

FORMULATE COMPETITIVE STRATEGY IN NON-METAL MINERAL INDUSTRIES ON A. D. LITTLE MODEL (CASE STUDY: SEMNAN TILE COMPANY)

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Abstract

The purpose of the study is to codify competitive strategies in non-metal mineral industries using AD-little model. In doing so, first, strategic business units (SBU) (tile, ceramic, and tile band) were determined then life cycle for each SBU was determined. Afterward, two fuzzy AHP questionnaires were used to determine competitive status of each SBU. Then, having the position of adopted products in AD-little matrix determined, general strategies of selective development, feasibility of development, natural development, and specific methods (to implement the strategies) for keeping conservative situation, survival, and invasive position taking were recommended. Finally, the general strategies regarding each specific method were determined for each organization taking into account specifics of the organization. In this way, strategies of development of overseas facilities, distribution rationalization, methods and functions efficiency, and production rationalization were recommended for tile industries. In case of tile band, strategies of market rationalization, distribution rationalization, production rationalization, method and functions efficiency, and licensing were prescribed. Finally, strategies such as methods and functions efficiency, development of overseas businesses, market penetration, and excessive capacity were recommended for Ceramic.

Key words: strategic programming, product life cycle, competitive position, A.D-little methodology

1. INTRODUCTION

Nowadays, businesses experience much more complicated environment following globalization of economy, industry, production, and market capacity, in which competition is based on time, information, efficiency of communication, and so one. So that businesses that fail to react, to several changes and effects of the environment, faster and sooner than their competitors, have no hope for survival (Momeni, 2009). Many managers and commercial institutes have reorganized their businesses relative to new competition condition as a measure to face with the changes and doing so needs codifying strategies. In other words, keeping their position in the competitive market, running the complicated business affairs, and achieving better status in the market required a tool that enables the business to show timely and proper reaction to the fast and unforeseen changes (Navabi Nejad, 2008). That is, the management needs to adopt strategic futuristic plan that gives them suitable competitive strategy. Among the strategic planning is adaptive mechanism, which emphasizes on forecasting the environment and developing competitive merits. To put it another word, strategic planning process is an adaptive mechanism that leads to realization of the forecasts in the organization (Oliveira Teixeira et al., 2013). Furthermore, a proper competitive strategy is a tool that, above all, determines the status quo of the business in the market and then creates a clear picture of where the organization is anchored for future decision making (Ahmadian, 2005). After a brief introduction to methodology of A.D. little strategic planning – a portfolio analyzing tool – suitable strategies, as implementable projects, are proposed to the management of Semnan Tile Company.

1.1. Literature review

Table 1. Summary of literature review

Ebrahimi (2010)	Analyzing and proposing competitive strategy for Electric Insulator Company	IFE and EFE matrices were extracted and four strategies were determined by SWOT matrix; general orientation of the strategies were determined using SPACE technique; macro strategies were proposed along with micro strategies for all the products (using QSPM technique)
Ahmadian (2005)	Proposing a competitive strategy for Nirou Battery Co.	Competitive strategies were proposed using external/internal factors matrix; the resilience strategy was adopted among other options such as growth, construction, or unit abandonment.
Navabi Nejad (2008)	Proposing proper strategy for Atr Bikyar Co.	Organization mission was codified; SWOT and SPACE matrices were used to evaluate the internal/external environment and the preparing implementation of the strategy. Proper strategy was adopted using QSPM matrix
Zarabi (2009)	Proposing strategy for Shayan Sanat Co.	Condition of Shayan Sanat Clutch Co. was evaluated and proper strategies were proposed using advantages, disadvantages, opportunities, and challenges using FM and EA method
Karimi Tabar (2009)	Survey of optimum model for achieving competitive advantages in tile and ceramic industries- Pareto competitive strategies	Effectiveness of strategies cost reduction, differentiation, and concentration of gaining competitive advantages was ensured using Friedman's tests and based on concentration, cost reduction and differentiation were ranked as the first, second and third strategies respectively
Khodabandeh (2010)	Proposing strategy using comprehensive framework for strategy codification and further test using AHP technique	Strategies were proposed based on internal/external factors and competitive survey matrices. The study also used SPACE and SWOT matrices and the proposed strategy was tested using AHP
Dehyan (2009)	Proposing strategies for Iran Dextros	Strategy was proposed based on SWOT model and David's comprehensive framework. Main strategies at macro and task levels were proposed and ranked by the strategy committee of the company.
Afzali (2009)	Proposing competitive strategy based on ADL model for Kondor Co	Proper strategies were proposed for few products of the company. To this end, status of each product and their life cycle and competitive position as well as their position in Little Matrix was determined
Nezami et al. (2009)	Introduction and utilization of Little planning model for developing strategies for selected products of Alpha Co.	Strategies were proposed for some of the products of the company based on their status and life cycle. Average sale of the products and the brand was compared at the final stage of life cycle and divided by total sale of the products with other available brand. Competitive status was determined based on volume of sale and date of introduction of the product
Jamali et al. (2009)	Interpretive structural modeling for analyzing measures for codifying competitive strategies	The main measures effective on adopting competitive strategies in small/average sized firms in Boushehr Province were determined
Jaznie and Gharibnavaz (2009)	Proposing and elaborating on marketing strategies based on market attractiveness and competitive position in food industries	Under preferred competitive conditions, businesses tend to focus on defensive strategies and invasive strategies are of the second priority
Boyer et al. (2005)	Proposing competitive strategies for companies and	Increase in quality of products and services through expansion of close relations between production and marketing units and

	the effective factors	business units. Decisions were made about development of product and process
Sharif and Mahmoudi (2007)	Judo strategy; an approach to design competitive strategy based on the market	The foundations, principles, and utilization of Judo strategy were discussed. A model was proposed for unique competitive strategies and the principles and the techniques were implemented in codifying a market strategy for a business.
Kanagal (2006)	Surveying relationship marketing in codification of competitive strategies	Relation interaction, give the transaction costs analyzed and social interactions theories, can be taken as background matters. Role of relation based marketing in codification of competitive strategies for higher profitability, build partnership, better image, preserve emotional health, and development of trust in customer were confirmed.
Zapletalova (2009)	Effects of globalization and changes in market structures on competitive strategies	The key to success of the business is the reach compatibility of the strategies and the environment. The firms must take into account their customers and their competitors when it comes to plan their strategies
Fox (2003)	Survey of the power curve in assessing the market with discussions on the concept of life cycle of product and how to implement it	Emphasis on the effects of life cycle on codification and implementation of stage-based and planned strategies for making rational and optimum utilization of the status of the products in its life cycle
Narasihan (2006)	Organizations' decision regarding their products with emphasize on specific competitive condition and life cycle of the product	With change in the market and evolution of product life cycle/strategic unit, the strategies have to change
Nadio (2008)	Common features of strategies based on the principle of life cycle of product and development of new products	New product development strategies are failures when the hypothesis regarding the nature of life cycle curve is not properly perceived. In addition, new products development strategies have mutual effects on product development strategies and bring in new competitive opportunities. .
Crow and Nado (2000)	Relationship between general competitive strategies and life cycle of product	New model to explain general competitive strategies relation and product life cycle. Under the model, strategies of flexibility, cost as a competitive advantage, distinguishing through quality and customer services build a decision making matrix in contrast with product development life cycle. Each entry of the matrix represents a cross point of life cycle and the strategies. This pictures a new approach for producers in spotting competitive advantages and planning for using them through integrated production principle

1.2. A.D. Little strategic planning model

A.D. little was introduced by A.D Leadil in the late 1970s. The model uses environmental assessment and business power assessment. There is an emphasis on life cycle of the industry as a key environmental index. Business power index has to do with classifying business units into six competition status classes: dominant, strong, favorable, tenable, and weak.(Dergi Salari, 2010)

A company needs to perform the following steps for implementation of Little's model.

1. Dividing the company into strategic commercial units. (Nazemi et al. 2009)
2. Determining strategic unit in product life cycles (Sejef, 2004)
3. Determining competitive status of each strategic unit. (Sejef, 2004)

4. Determining place of competitive units in the A.D Little matrix (Hex, 1984)

Once the competitive status of the business unit, regarding life cycle and competitive situation, is determined it can be placed in the matrix. (Figure 1)

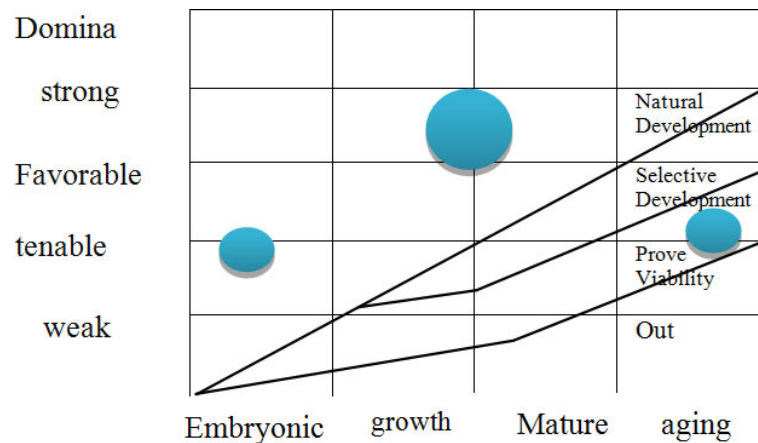


Figure 1. Position of strategic commercial units in Little's matrix (Hex, 1984)

Measures for assessing life cycle and competitive stats

The assessment is based on the market share, investment and profitability or cash turnover of a business

Table 2. Strategic status or position of a product based on market share (Darregi and Salari (2010))

	Embryonic	Growth	Mature	Aging
Dominant	Hold competitive position All out push for share	Hold competitive position Hold share	Hold competitive position Growth with industry	Hold competitive position
Strong	Attempt to improve competitive position All out push for share	Attempt to improve competitive position Push for share	Hold competitive position Growth with industry	Hold competitive position or taking
Favorable	Selective or all out push for share Selective attempt to improve competitive position	Attempt to improve position Selective push for share	Find market and attempt to protect it	taking or phased out withdrawal
Tenable	Selective push for competitive position	Find market and attempt to protect it	Find market and hang on and phased out withdrawal	Phase out withdrawal or abandon
Weak	Up or out	Turnaround or abandon	Turnaround or phased out withdrawal	Abandon

Main method and strategies

Little's matrix helps the management in finding the proper strategy for each one of the strategic unit. As the first move, a general strategy or specific method is recommended for each business unit and then general strategies are introduced. (Dargi & Salari ,2010)

Table 3. Suggest general strategies of Little's model

Code	Strategy	Code	Strategy
A	Backward integration	B	Market rationalization
C	Development of an overseas business	D	Methods and functions efficiency
E	Development of overseas production facilities	F	New products / new markets
G	Distribution rationalization	H	New products / same markets
L	Excess capacity	J	Production rationalization
K	Export/ same product	L	Production line rationalization
M	Forward integration	N	Pure survival
O	Hesitation	P	Same products / new markets
Q	Initial market development	R	Maintenance
S	Licensing abroad	T	Technological efficiency
U	Little jewel	V	Traditional cost cutting efficiency
W	Market penetration	X	Unit abandonment

Macro Strategies																									
general strategies	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
Natural Development																									
launch					E				I			L													
growth	A	B	C			F	G			J				N		P					T	U			
Incremental business position							G					L									T				
Acquisition Offensive position		B	C		E		G					L		N	O	P									
Maintain current position	A		C											N								U	V	W	
taking				D				H					M				Q	R				U		W	
Selective Development																									
Adopt a conservative position	A						G		I			L	M					R			T				

optimum utilization of the current position		B	C		E							L		N		P						U	V		
hold position following conservative approaches			C	D										N			Q								
Prove Viability																									
Catch-up				D	E							L	M			P	Q	R							
renew				D									M		O	P	Q	R							
Change of life				D								L	M	N			Q	R					V	W	
Pure survival	A			D		F				J			M	N			Q	R	S	T				W	
Out																									
taking				D									M				Q	R						W	
Exclude				D								K					Q	R	S						
Unit abandonment																									X

Table 4. Classification of strategies of Little's model

Merger A-Backward integration (David, 2008) M- Forward integration (David, 2008)	Marketing K- Export/ same product (Katler, Armstrong, 2010) Q-Initial market development (Walker et al, 2004) W- Market penetration (David, 2008) F- New products / new markets (Walker et al, 2004) P- Same products / new markets (David, 2008)
Support G- Distribution rationalization (Katler, Armstrong, 2010) I- Excess capacity (Afzali, 2009) B- Market rationalization (Alvani, 1998) J- Production rationalization (Afzali, 2009) L- Production line rationalization (Afzali, 2009)	Development of an overseas business C- Development of an overseas business (David, 2008) E- Development of overseas production facilities (Katler, Armstrong, 2010) S- Licensing abroad (Azad & shahriari , 2004)
Taking U- Little jewel (Walker et al, 2004) N- Pure survival (Afzali, 2009) R- Maintenance (Ahmadi , 1998) X-Unit abandonment (Amirkabiri, 2010)	Improvement of efficiency D- Methods and functions efficiency (Ielchi Omin Kan , 1998) T- Technological efficiency (Ebrahimi ,2010-Waddock , 1998) V- Traditional cost cutting efficiency (Serto,2001-Amirkabiri, 2010)

2. METHODOLOGY

Taking into consideration the subject of the study, statistic population was comprised of all the experienced managers and experts in Semnan Tile Co.. Their comments and opinions were used in the study. Given the small size of the population, sampling was omitted. Totally 12 managers/experts/supervisors work in the company. By expert or experienced manager we refer to the individuals with pertinent degree and more than 5 years work experience or those how have 10 or more years of experience in the field. The information required for determining life cycle stage of each product was obtained from changes in sale. So that, the annual sale data, from the first introduction of a product to the market to the early 2012, was used.

The information needed to determine competitive position was also collected by a researcher-designed questionnaire. The questionnaire constitutes 16 questions and was sent to the members of the study population. A Fuzzy AHP questionnaire was also sent to the participants to weight the questions.

Validity of the questionnaire was ascertained through content validity method and reliability was tested using Cronbach's Alpha as follows:

$$\alpha = \frac{J}{J-1} \left(1 - \frac{\sum S_j^2}{S^2} \right)$$

The tests were carried out in SPSS. Table 5 lists the alpha of the questionnaires.

Table 5. Reliability of the questionnaires

Weighting competitive aspects	Determining competitive position of band tile	Determining competitive position of ceramic	Determining competitive position of tiles	Questionnaire
84%	80%	84%	87%	Cronbach's alpha

3. RESULTS AND DISCUSSION

3.1. Implementation of A.D. Little in Semnan Tile Co.

3.1.1. Classifying the company into strategic business units

Each product, as the definition of strategic unit calls, was defined as an independent unit (i.e. as the smallest business to receive a specific strategy). Wall tile, ceramic (floor tile) and band tile were identified as the products of the company and adopted as strategic unit.

3.1.2. Life cycle stage of the products

Life cycle stage of each product was determined through assessing the sale volume trend starting from the date of introduction of the product to the market. Thus, annual sale reports for each strategic unit were analyzed. The data represented on the diagram are based on annual data.

3.1.2.1 Life cycle stage of tile

The diagram illustrated below is the life cycle of the tile product. As shown in figure 2, the sale continues an ascending trend from introduction of the product for four years and then follows a trajectory with trivial increasing trend and decreasing trend in some spots until the 13th years. However, there is a steep increasing trend between the 12th and 13th year. In general, it appears that the product undergoes its maturity stage. The descending trend starts from late 13th period, which is a steep trend and in spite of single year ascending trend, the sale is decreasing in general. The product enters its aging stage from the 17th period.

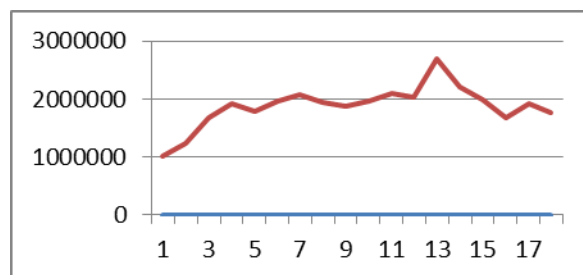


Figure 2. Life cycle stage of tile product

3.1.2.2. Life cycle of band tile

As pictured in diagram 3, the sale trend is mild increasing from the date of introduction of the product to the fourth period, which represents embryonic stage. Then, between the fourth period and the eighth period starts the main growth stage with steep trend (growth stage). In late of eight period the trend is descending and keeps decreasing until 12 and 13th periods. A steep descending trend triggers at the end of 13th period (aging stage)

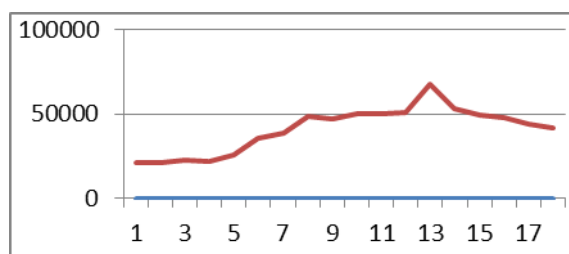


Figure 3. life cycle stage of band tile

3.1.2.3. Life cycle of ceramic

As illustrated in diagram 4, the product continues a steep ascending trend from its introduction to the market. This means that the products skipped embryonic stage and starts growth stage. Afterward, the trend is descending from the fourth stage and given the increasing trend (from the fifth stage) the product is still in growth stage.

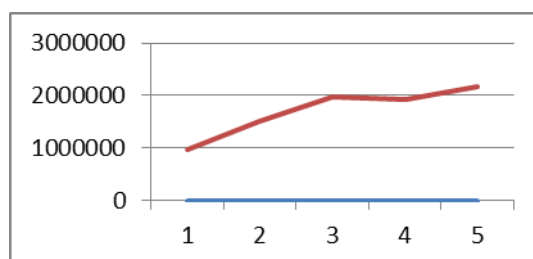


Figure 4. Life cycle stage of ceramic

3.1.3. Competitive position of the products

A.D. Little defines competitive classification qualitatively (dominant, strong, favorable, tenable, and weak). To minimize mental measures' effect in determining competitive position of the product, a questionnaire was prepared for each product to be filled out by the participants. In addition, statements of the questionnaires were weighted using AHP pair-wise comparison questionnaire. The questionnaires were modified using "Chung development" also known as "EA."

3.1.3.1. Weight of the measures of competitive position using fuzzy AHP

AHP questionnaire was provided to the respondents for pair-wise comparison of the measures. The questionnaire utilized oral variables (Table 6). First each oral variable was assigned with a fuzzy number and the result of pair-wise comparison was a 16*16 matrix of fuzzy number.

Table 6. Fuzzy number corresponding with Fuzzy AHP technique

Oral variable	Fuzzy 3D numbers
Completely favorable	(9,9,9)
Very strongly favorable	(6,7,8)
Strongly favorable	(4,5,6)
Relatively strongly favorable	(2,3,4)
No idea	(1,1,1)
Relatively weak favorable	(25,333,5)
Weakly favorable	(166,2,25)
Very weakly favorable	(125,143,166)
Completely unfavorable	(111,111,111)

By replacing the scores obtained from the questionnaire in EA procedure, each statement of the questionnaire was weighted.

Table 7. Weight of the statement of competitive position using fuzzy AHP method

No		Weight
1	Compatibility of production capacity with market demand	0.093
2	Initiation of new products in the production line	0.078
3	Variety of the products	0.055
4	The company's share in the market	0.084
5	Marketing capacity of the company	0.143
6	Distribution capacity of the company	0.122
7	Ease of access to raw materials	0.069
8	Conformity with nominal features	0.002
9	Conformity with national and int'l standards	0.006
10	Conformity with the customer's demands	0.135
11	Role and position of R&D in production	0.003
12	Actual and nominal capacity	0.002
13	Brand status in the market	0.063
14	Quality	0.105
15	Profit margin based on end cost and sale price	0.027

16	Physical appearance of the product	0.013
Total		1

As listed in the Table above, three factors out of the factors in competitive advantages, (marketing power, compatibility of the product with customers' needs, distribution power) were found as the most important factors. In addition, production capacity (according with nominal capacity), compatibility of the products with stated features, and role and position of R&D for the products were ranked as the least important factors.

3.1.3.2. Competitive position of tile

Average scores of each statement of the questionnaire of tile product, based on the results of questionnaire No. 1 are listed in Table 8. Competitive score of the tile product is a figure between 1 and 5. The weight of each statement, obtained from fuzzy AHP technique was multiplied by the score of the questionnaire and then the results were totaled. The obtained number determines competitive position of the tile product.

Table 8. Average score of competitive position of tile product

No		Weight	Score	Total
1	Compatibility of production capacity with market demand	0.093	250	0.2325
2	Initiation of new products in the production line	0.078	3.17	0.2470
3	Variety of the products	0.055	3.67	0.2016
4	The company's share in the market	0.084	3.25	0.2730
5	Marketing capacity of the company	0.143	3.17	0.4528
6	Distribution capacity of the company	0.122	3.41	0.4168
7	Ease of access to raw materials	0.069	2.67	0.1840
8	Conformity with nominal features	0.002	3.75	0.0075
9	Conformity with national and int'l standards	0.006	3.41	0.0205
10	Conformity with the customer's demands	0.135	3.33	0.4500
11	Role and position of R&D in production	0.003	1.33	0.0040
12	Actual and nominal capacity	0.002	4	0.0080
13	Brand status in the market	0.063	3.17	0.1995
14	Quality	0.105	3.58	0.3762
15	Profit margin based on end cost and sale price	0.027	1.75	0.0472
16	Physical appearance of the product	0.013	2.91	0.0379
Total		1		3.16

As indicated in Table 8 and based on the computations, score of competitive position of the tile product was obtained 3.16. Comparing the result with the measures listed in Table 9, the competitive position of the product is "favorable."

Table 9. Competitive position

1	2	3	4	5
Weak	Tenable	Favorable	Strong	Dominant

3.1.3.3. Competitive position of band tile

Based on the results of the questionnaire of competitive position (questionnaire No.1), average score of each statement of the band tile questionnaire is listed in Table (10)

Table 10. Average score of competitive position of band tile product

No		Weight	Score	Total
1	Compatibility of production capacity with market demand	0.093	2.42	0.2247
2	Initiation of new products in the production line	0.078	2.50	0.1950
3	Variety of the products	0.055	2.75	0.1512
4	The company's share in the market	0.084	2.50	0.2100
5	Marketing capacity of the company	0.143	2.67	0.3813
6	Distribution capacity of the company	0.122	2.67	0.2022
7	Ease of access to raw materials	0.069	2.58	0.1782
8	Conformity with nominal features	0.002	2.50	0.0050
9	Conformity with national and int'l standards	0.006	2.33	0.0140
10	Conformity with the customer's demands	0.135	3.08	0.4162
11	Role and position of R&D in production	0.003	1.50	0.0045
12	Actual and nominal capacity	0.002	4	0.0080
13	Brand status in the market	0.063	3	0.0189
14	Quality	0.105	2.50	0.2625
15	Profit margin based on end cost and sale price	0.027	1.58	0.0427
16	Physical appearance of the product	0.013	2.33	0.0303
Total		1		2.52

As indicated in Table 10 and based on the computations, score of competitive position of the band tile product was obtained 2.52. Comparing the result with the measures listed in Table 9, the competitive position of the product is "tenable."

3.1.3.4. Competitive position of ceramic

Based on the results of the questionnaire of competitive position (questionnaire No.1), average score of each statement of the ceramic questionnaire is listed in Table (11)

Table 11. Average score of competitive position of ceramic

No		Weight	Score	Total
1	Compatibility of production capacity with market	0.093	242	0.2247

	demand			
2	Initiation of new products in the production line	0.078	3.33	0.2600
3	Variety of the products	0.055	3.17	0.1742
4	The company's share in the market	0.084	3.08	0.2590
5	Marketing capacity of the company	0.143	2.92	0.4170
6	Distribution capacity of the company	0.122	3.42	0.4168
7	Ease of access to raw materials	0.069	2.58	0.1782
8	Conformity with nominal features	0.002	3.58	0.0072
9	Conformity with national and int'l standards	0.006	3	0.4837
10	Conformity with the customer's demands	0.135	3.58	0.0047
11	Role and position of R&D in production	0.003	3.58	0.0080
12	Actual and nominal capacity	0.002	4	0.2258
13	Brand status in the market	0.063	3.58	0.3588
14	Quality	0.105	3.42	0.0472
15	Profit margin based on end cost and sale price	0.027	1.75	0.0336
16	Physical appearance of the product	0.013	2.58	0.0379
Total		1		3.12

As indicated in Table 11 and based on the computations, score of competitive position of the ceramic product was obtained 3.12. Comparing the result with the measures listed in Table 9, the competitive position of the product is “favorable.”

3.1.4. Place of the products in A.D. Little matrix

Once competitive position and life cycle stage of the products were specified, place of the products in the Little's matrix were determined.

3.1.4.1. Place of tile in A.D. Little matrix

With competitive position score of 3.16, the tile product was in “favorable” position and in aging stage of life cycle. Thus, it was placed in the matrix as illustrated in figure 5.

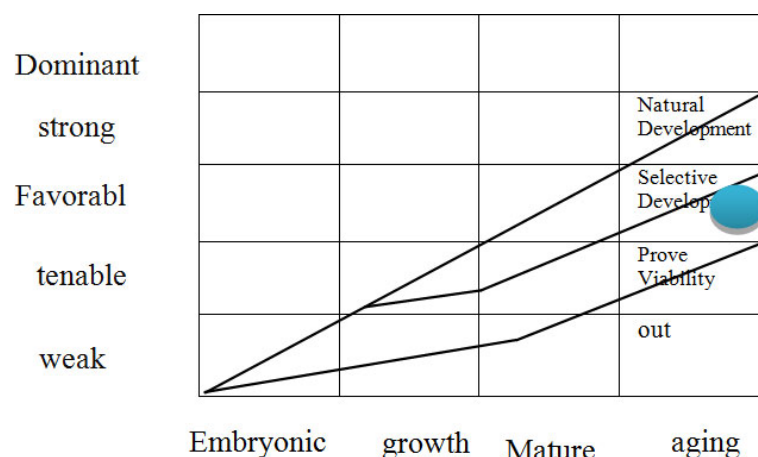


Figure 5. Tile product in A.D. Little matrix

3.1.4.2. Place of band tile in A.D. Little matrix

With competitive position score of 2.52, the tile product was in “tenable” position and in aging stage of life cycle. Thus, it was placed in the matrix as illustrated in figure 6.

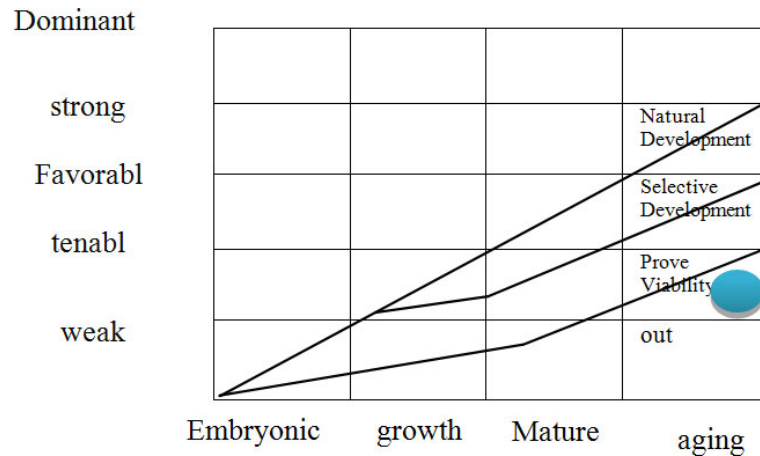


Figure 6. Band tile product in A.D. Little matrix

3.1.4.3 Place of ceramic in A.D. Little matrix

With competitive position score of 3.12, the tile product was in “favorable” position and in growth stage of life cycle. Thus, it was placed in the matrix as illustrated in figure 7.

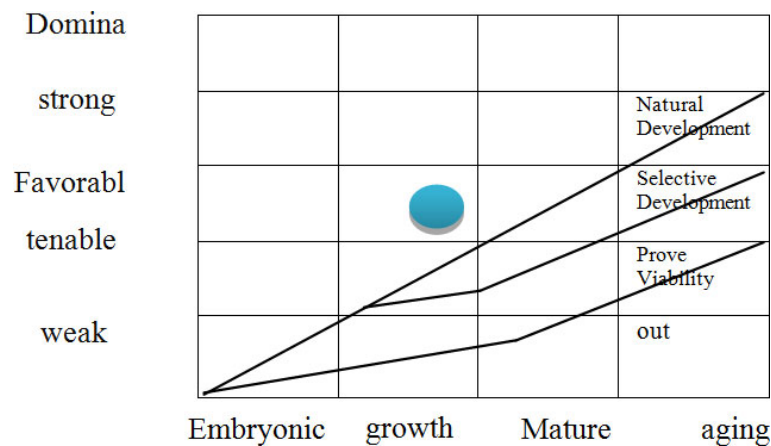


Figure 7. Ceramic product in A.D. Little matrix

3.1.5. Main strategies and methods

Having the place of the strategic units in the A.D. Little matrix determined, now general strategies are first proposed for each one of the products and then specific methods are recommended for implementation of the strategies. Then, Little’s general strategy, found implementable regarding each method, is introduced to find the most suitable strategy for the company.

General methods for the general strategies are discussed after determining the general strategies based on the guidelines indicated by Little in the matrix. The recommended general methods as listed in Table 2 were used for adopting the general method for each product in Little’s matrix.

3.1.5.1. Main strategies and method for tile product

Taking into consideration the place of tile product in A.D. Little matrix (Figure 5), selective development strategy is recommended. As listed in Table 2, for products at aging stage and favorable position phased out withdrawal and no further investment strategy are the two options. Regarding the product and given the recent measures to improve the technology and technical knowledge, improve training course for producing wards by the way of improving scientific level of the experts and the workers, phased out withdrawal is not recommended and the remaining option is “no further investment” (i.e. holding position and no attempt for development; in general selective development). Furthermore, with the information provided by the experts and the managers of the company, and given the measures taken, available resources, and obstacles the recommended main method regarding the general strategy of selective development is to hold position following conservative approaches and optimum utilization of the current position. (Table 3)

Concerning the product, improvement and utilization of the four strategies introduced by Little (development of overseas production facilities, distribution rationalization, methods and functions efficiency, and production rationalization) are also recommended.

3.1.5.2. Main strategies and method for band tile product

Taking into consideration the place of band tile product in A.D. Little matrix (Figure 6), development and phased out withdrawal strategies are recommended. As listed in Table 2, for products at aging stage and tenable position, phased out withdrawal and abandon strategy are the two options. Taking into consideration the recent decision by the Board of Directors and the managers of the company to keep the production and holding the position and doing the measures required to improve the position of the product, the recommended strategy is phased out withdrawal strategy. Furthermore, taking into account the current problems and issues ahead of production and that the product has managed to keep a tenable competitive position, purse survival strategy is recommended for further improvement of the position and increase in sale. Finally, based on Table 3, general strategies of market rationalization, distribution rationalization, production rationalization, methods and function efficiency, and licensing abroad are recommended.

3.1.5.3. Main strategies and method for ceramic product

Taking into consideration the place of band tile product in A.D. Little matrix (Figure 7), natural development strategy is recommended. As listed in Table 2, for products at growth stage and tenable position, attempt to develop and attempt to win more share strategies are the two options. Taking into account the main recommended methods for natural development strategy and that the product has better position in comparison with other product, the attempt for better position is recommended. In consideration of Table 3 and the main methods for functions and methods efficiency, overseas market development, market penetration, and extra capacity are recommended for the product.

4. CONCLUSION

Competitive strategies in non-metal mineral industries with field applicability were proposed for Semnan Tile Co.. First, position of the products of the company in their life cycle was determined and then competitive position of each product was indicated. Afterward, position of the selective products in A.D. Little matrix was determined using the guideline introduced by Little method for codifying the strategies. Then, suitable strategies were recommended for each one of the products of the company.

To answer the first question of the study regarding the life stage of the products, second step of A.D. Little model revealed that ceramic product was at growth stage and tile and band tile products were at aging stage.

Regarding the second question about competitive position of each product, the third step of A.D Little model showed that the ceramic and tile products were at favorable competition position and bank tile was at tenable position.

Finally, regarding the third question about the best strategy for each one of the product and given the place of the products in little's matrix, suitable strategies were proposed regarding the products. In this

way, A.D. little model proposed selective development as the main policy for tile product. For implementation of the strategy, the main method recommended by the model was conservative method for which some general strategies are recommended by the model including development of overseas facilities, distribution rationalization, methods and functions efficiency, and production rationalization. Among these general strategies, development of overseas facilities, distribution rationalization, methods and functions efficiency, and production rationalization were adopted.

For the product band tile, the main strategy of improvement was recommended and for implementation of the strategy, pure survival method was prescribed. According to Little's model there are several general strategies for the method including, backward merger, distribution rationalization, methods and functions efficiency, production rationalization, export development, licensing, market rationalization, production life efficiency, pure survival, development of new markets, and optimum utilization of reduction method. Among these methods, market rationalization, distribution rationalization, production rationalization, method and functions efficiency, and licensing were recommended.

For the third product (ceramic) the recommended main strategy was natural development. For implementation of the strategy, push up market method was recommended. According to the Little's method, among the general strategies for the method are methods and function efficiency, forward merger, overseas facilities development, initiate products in new markets, development of current markets, excessive capacity, overseas business development, and optimized reduction. Based on the results, methods and functions efficiency, development of overseas businesses, market penetration, and excessive capacity were recommended.

In spite of several studies conducted in the recent decade both in Iran and other countries in the field of strategic programming, there are few researchers focused on A.D. little method. That is, majority of the studies have failed to adopt a comprehensive and systematic point of view (especially in mineral industries). For instance, Ebrahimi (2010), Ahmadian (2005), Zerabi (2009), Khodabandeh (2010) have proposed strategies based on different models, all of which were common in neglecting product life stage and product position in growing or aging markets (analyses mainly followed the mid line) and concluding with prescribing general approaches without operational and executive guideline.

However, Afzali (2009) and Nezami et al. (2009), following the same path as the present study did, codified competitive strategies based on A.D. little model and examined product life cycle for codification and implementation of stage-based and phased strategies. The purpose of these strategies is to make a rational and optimum use of the product life stage. In addition, Narsimhan (2006) surveyed the literature of marketing and showed that decisions made by the organization regarding their products are subject to specific competitive position and life cycle stage, which are variable in time. They concluded then with change in market condition and going through different stages of life cycle, organizations need to adopt different strategies regarding their products or strategic units.

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