

Nature of the Thai Gems & Jewelry Business Activity: Micro-Analysis for Competitive Capability Development

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Abstract: *Gems and jewelry have always been on the top of the Thai export list while 73% of its GDP derived from this source of income. There has been 5 pieces of researches over the last 13 years studying on recommending strategies for the industry capability development. All of them had employed macro-analysis, then reported the total situation and the general atmosphere of the industry and recommended strategies as antidotes to what the industry lacked or to resolve threats. The macro analysis approach can mislead the readers. This research offers a new perspective by combining micro-analysis of the industry business activities explaining why various phenomena have occurred to offer a new set of strategies more precisely for the industry.*

This research paradigm is constructivist with qualitative research design using phenomenological research strategy by in-depth interviews and document study for data enquiry. Seven industry experts who are from 4 main industry segments were selected to participate in the study. The 5 research papers were thoroughly analyzed either in the form of the SWOT analysis on the local industry or the world industry settings. Findings from this research can update the industry database. This study uncovered that the majority of the industry members are SMEs and their business activities are Operating Exclusive Manufacturing (OEM) and are a subcontractor. Upon the strategic formulation, the TOWS matrix, (a reverse abbreviation of SWOT, the term stands for Threat, Opportunity, Weakness and Strength) revealed strategic direction suggesting Thailand to a become free-port trading nation for gems, the centralized government should be an organ to supervise the industry. Secondly, positioning analysis from the world market structure is suggesting that the world industry is a fragmented market. The study recommends a set of 5 strategies basing on Thomson and Strickland(2001). These strategies were triangulated with the participants' recommendations. In retrospect, the government is always a main player in the industry and its role is to enhance the industry competitive capability development at the same time as managing the economy.

Keywords: Recommendation for Thai gems and jewelry, Business Activities, Competitive Capability, Macro analysis of Thai gem and jewelry business, Micro analysis of Thai gem and jewelry business

Introduction

Over a decade during the period of 2000-2010, the structure of the Thai gems & jewelry industry remains very much the same through the small and medium enterprise (SMEs)

domain. The Master Plan for Gem and Jewelry Industry in 2002(OIE1) (Kaosa-ard M. 2002), stated that *“90% of the gem and jewelry industry production in Thailand are small and medium enterprise”* while Thai Gems and Jewelry Industries Census Project by the UTCC in 2010 reported 97.59% of the industry members were SMEs. The available leading researches such as; Development of Comparative Industry Database Project to enhance the Gems and Jewelry Industry Competitive Advantage, 2010(OIE2); Strategies and Master Plan for Fashion Industry in Creative Economy, 2011(OIE3); Action Plan for SME Promotion: Gems and Jewelry Industry, 2012(SMER); and 2014-2017 Strategy and Action Plan for the Thai Gems and Jewelry Development, 2013(GITR) which were sponsored by the government sector by their policy formulation. These government bureaus are the Office of Industry Economics (OIE), Gem and Jewelry Institute of Thailand (GIT) and the Office of Small and Medium Enterprise Promotion (SME). The document study of those pieces of research revealed a number of points academically debatable. Firstly, the SME and GIT plan have already been pre-determined to suggest Thailand to be a world gems and jewelry center. Their scope of strategies is thus limited to this notion. Secondly, some research was based on wrong assumptions by mistakenly using THB nominated on time series analysis to forecast future export sales, overlooking volatility of commodity price fluctuations and currency exchange. Thirdly, this is the utmost important point to address. These research strategic formulations chiefly rely on macro-analysis by using the external analysis such as 5-forces, Diamond Model and PESTEL and scoping down supplementing their internal analysis study which is the SWOT analysis on the Thai gems & jewelry industry study. Their strategic recommendations are reflectively crafted straight from their macro-analysis findings particularly to response to the industry weakness to reinforce what the industry lacks in conjunction with the most vital industry critical success factor. That is the product design and development. Vividly, there was overwhelming emphasis on promoting this type of industry capability stating on the top of the list of these researches' recommendations. Most of the research also pointed out that Thai industry lacked this quality. This ignites controversial susceptibility on their recommendation validity that all of these researches were using only macro-analysis tools to do their researches. In effect, their results were indicating to the same direction that the industry is lacking of product design and development. Their recommendations derived from their findings might be doubtful on its validity.

This research offers a scientific approach applying the approach of the Management School, a school of thought from the Management profession to discover the industry nature and formulate the industry strategic recommendations for competitive development through three basic areas of strategic formulation as follows.-

Conducting a comprehensive data study on the world import-export materials on the world gems and jewelry supply chain are conducted to establish the position of each country to the world industry in order to identify the totality of the industry nature with the purpose of identifying the market structure and the Thai position in the world.

All SWOT analysis from the pieces of research were combined and adjusted by the micro-analysis findings in order to identify the industry situation and to employ the TOWS Matrix Analysis to reveal strategic directions. To explore and describe the issues of the study answering the research questions and sub-questions and to recommend strategies to develop the industry's competitive capability are below.-

What is the Thai gems and jewelry industry's competitive advantage development?

What is the nature of the Thai gems and jewelry business activity? And how does the nature of business activity provide micro-analysis for competitive capability development?

What is the updated situation of the Thai gems and jewelry industry relating to the world, presenting the macro views by SWOT analysis?

What are the strategic recommendation to develop competitive capability formulated from the macro and micro-analysis to promote the Thai gems and jewelry industry achieving sustainable growth?

Participant views were gathered to compare and contrast with the two above study recommended strategies, the macro-analysis and micro-analysis.

Participant Selection

Participants were drawn from the main industry institutions that belonged to a trade association/federation or institution. The total of 7 participants participated in the study. There were three groups of participants plus one expert in the field. The three groups were: 1) two persons from gemstone treatment, cutting and trading; 2) two persons from silver jewelry manufacturing; 3) two persons from gold jewelry manufacturing; and one industry expert.

Criteria for participants 'selection for this study are as follows.-

1. The persons who have 25-40 years experiences in their fields and used to be or currently taking high position in trade association/federation, or institution.
2. Having experience in gemstone treatment, cutting and trading or
3. Having experience in silver jewelry manufacturing or
4. Having experience in gold jewelry manufacturing

Data Analysis/ Trustworthiness

The researcher has collected and analyzed the related documents, conducting the world gems & jewelry industry market structure analysis to identify world market structure and the Thai position and the SWOT analysis from the document and also the data from the participants' view to provide the recommendations for the competitive capability development for Thailand. The micro-analysis of the industry business activities findings supplements the updated macro-analysis which is SWOT Analysis by data mapping analysis in the form of the TOWS Matrix to identify strategic direction and recommendations. This set of strategies is triangulated with the recommended strategies proposed by the participants where the interview guide was structurally constructed with a number of triangulation questions to ensure the accuracy of the qualitative findings. Apart from this systematic approach for recommending strategies, the peer debriefing, spending a prolonged time in the field and triangulating different data sources of information are using enhancing the trustworthiness.

Findings: World Gems & Jewelry Market Structure And The Thai Position To The World

The most effective way to describe the world gems and jewelry market structure is to study the world gems and jewelry trade turnovers structure and those top-ten country world ranking from the world import-export database provided by the UN Comtrade as a benchmark to consider positioning of each country in the world where the 5 researchers were basing their studies the same way. However, This research proposed to analyze the data differently from the five previous researches mentioned earlier to the extent to which the world import and export data should be jointly considered as are viewed as continuous production processes and distribution categorizing into 5 groups: the original sources of

material (SM); the intermediary fabricator (IF); fully integrative manufacturer (IM); product distributors (PD); and internal procurement (IP). The researcher chose to use the 2009 database because it was the best presenting year prior to the world economic crisis. The economic crisis has a direct impact on the gems and jewelry market since this product is a luxury product and tends

Table 1: The world 2009 major country import-export gems and jewelry categories

The world precious metals import				The world precious metals export			
No.	Country	Million USD	%	No.	Country	Million USD	%
1	India	26,599	20.78	1	USA	22,434	15.00
2	USA	16,485	12.88	2	Hong Kong	13,333	8.92
3	Germany	9,396	7.34	3	Australia	12,083	8.08
4	Hong Kong	8,809	6.88	4	Canada	8,613	5.76
5	Australia	7,514	5.87	5	Germany	7,428	4.97
6	Canada	7,142	5.58	6	South Africa	7,086	4.74
7	Switzerland	6,498	5.08	7	Japan	7,042	4.71
8	UK	5,757	4.50	8	Peru	6,978	4.67
9	Japan	5,709	4.46	9	Thailand	5,772	3.86
10	Italy	5,496	4.29	10	Mexico	5,558	3.72
11	Thailand	4,376	3.42				
World Top 10		103,781	81.08	World Top 10		96,327	64.43
All Countries		127,981	100.00	All Countries		149,515	100.00

The world gems import				The world gems export			
No.	Country	Million USD	%	No.	Country	Million USD	%
1	India	15,461	20.86	1	India	16,987	21.79
2	USA	13,657	18.43	2	Israel	11,658	14.95
3	Hong Kong	11,427	15.42	3	Belgium	11,104	14.24
4	Belgium	10,093	13.62	4	USA	10,568	13.55
5	UK	5,706	7.70	5	Hong Kong	9,062	11.62
6	Israel	5,344	7.21	6	UK	5,687	7.29
7	China	2,865	3.87	7	Switzerland	1,817	2.33
8	Switzerland	2,119	2.86	8	China	1,790	2.30
9	Japan	1,092	1.47	9	Canada	1,731	2.22
10	Thailand	1,073	1.45	10	South Africa	1,310	1.68
				11	Thailand	1,283	1.65
World Top 10		68,837	92.89	World Top 10		72,997	93.62
All Countries		74,113	100.00	All Countries		77,976	100.00

The world jewelry import

No.	Country	Million USD	%
1	USA	7,050	20.29
2	Hong Kong	4,276	12.31
3	Switzerland	4,141	11.92
4	UK	3,352	9.65
5	France	1,852	5.33
6	Singapore	1,805	5.20
7	Germany	1,396	4.02
8	Japan	1,343	3.87
9	Italy	986	2.84
10	Canada	809	2.33
11	Thailand	527	1.52
World Top 10		27,537	79.28
All Countries		34,742	100.00

The world jewelry export

No.	Country	Million USD	%
1	India	10,780	20.77
2	USA	5,412	10.43
3	Italy	4,617	8.90
4	Hong Kong	4,417	8.51
5	Switzerland	4,039	7.78
6	UK	3,535	6.81
7	China	3,534	6.81
8	Thailand	2,705	5.21
9	France	1,783	3.43
10	Singapore	1,636	3.15
World Top 10		42,458	81.80
All Countries		51,895	100.00

Sources: UN Comtrade transcribed from Strategy and Master Plan for Fashion Industry in Creative Economy(OIE3), 2011 page 188 and 190

Remark: data does not include re-import and re-export

to be first target on the consumer spending cuts. Furthermore, precious metals are a commodity and offer themselves as safe haven on currency depreciation. The three tables show the world import-export of each important category in the gem and jewelry industry that are the precious metals, gems and jewelry. They also tell who is who in each product category to the world ranking by dollar turnovers. The year 2009 is the best year to use as a benchmark for the industrial analysis because the gold price was USD 1,200/oz. The gem and jewelry industry trade transaction are dealing in USD which is very much weakening during the period of 2009-2015. The weakened USD is also supporting the gold price at high level since the price of the gold/oz. is quoted in USD. Besides, jewelry is made of gold or silver which are commodity and diamond and gems are also quoted their price by USD. These raw materials price went up resulted to the price of retail jewelry price went up many folds. The jewelry cost composition consists of by average gold and gems in total of 75% to the total cost structure, the consumer purchasing power was weak when the economy was bad over the period of 2009-15.

In summary, the world gems & jewelry market structure is fragmented and divided into many product types specialized in by specific countries that are the centers of that kind of particular stones. Each of the world gems center is running their main stream of jewelry production and at the same time expanding their lines overlapping on the other countries' product class territories. Characteristics and properties of the world gems & jewelry industry falls neatly into the category of fragmented industries (Thomson and Strickland, 2010)

Findings: Thai Industry's competitive Capability, Business Actiivity, Industry Swot Analysis And The Towsmatrix

This section is summarized from the research findings derived from the semi-structured interview. The full research chapter 4: Result is devoted to summarize the interview script

from coding, grouping and theming by using embedded quotation into 10 sections to gathered information across the world and local industry. These sections are as follows.-

1. World Gems and Jewelry market Structure
2. Thai Gems and Jewelry to the World
3. Gems Industry gives rise to Jewelry Industry
4. Thai Gems & Jewelry Standpoint to the World Industry
5. Thai Industry is having long historical Development
6. Important of heat treatment and its Stage of Art
7. Emergence of Gemstone Monopolistic situation
8. The Industry SWOT Analysis: Strength, Weakness, Opportunity, Threat
9. The Gems & Jewelry Industry Settings consisting of Nature of Gems & Jewelry Business Activities; Majority of the industry member; Member Business activity; Jewelry Design and Branding; and Technology.
10. Echoing from the Industries which is recommendation on government sectors, Financials, Marketing, and Technology

These 10 sections findings from qualitative research are compared and contrasted with the 5 researches and the world import-export data in order to construct the policy guideline and strategic recommendations subsequently from the micro-analysis. The research uncovered that the Thai gem industry has long been in this society for more than 150 years from the time when rubies and sapphires were found to be abundant and the heat treatment technique was developed over time. The treatment is important to rid stones of any impurity or cushion from the stones and 98% of natural stones need this process. The heat treatment process is basically to match the oven degree temperature with each lot of stones otherwise the lot would be ruined in the fire. The treatment is more of an art than a science suited to the Thai handicraft skills and their spirit of adventurism translated into our “*national habit*” preferring betting their luck on things. Thailand has become one of the world gems centers due to the influx of rough stones coming to be treated and cut by the Thai gem workers uncompromising skills.

The Thai jewelry industry became known to Western societies during the Vietnam War as one of the participant noted. Most of participants agreed that the Thai competitive capability in the gems and jewelry industry is, indeed, in the skillful hands of Thai master craftsmanship either in stone cutting or jewelry making. Specifically, the Thai comparative advantage over other countries is the Thai people themselves. Thai personal trait is an easy going, outgoing personality, and easy to train and control in the production line which is absolutely crucial to this industry. On the top of these qualifications, Thais can do mass production jewelry with standardized product quality of hand-made pieces to which difficult to control since jewelry is a handicraft work not produced by machines. There is also in general the so-called Thai hospitality which cannot be emulated in quantity by work training and other country competitors do not have this unique characteristic. Thai proprietors are also known to be highly flexible to dealing with other nations within the industry reflected by our “willingness to help” attitudes towards the trade combined with supporting the tourism industry making Thailand stand as one of the important world gems and jewelry centers.

The research findings indicate that the majority of industry members are SMEs at 85-90% but the big companies are having higher export figures than the SMEs with less labor forces than the former. SME business activities are Operating Exclusive Manufacturing (OEM) and being a subcontractor. One of the participants claimed that Thailand is a center of OEM production having a few Operating Design Manufacturing (ODM) and rare Operating

Brand Manufacturing (OBM). There are two folds to explain the reason of being fragmented industry as having SME operating OEM predominated. The first question to answer to the issue of SMEs relates to how these SMEs exist. Most of them were encouraged by their factory owners to become self-employed because their wages have become too high progressively through their skills developed with long working experiences.

These people set up small workshops supporting their ex-employers by having promise of continuous orders. Skilled workers who left factory for self-employment would have better pay than a fixed salary and could manage their free-time at home. When times pass by they become proprietors by their own rights being subcontractors. Their workshops expanded capacity through recruiting their relatives to join the workshop because raw materials were valuable and difficult to control. This is supplementing to the overall industry functioning where 60-65% of sales are attributed in the 3rd and the 4th quarters of the year. Since jewelry industry sales are seasonal, the sales are mostly at festive season e.g. Christmas, Valentine, and New Year Eve. Retail stores are normally order their stock one season ahead. Most of the stock for the three festive seasons are order at the beginning of 3rd quarter and start delivery from August till late November otherwise they will miss out the sale season. Most of factory would maintain capacity by employing workers at 70-80% of their capacity and seek for subcontracting works to fill the capacity once the season comes in order to minimize fixed labor costs.

Thailand has unique production networks which other country competitors find rare. This is in sum to answer the question why the SMEs are OEM and being a subcontractor. The second question why these SMEs are not well developed to ODM or OBM is laid on the design in itself. The research indicated that SMEs do not do their own design brand but the foreign brand retailers do and to create brand is far to be true due to funding and design technology. The findings also point out that design is not only product drawing but integrated tastes that are deep rooted in customers' customs and traditions. The brand is really having the society identity (DNA) in it as one of the interviewee said so. It means each of product bands is an integral part of custom, tradition, belief, and social value of one society. So far, there is not any successful Asian jewelry brand in the Western societies though they are having many decades of experiences in trade. Thai design identity on a piece of jewelry which cannot be sold to an open world market. The "Thainess" on a piece of jewelry design does not match consumer taste of each western market. They buy only what are their current taste and fashion which are embedded in their custom and tradition. Apart from selling as souvenir locally to tourist attraction, SMEs do not find their orders but produce to order with financial support in term of precious metals and stones from the factories through outsourcing activities. SMEs sources of income are from workmanship and agreed upon metal loss in the production process. The gems and jewelry production technology is basically learning by doing. The craftsman is learning quickly from the assigned piece of work design besides the persons who give work to them will give full instructions on what they want the piece produced at what quality level. In general, this is the nature of the Thai business activities on their marketing, operation, production and financial facets.

Table 2 : Summary of The 5 Main Researches and their research year

Research Title/ Office in Charge/ Researcher Name/ and Research Tools	Abbreviation	Research Year
Master Plan for Gems and Jewelry Industry, 2002 By Social Research Institute, Chiang Mai University For the Office of Industrial Economics (OIE), Ministry of Industry	OIE1	2002
Development of Comparative Industrial Database Project to enhance the Gems and Jewelry Industry Competitive Advantage, 2010 By Faculty of Economics, Chulalongkorn University For the Office of Industrial Economics (OIE), Ministry of Industry	OIE2	2010
Strategies and Master Plan for Fashion Industry in Creative Economy, 2011 By National Institute of Development Administration For the Office of Industrial Economics (OIE), Ministry of Industry	OIE3	2011
Action Plan for SME Promotion: Gems and Jewelry Industry, 2012 By Thammasat University For the Office of Small and Medium Enterprise Promotion (SME), Ministry of Industry	SME	2012
2014-2017 Strategy and Action Plan for the Thai Gems and Jewelry Development, 2013 By Chula Unisearch, Chulalongkorn University For the Gem and Jewelry Institute of Thailand (Public Organization)-(GIT), Ministry of Commerce	GIT	2013

Sources: The researcher summarized from the pilot study

SWOT analysis is conducted through the 5-research document studies updated with new findings and adjusted by micro-analysis of the nature of the industry business activities. The 5-research codes and years are on Table 2. The concept set forth in consideration for nominating each of factors in the SWOT analysis is that the particular factor must be unique to the Thai industry situation. No one else can do what Thais do or specifically requires Thais to improve and only Thais can reap such benefits or threats to its existence. Importantly, such a factor must itself represent driving forces in the Thai industry. For example, using a gems& jewelry trade exhibition as a channel of distribution should not be on the list of Strengths as Hong Kong is having and doing even better than Thailand or having continuous and consistent support from government should not be the case when the Indian government has made huge gems and jewelry infrastructure in Jaipur. The Thai and Indian are not having all their own sources of precious metals and gemstones. These raw materials must be imported into the counties in order to be fabricated and cut to make a piece of jewelry for export. Any tax levied on top of the raw material price which is certainly high to the value of the materials e.g. gold, diamond or gems which are very much commodity price alike would make the product cost gone high and become not competitive. It is international practice that government keeps in pace with the competitor country. The SWOT indicators should be the cutting edge factors of the industry accounting for the nature of business activities of SMEs which are operating OEM subcontracting work; and the major finding of Thailand is having hidden labor reserves of this industry which were successfully utilized in the past. The findings on the nature of the business activities may wipe out most of weaknesses which is the basic nature of SME business operations. However, this research recommends to do further study on their needs of each proprietor group who makes up the industry members in order to recommend policy precisely for their needs. The SWOT analysis and summary of each section are shown below.-

Table 3 : Summary of The 5 Main Researches on The Industry STRENGTH from their SWOT ANALYSIS

Summary--STRENGTH	Research Year
1 Labour Group: Possessing highly skilled handcraftmen	2002, 2010, 2011, 2012, 2013
2 Prodcution Technology Group: Outstanding heat treatment and stone cutting quality	2002, 2010, 2011, 2012, 2013
3 Marketing Group: Being the world gemstones market Having gems & jewelry trade exhibition as channel of distribution	2002, 2011, 2012, 2013 2012, 2013
4 Production Group: Possessing fully integrated production network Doing high quality gems and jewelry products acceptable by customers Having flexible production units to fast chaning fashion trends	2002, 2011, 2012 2010 2013
5 Others: Being the Asia Pacific travel center	2002

Conclusion: *“Having a number of skilled craftsmen producing handicraft jewelry with standard quality and meticulous cut-stone with exquisite heat treatment techniques”*

Table 4 : Summary of The 5 Main Researches on The Industry WEAKNESS from their SWOT ANALYSIS (2)

Summary--WEAKNESS	Research Year
1 Raw Material Group: Relying on importation of diamond, precious stones, and precious metals Relying on imporation of findings Lack of support on sub-industries e.g. findings, mount, mold, and machinery Shortage of finings and assessories supply domestically	2002, 2010, 2011, 2012, 2013 2002 2011 2012
2 Labour Group: Thai wages are higher than China anv Vietnam threatening to shift production base Workers lack of production knowledge reducing competitiveness Lack of labour forces to support the industry growth	2002, 2010, 2011 2010, 2012 2011, 2012
3 Production Techonology Group: Lack of research and tehcnology on melting, casting, stamping, and plating Lack of support on research and development No machinery techonlogy restricted ability to do product development	2010 2012 2013
4 Product Development Group: Lack of product design software development prone to import from overseas Lack on precious stone cutting design Lack of tech investment for design and cuttring stones other than India, Europe Lack of gems and jewelry design skills	2010 2010 2011 2012
5 Marketing Group: Marketing and credit system network among proprietors is not strong as India Lack of product branding skills	2002 2012
6 Finance Group: Lack of financial funding supports for new business establishment because this this business required high investment funding	2011
7 Others: Bad image on dishonesty of the proprietors	2002

Conclusion: *“Severely shortage of rough stones supply flowing in from original mining sites since local mineral deposit depleted and labor forces constraint due to aging society”*

Table 5 : Summary of The 5 Main Researches on The Industry OPPORTUNITY from their SWOT ANALYSIS

Summary--OPPORTUNITY	Research Year
1 Marketing Group:	
Market share is still low and can expand more particular in tourism industry	2002, 2011, 2013
Domestic market trends are receptively expanding	2002(4), 2012(2)
Bilateral trade agreements encourage to market and RM procurement expansion	2010, 2011
High potential of market growth in ASEAN and new markets	2002, 2012(3), 2013
2 Government Support Group:	
Having consistent and continuous supports from Government	2010(2), 2012, 2013

Conclusion: *“Having huge hidden labor reserve in agricultural and horticultural sectors were successfully utilized from the past of cubic zirconia cutting prior to the VAT regime”*

Table 6 : Summary of The 5 Main Researches on The Industry THREAT from their SWOT ANALYSIS(4)

Summary--THREAT	Research Year
1 Marketing Group:	
World economic and economics at major countries slowdown	2002, 2012
Facing non-tariff barriers by major market countries	2011, 2013
2 Competitor and Competition Group:	
Quick development in production technology in competitor countries	2002, 2011
Lack of labor and high wages drive to shift on production base	2002, 2012, 2013
Fierce competition and quick development in competitor countries	2010, 2012
Emergent of new competitor countries e.g. Vietnam and Indonesia	2012
Highly integrated government support work plan in competitor countries	2010
3 Government Support Group:	
Lack of integrated and collaborative plans among government offices	2013
4 Raw Material Group:	
Raw materials prices are highly fluctuated	2012, 2013
Strictly export control at RM source countries restricted Thai importation on RM	2010

Conclusion: *“Current tax system obstruct to the stone supply inflow while gem source countries lift up non-tariff restriction and other world gem centers aggressively seizes the stone supply by their government strong supports”*

The TOWS Matrix is to leverage the 4 factors: Strength, Weakness, Opportunity and Threat through making combination in such way to identify strategic direction in 4 scenarios. Please refer to Figure 1. Implications from the TOWS matrix suggest establishing the government policy towards gems & jewelry industry competitive capability development that, *“Thailand becomes the world leading gems center offering proprietary variety of gemstone types and cuts supporting sustainable growth of being one of the world ODM gemstones jewelry manufacturing from high quality Thai handicraft”* In order to achieve this stated goal, the three principle policy guidelines shown on Figure 2 are recommended to implement. These three guidelines are an integral part of the full implementation plans upon



Figure 1: The TOWS Matrix to Identify Strategic Direction



Figure 2: Recommended Fundamental Gems & Jewelry Industry Policy

The Principles of Government Policy:

1. Government exercises power through monetary policy on tax system and administration by the Ministry of Finance under the principle of "Trading Nation Policy" by free port concept.
2. Government empowers the GIT by institutionalized/upgraded to the level of quasi-government organization under the Prime Minister Office jurisdiction to collaborate with all involved ministries and administer the Gems & Jewelry Industry.
3. Government re-organized the GIT directorship by having nominated members from all related ministries and private sectors to become workgroup formulated coherently fully integrated policy for Gems and Jewelry Industry under the government guideline and supervision as well as working as a central mechanism to evaluate the results of policy implementation for government consideration.

which the trading nation policy is a trigger for the change in tax structure to encourage the industry through free market competition and empowering GIT who is the expert institution in the field is to administer the change management by involving all parties into the existence of GIT organization under the Prime Minister Office jurisdiction in order to have streamlined supervision. Efficient and effective management are thought to be achieved this way.

In order to translate the government policy guideline into an implementation plan, the strategy map is prepared to conceptually define the problems; problem solutions; the expected outcomes from doing the scheme; and role of involved ministries in charge with ministerial tasks and policies to restructure the industry in order to enhance its competitive capabilities at the highest potential as shown on Figure 3. The Figure addresses the three main problems of the industry. Firstly, the problem of the free trade compliance utilizes tax free benefits due to the source of origin rule particularly the metal content. Secondly, the problem of VAT on gemstones coupled with hostile competition from other world centers. Lastly, the local findings and the component industry is underdeveloped due to low production technology. Most of components, findings and parts are imported with high tax blankets levied as "*finished goods*". The problems could be resolved through monetary policy via tax abolishment on gems throughout production processes, permit to sell doles.

Chronic Raw Material Shortage threatened to the existence of Gems & Jewelry Industry						
Encountering problems on the Gems & Jewelry Industry Structure	Precious Metal Local Content	Gemstone flow drying down from market			Categorizing Custom Tariff	
	Unable to leap benefits from the tax free zone due to the Source of Origin Rule imposing on local content constraints, particularly the gold and silver	The flow dries down with many reasons.- i. The VAT and WHT barred to import/and locally trading ii. Domestic minerals deposit depleted iii. H.K., China, India, Sri Lanka come to hostilely compete with full government supports. This intimidates to the status of gems center of the region and also down the jewelry industry competitive capability			Local produced findings and components are relatively expensive due to production loss for lack of high production technique while import items are classified as finished goods with high custom tariff resulting at uncompetitive costings	
Problem Solving Guideline and Measurements	Allowed local gold miners sell their produce locally for gold bar refinery without infringing the BOI condition of export income.	Implement "free port policy" by employing free-market mechanism to drive the influx of gemstones into Thailand to revitalize the status of the world gems center once again and to invite major gemstone auctioneers to carry on activity locally. The VAT and WHT shall be waived in every step of rough stones passing hands till fabricated to cut stones at 1% levied on invoice value marked as special business tax and other measures.			Abolished custom tariff on machinery to produce for findings and components as well as the finished findings and components import e.g. roll chain, plate bugle, butterfly and so on entirely for production for export	
Expected Outcomes	Qualified to Free Trade Zone export conditions required.	High influx of stones into Thailand promoting production activity at the level of household industry and SMEs by the means of part-time self-employment across agricultural and horticultural field nationwide			Jewelry cost effective and thus competitive pricing	
Quasi-government Organization Host	Institutionalized/upgraded GIT to administer the gems & jewelry industry under Prime Minister					
	GOVERNMENT	PRIVATE SECTORS		MINISTRIES		
	Reporting to govt. on its policy evaluation and recommending for policy formulation	Performing fully-integrated functions to promote the industries covering marketing, production, design development, management training, and finance		Coordinating with all ministries involving with the industry in areas of policy implementations		
Ministerial Tasks and government Schemes	FINANCE	INDUSTRY	COMMERCE	TOURISM	EDUCATION	LABOUR
	--reorganize tax, excise, custom duty proceeding process/system --review tax collection method/process --tax incentives for new project exploration	--encourage the household industry nationwide --administer the sub-contracting system via a SME bank --supporting the mining industry	--G2G new stones sources deals --trade exhibition on new market --organize tourist retailing markets --jewelry hallmark --assisting stone auctions --appraise the fair	--ally business for pleasure on the BKK fair and stone auctions --enforcing the tourist fraud and scams	--introducing stone cut and basic jewelry making to school course --streamline gems & jewelry curriculum at vocational and universities	--improve standard skills for gems & jewelry industry --building up labor pool for the industries

Figure 3: Recommended Strategy Map for the Thai Gems & Jewelry Industry

(a geological term for impure gold bar which is a pre-form gold bar from the gold mine that needed to be refined to be 99.99%.) locally and re-categorize the tax blanket for findings and components. The problems of gems shortages will be taken care of by the free market forces at the same time unleashing “*hidden labor forces*” into the industry while tax benefit from the trade agreements and tax reduction on findings would reinforce the industry competitive capability. Furthermore, the government would be able to reap benefit from this policy to encourage household industry for alternative income. To abolish VAT on rough stones would allow the rough stone traders freely giving rough stones to farmers without having to sell them in order to do stone cutting after working in the field specifically from those people in the agricultural and horticultural fields. It was self-evident that Thailand used to be the world’s leading cubic zirconia cutting center before the VAT implementation.

People in the household industry were farmers scattered around middle region and the north eastern region of Thailand. . The VAT made it impossible to do the stone cutting subcontracting activities because, the rough stone trader has to sell stones with VAT to the farmer in order to have them cut and the farmers have to sell them with VAT back to the stone trader and the stone trader has also to withhold 3% withholding tax on its payment to the farmer. This tax complication has been one of the obstacles to the industry development. The trading nation policy would no doubt promote the influx of stones coming to the Thai market where it was previously proven. Basing on the research findings, Thailand used to be the world cubic zirconia cutting center to the world and dried down after the VAT was introduced. China is now the cubic zirconia world center. The Vietnamese government also lost the battle to regulate its own rubies to the market forces prior to VAT implementation. Ultimately, the government would be able to channel the gems & jewelry industry to support the hospitality and tourism sectors. On the two last parts of the table it shows that GIT is established to become the main mechanism of the system to commission a scheme which performs fully integrated functions to promote the industry with support from the other 6 ministries to ensure maximum effective returns on the policy implementation.

All participants shared the same views bringing Thailand to become free port in order to create more dynamic potential linking the country to materials sources and to give bargaining power to Thai stone traders as well as supporting jewelry makers to become low cost operators. This new tax structure would structurally support the Bangkok Gems progressive development to compete with its Hong Kong counterpart. Other than that suggestions were made to solve ad hoc problems in the areas of marketing, operation, production techniques and financial aspects.

Conclusion

The foundation of the competitive capability of the Thai gems & jewelry industry has been built around being a world gems center. The gem and jewelry industry are separate industries and aggregately belong to one another. One cannot live without the other particularly the jewelry industry will not live if it loses the gems center. Gems and jewelry is relatively producing high value added to the economy. These industries are Thai by nature where Thai hospitality is based. The majority of the industry members are SMEs who are engaged in OEM business activities mostly by subcontracting whereas materials and some technical skills are supported by those bigger proprietors who have exposure to international trade or those direct outsourcers from overseas. Each different class of proprietors is having different needs for their business development. A trading nation policy is advised to unlock and thus resolve the problem of scarce resources and labor shortages of the industry.

GIT is recommended to be upgraded to commission the industry and all the government implementation plans since it is the most specialized organization in this gems & jewelry industry. GIT should become a service center to effectively manage and co-ordinate all ministries with the private sector. The government's role towards this industry is therefore reinforcing the industry competitive capability development for common benefits for all of Thailand.

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