of Dhaka, process these in their vendors and supply to the supermarkets. Therefore, besides supermarket and processors, all intermediaries involved in the vegetables marketing (from producer points to the Dhaka wholesale markets) are also included in the value chain analysis of the present study. This study followed a key informant interview (KII) and questionnaire survey for data collection. A set of questionnaires was prepared for farmers, marketing intermediaries, outlet managers of SHWAPNO, and customers. The process was fully participatory through ensuring involvement of 103 vegetable customers (from Dhaka city), 10 outlet managers of SHWAPNO supermarket (from Dhaka city), 20 vegetable growers/farmers and 35 marketing intermediaries (4 *Farias*, 14 *Beparies*, 16 wholesalers and 1 processor/supplier) by using purposive sampling technique. Considering the availability and huge production of selected fresh-cut vegetables in Bogura and Naogaon districts, vegetable growers were sampled from these 2 districts of Bangladesh. Primarily, fresh-cut vegetable supply chain from Bogura and Naogaon towards Dhaka was set as an investigation chain in order to develop a general understanding on the research objectives. Data were collected during the period from August 2018 to March 2019. Additionally, secondary data were collected from relevant websites, articles, research papers and journals on E-commerce, text books of related topics, and annual reports.

2.2 Data Processing and Analysis

Collected data were sorted and arranged in order to perform further study and analysis. For analyzing the data, a combination of descriptive, statistical and mathematical techniques was used to achieve the objectives. Data were arranged by using graphs, tables and flowcharts. Future prospect and current situation of fresh-cut vegetables business were analyzed through SWOT analysis.

2.2.1 Marketing Margin and Value Addition

The marketing margin and value addition of different value chain actors were estimated by the following formula:

$$\text{Marketing Margin} = \text{Sales price} - \text{Purchase price}$$

$$\text{Value Addition (\%)} = \frac{\text{Sales price} - \text{Purchase price}}{\text{Purchase price}} x\ 100$$

2.2.2 External and Internal Factors Evaluation Matrices

Following Ommani (2011), external factors evaluation (EFE) matrix and internal factors evaluation (IFE) matrix processes used five steps:

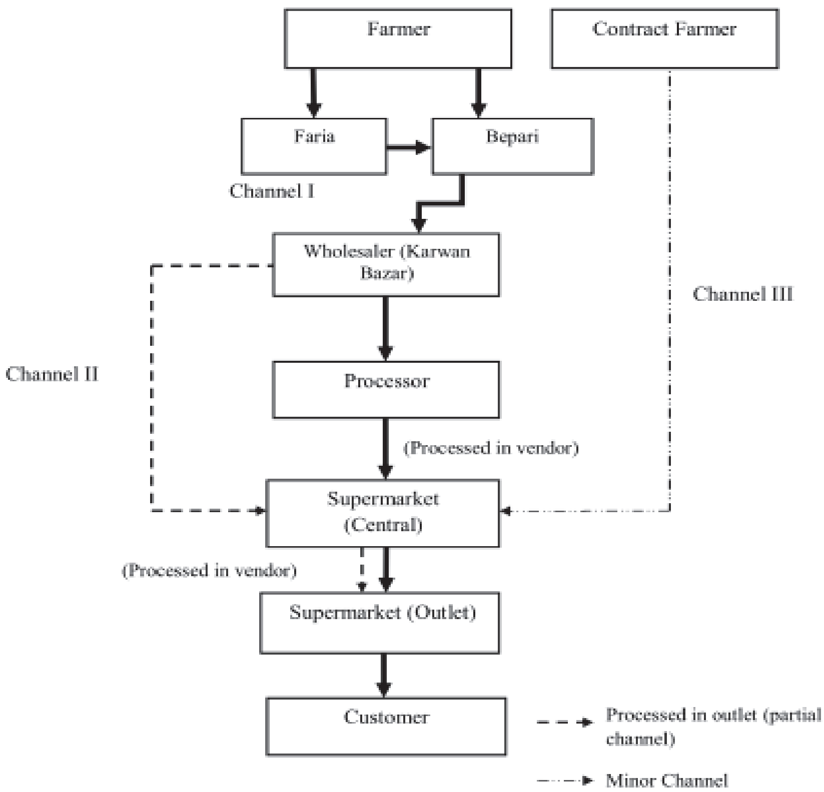
1. List factors: The first step is to gather a list of external factors and divide them into two groups: opportunities and threats.
2. Assign weights: Weight is assigned to each factor. The value of each weight should be between 0 and 1. 0 means the factor is not important, while 1 means the factor is the most influential and critical. However, the total value of all weights put together should equal 1.
3. Rate factors: Rating is assigned to each factor, and is between 1 and 4. Rating indicates how effective the firm's current strategies respond to the factor. For example, in case of EFE, rating captures whether the factor represents a major threat (rating = 1), a minor threat (rating = 2), a minor opportunity (rating = 3), or a major opportunity (rating = 4). If rating scale 1 to 4 is used, then strengths must receive a 4 or 3 rating and weaknesses must receive a 1 or 2 rating.
4. Multiply weights by ratings: Multiply each factor weight with its rating in order to calculate its weighted score.
5. Total weighted scores: Add all the weighted scores of each factor, in order to calculate the company's total weighted score.

Regardless of how many factors are included in an EFE or IFE matrices, the total weighted score can range from 1.0 to 4.0 where average score is 2.5.

3. Results and Discussions

3.1 Value Chain Map of Fresh-Cut Vegetables

The value chain map shows the movement of the vegetables through marketing channel and identifies the actors and their activities (Karim and Biswas, 2016). Flowchart 1 identifies the existing major distribution channels of fresh-cut vegetables in Bangladesh which has started from the farmer and ended at consumers through following different marketing channels.



Flowchart 1: Value chain of fresh-cut vegetables in Bangladesh

Note: For the selected fresh-cut vegetable items, supermarkets used only channel I

Based on the flowchart 1, three distribution channels are identified through which market actors formed value chain. Channel I is the most important path as used widely as the main channel for selected five fresh-cut vegetable marketing in Bangladesh. Most of the supermarkets that marketed these fresh-cut vegetable (like Shwapno, Meena Bazar) are following this same channel. Though supermarkets have direct channel to collect some raw vegetables from their contract farmers like modern retailing system (Reddy, *et al*., 2010), they do not have any such channel for selected fresh-cut items; traditional marketing system for collecting these items have been used till now. As a newly introduced item in the customer cart, the demand of fresh-cut vegetable is not stable. Due to this risk and uncertainty, they do not make full-time contact with the producers of these vegetables. However, distinct market actors named *Faria*, *Beparies*, wholesalers, processors/suppliers and retailers (supermarket) are involved in this value chain. The actors of this channel are:

Farmer: As selected vegetables are widely cultivated in Bogura and Naogaon, growers from these districts have been identified as farmer in this value chain. They produce taro root, amaranth stem, taro root stem, green pea, bean, and bring their product to sell in their local market. In some cases, *Faria*s and *Beparies* come to their farm gate to purchase and collect the product. The productions of these vegetables differ from season to season. The farmer sold 93%, 84%, 91%, 94% and 95% of taro root, amaranth stem, pea, bean and taro root stem to the local wholesaler (*Faria* and *Bepari*), respectively and the remaining in the local retail market.

Faria: Farias are rural traders who purchase vegetables at small scale from farmers either in farm gate or from local market and sell these vegetable to *Beparies*. In this study, involvement of *Faria* is only found in amaranth stem supply chain where they made a market margin of 7.32% (Figure 1).

Bepari: Beparies purchase vegetables from *Faria* or directly from the farmers and transport them to the central wholesale markets located at Karwan Bazar for urban consumption. They made a market margin of 11.43% to 24.39% (Figure 1) in the present study.

Wholesaler: Wholesalers are located centrally and purchased the selected vegetables through *Berpari.* In some cases, they also directly purchase vegetables from farmers through prior contract basis. Processor of fresh-cut vegetables and supermarkets directly purchase vegetables from them. Figure 1 indicates that wholesaler made a market margin of 15.66% to 29.27%.

Processors/Suppliers: "Trading Bangladesh Worldwide" is associated with this marketing channel as processor/supplier of fresh-cut vegetables. The job of this organization is to collect selected vegetable items from wholesalers at Karwan Bazar, Dhaka, process these in their own vendor and supply these to the supermarket's central zone/branch as fresh-cut form. They made a market margin of 17.14% to 32.94% (Figure 1).

Supermarket: In this study, supermarkets act as retailer of fresh-cut vegetables. Figure 1 shows that supermarket made a market margin of 19.51% to 51.43%.

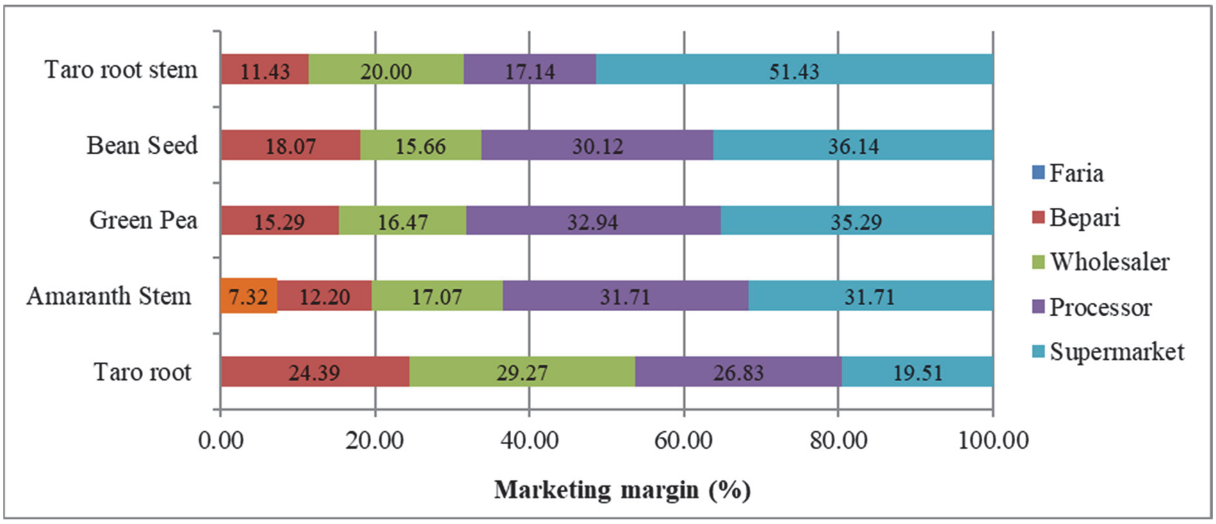


Figure 1. Marketing margin (in percentage) of different market actors in fresh-cut vegetable marketing

Besides processor's supply, some vegetable items those are collected from wholesale market to sell in the supermarket as raw form are also processed in the outlets as fresh-cut vegetables like mixed vegetable, sliced capsicum, brinjal and cucumber, chopped bitter gourd, cauliflower and cabbage, unshelled green papaya etc. This procedure is indicated as channel II (in Flowchart 1) which is also partially used to distribute products. SHWAPNO supermarket also maintained another channel for collecting their fresh and hygiene raw vegetable under channel III. A project named "SUDDHO" collected vegetables from their contract farmers following their recommended guideline for production process and then like channel II, some of these collected vegetable are processed in the outlets as fresh-cut vegetables. About 21 items of fruits and vegetables are supplied in SHWAPNO supermarket by the contract farmer. At present, 65 percent of SHWAPNO fresh produce is procured directly from source (Ahmed, 2018). Contract farmers were maintained organic practices and it is the minor channel for fresh-cut vegetable marketing.

3.2 Value Addition by Different Market Actors

Following bar diagram (Figure 2) depicts value addition of different market actors in fresh-cut vegetable marketing. The study reveals that among selected fresh-cut vegetables, *Farias* are only involved in Amaranth stem marketing where they added around 18 percent of the product value. *Beparies* sold the vegetables by price bargaining with wholesalers at Karwan Bazar and got their margin.

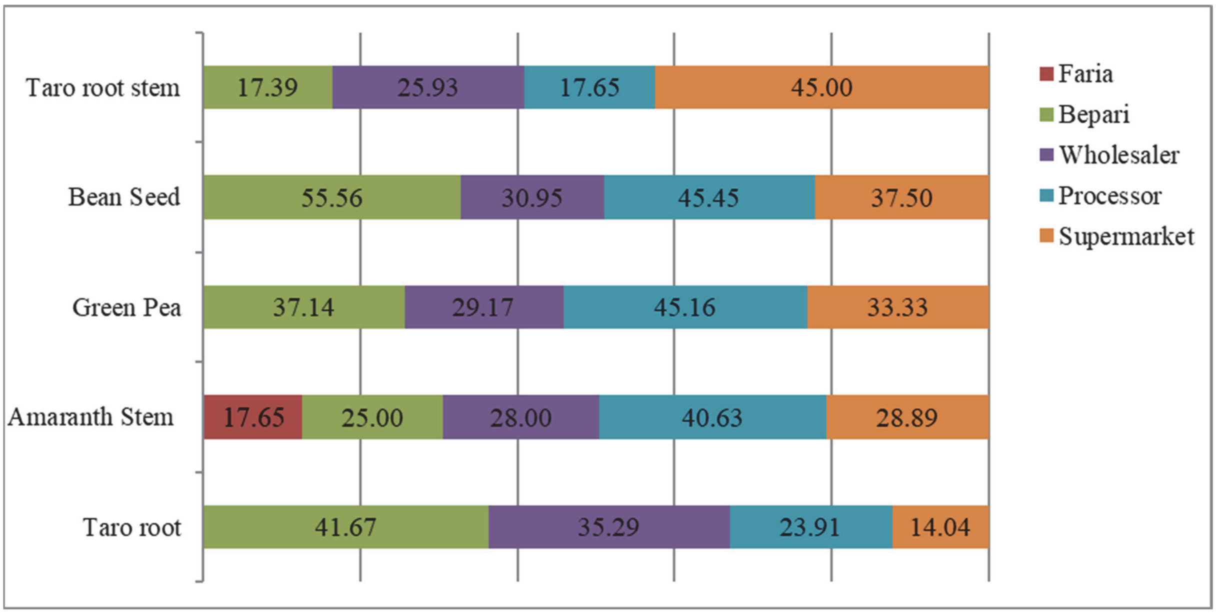


Figure 2. Value addition (in percentage) by different market actors in fresh-cut vegetable marketing

Among all market actors, the *Beparies* added lowest value (17.39%) in taro root stem but added highest value (55.56%) in bean seed and second highest value (41.67%) in taro root among these selected vegetables value chains. Around 26% to 35% value of each fresh-cut vegetable has increased by the wholesalers, and among all selected vegetables, highest (35.29%) added value is of Taro root (Figure 2). Processing follows wholesaling, then supermarkets sell the processed vegetables to the customer at higher price. Processors process (peeling, slicing, shredding, trimming, washing and packaging) fresh vegetables according to supermarket demand. Depicted diagram (Figure 2) asserts that a great portion, about 45 percent value of bean seed and green pea have risen by the processors. Before moving the product to the ultimate consumers' hand, final value addition is done by the retailer (supermarket), where highest (45%) value addition has noticed in case of taro root stem and lowest (14%) is of taro root.

3.3 SWOT Analysis of Fresh-Cut Vegetable Market

To gain insights into the past and think of possible solutions to existing or potential problems (either for an existing business or for a new one), a SWOT analysis is beneficial for business owners or managers (USDA, 2008; Nouri *et al*., 2008; Ommani, 2011). SWOT analysis involves specifying the objective of the fresh-cut vegetable business venture and identifying the internal and external factors that are favorable and unfavorable to achieving that objective. It provides analysis and interpretations of different aspects of fresh-cut vegetable market in Bangladesh in terms of its strengths, weaknesses, opportunities and threats.

3.3.1 External Factors Evaluation (EFE) Matrix

EFE matrix is the first part of the SWOT analysis where outside own business environments are evaluated that we cannot control but can manage (enhance or reduce) their impact on own business. For assessing the current business conditions by visualizing and prioritizing the opportunities and threats, strategic-management tool like EFE is often used. According to the stakeholders' idea, each item was evaluated and then ranked (Table 1). This table indicates that increasing income level and purchasing power of people, women employment, positive customer attitudes and demand got the higher weight in the opportunity of fresh-cut vegetables in Bangladesh. However, major portion of population in Bangladesh are habituated to traditional food consumption pattern and thought purchasing of fresh-cut vegetable at a higher price is just wastage of money. As it is a new concept in the context of Bangladesh, all peoples are not interested to purchase and assume all the items are spoiled and wastage product. Besides, customers' purchasing nature of fresh-cut items is not stable. Therefore, a supermarket has to face unstable demand which implies huge wastage of the products and ultimately great financial loss for the supermarkets which causes reluctance to introduce new items in the fresh-cut section. This type of customer psychology and unstable purchasing behavior pose great threats for fresh-cut vegetable industry in Bangladesh.

The total weighted score of the external factors is found 2.63 for fresh-cut vegetable industry (Table 1) which indicates that the fresh-cut business has above than average ability to respond to external factors.

Table 1. External factors evaluation (EFE) matrix of fresh-cut vegetables

	External factor	**Weight**	**Rating**	**Weighted score**
Opportunities	Expansion of women employment opportunities	0.09	3	0.27
	Increasing income level and purchasing power of people	0.10	4	0.40
	Positive customer attitudes and demand help to expand market span outside supermarket	0.08	4	0.32
	The increasing information and new technology	0.07	3	0.21
	Consumer demanded more items as fresh-cut	0.09	3	0.27
	Export facilities help to develop fresh-cut indigenous vegetable market in international arena	0.04	3	0.12
	Health consciousness of the people	0.06	4	0.24
	Total	*0.53*		*1.83*
Threats	Unstable demand	0.10	2	0.20
	Consumer habit and mentality	0.09	2	0.18
	High cost of processing materials	0.07	2	0.14
	Price fluctuations in vegetable market	0.08	1	0.08
	Risk of new competitors	0.07	2	0.14
	Marketing risk	0.06	1	0.06
	Total	*0.47*		*0.80*
	Total weighted score	1.00		2.63

3.3.2 Internal Factor Evaluation (IFE) Matrix

Internal factor evaluation (IFE) matrix is a strategic management tool used for evaluating own business's strengths and weaknesses in functional areas. Based on the stakeholders' idea, each item was evaluated and then ranked (Table 2).

Preparation of vegetables (peeling, shredding, cutting, washing, etc.) for cooking is not hassle-free and time consuming. Moreover, women who are involved in outside economic activities have less time for cooking purposes. Fresh-cut vegetable items aid them as it requires less time to cook and it is easy to cook. Therefore, nature of the fresh-cut product exerted top most strength following quality, hygiene and wastage reduction at household (Table 2).

In fresh-cut vegetable business, the total weighted score of the internal factors is found 2.53 (Table 2) which depicts that the fresh-cut business is slightly above average in its overall internal strength.

Table 2. Internal factors evaluation (IFE) matrix of fresh-cut vegetables

	Internal factor	Weight	Rating	Weighted score
Strength	Nature of the product (less time consuming, easy to cook)	0.10	4	0.40
	Quality of the product	0.10	3	0.30
	Maintaining hygiene	0.10	3	0.30
	Reducing wastage at household level	0.08	4	0.32
	Employment opportunities creation	0.07	3	0.21
	Branding	0.07	3	0.21
	Total	0.52		1.74
Weakness	Lack of organic products	0.09	1	0.09
	Huge wastage of the products due to perishable nature	0.10	2	0.20
	High price of the product	0.08	1	0.08
	Lack of availability	0.07	2	0.14
	Lack of proper preservation and freshness	0.08	2	0.16

	Engagement of many middlemen in vegetable marketing	0.06	2	0.12
	Total	0.48		0.79
	Total weighted score	1.00		2.53

3.3.3 SWOT Matrix

Strengths, weaknesses, opportunities and threats (SWOT) analysis indicates a framework for helping the researchers or planners to identify and prioritize the business goals, and to further identify the strategies of achieving them. SWOT matrix comprises four strategic groups (Ommani, 2011):

(I) How strengths are used to take advantage of opportunities

(II) How weaknesses are reduced by taking advantage of opportunities

(III) How strengths are used to reduce the impact of threats

(IV) How weaknesses that will make these threats a reality are addressed

In this study, group II strategies are the suggested strategies for fresh-cut market development in Bangladesh (Figure 3).

<table>
<tr><td>Internal Factors
External Factors</td><td>Strength:
1. Nature of the product
2. Quality of the product
3. Maintaining hygiene
4.Reducing wastage at household level
5. Employment creation
6. Branding</td><td>Weakness:
1. Lack of organic products
2. Perishable nature
3. High price of the product
4. Lack of availability
5.Lack of preservation & freshness
6.Engagement of many middlemen in vegetable marketing</td></tr>
<tr><td>Opportunities:
1. Expansion of women employment
2.Increasing income level and purchasing power of people
3. Positive customer attitudes
4. The increasing information and new technology
5. Consumer demand
6. Export facilities
7. Health concerned people</td><td></td><td></td></tr>
<tr><td>Threats:
1. Unstable demand
2. Consumer habit and mentality
3. High cost of processing materials
4. Price fluctuations
5. Risk of new competitors
6. Marketing risk</td><td colspan="2">Strategies:
1. Development of organic fresh-cut vegetables market
2. Production of vegetable through contract farming
3. Fulfilling customer demand by developing new fresh-cut items
4. Development of governmental supports for exporting traditional fresh-cut items and importing required materials
5. Improvement of the management system at the supermarkets
6. Promotional activities through mass media</td></tr>
</table>

Figure 3. SWOT matrix

4. Conclusion

Based on the findings it can be concluded that considerable scope exists to expand the fresh-cut vegetable market and to develop its value chain. The study is mainly focused on the value chain analysis and its overall prospect of fresh-cut vegetables business venture. The findings of the study indicate that all traditional vegetable market intermediaries along with processors/suppliers and supermarkets are involved in the selected fresh-cut vegetables value chain. Processors procured raw vegetables from wholesalers who added around 26% to 35% value of each fresh-cut vegetable value stream. Then, processor processed various fresh vegetables, adds significant extent of value to the produce which follows final value addition by the retailers. Processor and supermarket (retailer) added highest value among all selected fresh-cut vegetables' value chain actors. The marketing system of fresh-cut vegetable is not well developed as this channel is almost same as traditional system of vegetable marketing. There is enough scope to develop specific channel for fresh-cut vegetable marketing like channel III. Through this channel of contract farming it will be possible to eliminate number of middlemen in existing vegetable supply chain, cost reduction and ensure quality product. It will also help vegetable growers to get higher price and reduce price spread as the number of middlemen and their margins will be then eliminated. In this case, government might help entrepreneurs (supermarket owner and processors) by providing different incentives. Moreover, technical and scientific knowledge regarding processing, packaging, and distribution of fresh-cut products will help to minimize wastage of fresh-cut produces. It can also be concluded from this study that the fresh-cut vegetable market has potentiality to expand in Bangladesh. Therefore, it is necessary to consider following strategies to enlighten the future of this market in the country:

1. Development of organic fresh-cut vegetables market to ensure higher quality.
2. Production of vegetable through contract farming.
3. Satisfying customer demand by developing new fresh-cut items.
4. Development of governmental supports for exporting traditional fresh-cut items and importing required materials.
5. Improvement of the management system at the supermarkets.
6. Promotional activities through mass media.

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