

Development Model Based on Value Chain in Bam's Date Industrial Cluster

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Abstract: In this study, we review the development of value chain of industry clusters. At first we benchmark Bam Date Industrial Cluster with sample firm of cluster. Then we benchmark Bam Date Industrial Cluster with Tunes as a successful country. As a result we observe pressure points of Bam Date Industrial Cluster; lack of pricing, lack of grading and undesirable packing. And finally we suggest obeying two strategies about market expansion and quality promotion.

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Key words: Value chain, Value chain analyze, Industrial cluster, Bam Dat.

1. Introduction

For a considerable part of the countries of the world, making connections to the global networks of economy is faced with new challenges. Such challenges originate from two main resources:

- a) Weakness as the business agencies level
- b) Deficiency of the working environment

It is obvious that improvement of the current conditions is subject to the global economy and needs interaction in both the above-mentioned areas. However, the reality is that in accordance with the experimental evidences, there is generally a starting point of improvement process within the business agencies which they take measures for finding and creating opportunities through examining of the global situations and followed by them, the governments take facilitating this process into account with the goal of businesses in their minds. There also exists another direction which certainly is the growth of inequality among the countries as a result of both using and disusing of the globalization opportunities. Such disequilibrium can be observed in various personal, family, institutional, civic, regional and country levels. During the recent years, a vast amount of resources has been allocated to various social, cultural, and... aspects of the globalization. Many issues have been made available within the areas of economy and management. But one question is still aroused that which pragmatic method can lead toward gaining more share of the globalization trend? Previously, there existed some linear attitudes

regarding connecting different business rings to each other which are still tracked by the very familiar term of the chain of supply. This attitude is the result of a one-dimensional attention to the products and services of the production chains. As the result of globalization and the spread of a generalized look into the social-economical phenomena, the issue of management of the supply chain also affected by this generalized look gradually and was affected by other areas and systematic applications led toward a more comprehensive idea named as the value chain. The subject and concept of the value chain later turned into a new thinking method, not merely a technique in arena of policy making; in such a way that managers and policymakers achieved new capabilities by utilizing from this idea and innovation in thinking and the performance methods. In other words, the approach of chain of value was able to assist the agencies in finding some industrial pragmatic and realistic solutions and directed the development policymakers toward the implementation of new developmental and highly ambitious plans. From the view point of policymaking of development, the value chain has now turned into one of appropriate, systematically functional frameworks in order to develop both the industry and the business. The current study attempts to study the processes for the production of cluster products by the application of the analysis of value chain of Bam's date cluster and comparing it with a successful sample inside the cluster and a similar industrial sample at the international level.

2. Literature review

Cluster refers back to a series of business units (enterprises) which has been centralized in a defined or determined geographical region and/or an industrial branch or orientation and it provides for or offers some products and services via cooperation and supplementation of each other's activities and encountering with challenges and utilizing from some common opportunities. Recently, considering the successful experience of the industrial regions in the developed countries, a new solution with respect to the small industries in developing countries have been stated and the potential of the clustered small companies is economically efficient and strongly affect the mechanism of growth and development in the industrial regions. This case has drawn the particular attention of researchers while studying about growth and development (Rasmussen, 1992; Pederson, 1994). The study of the industrial clusters is increasingly a general type of the economical analyses applied for the regions. (Feser and Luger, 2005). Isserman (2005) discusses that it is necessary to study clusters for the basic studies of the social economics. The analysis of clusters of the region usually includes the widespread analysis of the characteristics and industrial foundational infrastructures, regional interactions with the national and global economy and the official and unofficial network behaviors are conducted by means of the local businesses. (Feser, 2005). Feser and Luger (2002) both discuss that the analysis of regional clusters must be looked at as the flexible model of the research rather than a unique methodology. The qualitative and quantitative diversity of the research plans and possible analysis of the specific techniques may be proportionally dependant on the available policymaking and planning procedures. It means that the diversity noticed in the methodology should not indicate the conceptual nonconformity of the clusters meaning or should not be imagined as a failure of the academic associations regarding the development of an optimized method (2005). One of the main rings of the cluster studies is the study of the chain of value. The chain of value refers to a series of value generating activities regarding conversion of a concept and idea into a disposable product or service to final consumer via different phases of design, production, marketing, and sale and sometimes through the recycling process. The analysis of value chain is defined as a method by which, the generated values or those values with the potential to be generated within each of the segments or rings of the chain are evaluated and analyzed. Among the applications of the chain value analysis, one can

mention the analysis of all processes mentioned during chain of supply and production and distribution and identification and evaluation of the amount of contribution of each process in the final value of product, comparing them by the similar products and processes and determining the strengths and weaknesses of each process during the formation of final value of the product, so that by eradicating weaknesses and reinforcing strengths, a more appropriate condition could be provided for the product within a competitive atmosphere. The optimization of the value chain is a process during which, the value of this generable maximizing in a ring/segment of the chain at which the target industry has presence, can be traced by applying some specific methods. The maximization process of the generable value can be performed at the one or more than one segment level or can be performed through the total chain. Policymaking and planning based on the value chain is the method of policymaking which refers back to procedures where it is possible to implement development plans by creating mutual interactions between "optimization of value chain", "regional development", "improvement of business development services" and "the economic policies". There are various models in order to develop small and average sized businesses. The value chain analysis model at corporate and cross-corporate levels, is one of the most capable models based on which, one can extract some reliable quantitative data for the decision making. This model was presented in year 1985 by Michael Porter, one of Faculty of Management's professors in Harvard University and it has been applied for more than 30 years through all developed and developing countries and also organizations like UNIDO (United Nations Industrial Development Organization), UNDP (United Nations Development Program), OECD (Organization for Economic Co-operation and Development) and ILO (International Labor Organization).

The chain of value model is a model which is based upon networking of industries which can be applied both at internal local agencies' internal level and several agencies level. Activities included in the manufacturing organizations can be divided into two main activities and logistic activities the aim of which, is to provide a value level to the customer and not only covers the expense of activities, but it can bring about a suitable profit margin. In this model, on one hand, there are suppliers and on the other hand, there is consumer and segments of marketing, design, construction, sale, distribution and after sale services which are working cooperatively.

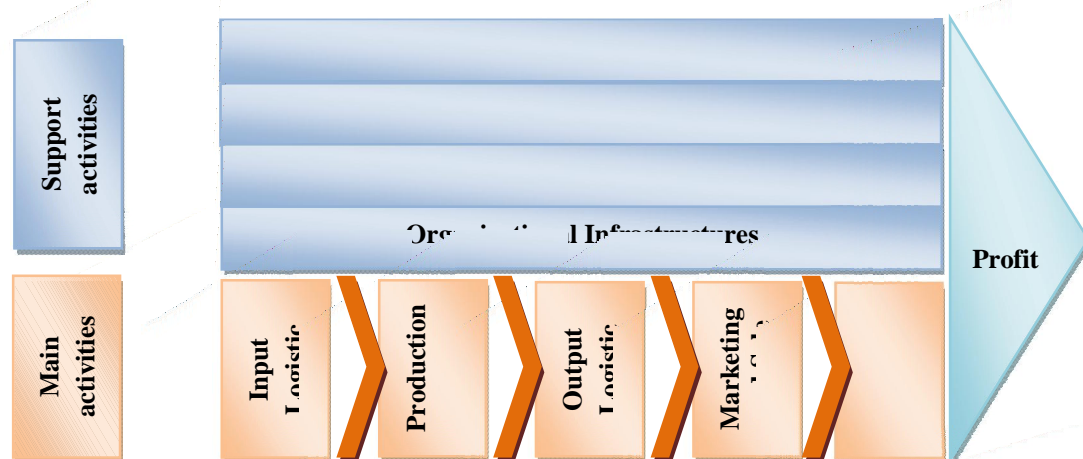


Fig 1. General model for intra-corporate value chain

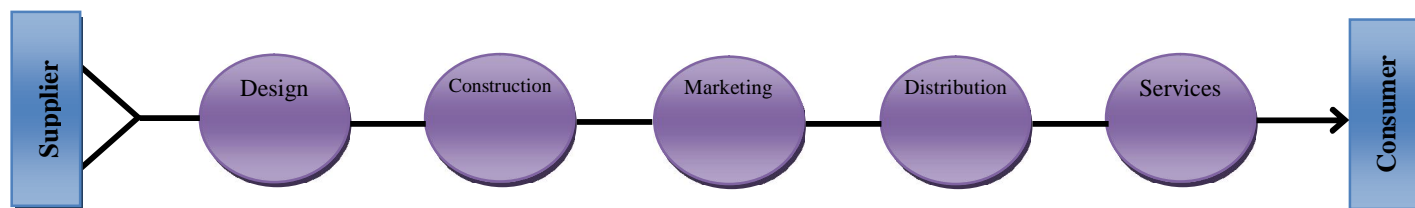


Fig 2. General model for cross-corporate value chain

3. Methodology

The methodology in this study is of a field type. The method for studying the development model based on Bam's date industrial cluster value chain is of comparative analytical method. It means that the value chain of an agency has been selected as a successful sample taken from inside of cluster and/or a successful industry at the international level and through the comparison of Bam's date industrial cluster with the selected sample and the successful sample of Tunisia, the

Pressure points are determined and all decisions and formulation of later strategies are made in accordance with such points.

4. Comparison of Bam's date industrial cluster value chain

Bam's date industrial cluster is located in Bam city of Kerman province having 130 industrial units. Among other working units of this cluster are 18 logistics departments, 45000 people who supply raw material, 2 units which supply machineries. Under the current situation, this cluster has 5825 employees, annual sale value amount of 1450000 million Iranian Rails, and an amount of 26 Million

dollars of the annual export value. In order to compare the value chain of Bam's date cluster with other production centers and/or countries, the information available from both the inside and outside the country has been used that the accessible data of inside the country was that of the sample unit of inside of the cluster and the country of Tunisia's date information was available from the outside of the country which are going to be compared in here.

a) Comparison of Bam's date chain of value with the sample unit in the cluster

We compare the expenses of Bam's date industrial cluster in the local markets with the cluster dynamic sample unit. (Prices are in Iranian Rails).

Now, in order to evaluate and compare the value of each phase, we divide the costs into the sell amounts and divide each one of the sumptuary components into the cost centers included here. The cluster's value chain is in the shape of following diagram for the first stage up to the last one for the first cluster (primary number) and sample unit (secondary sample):

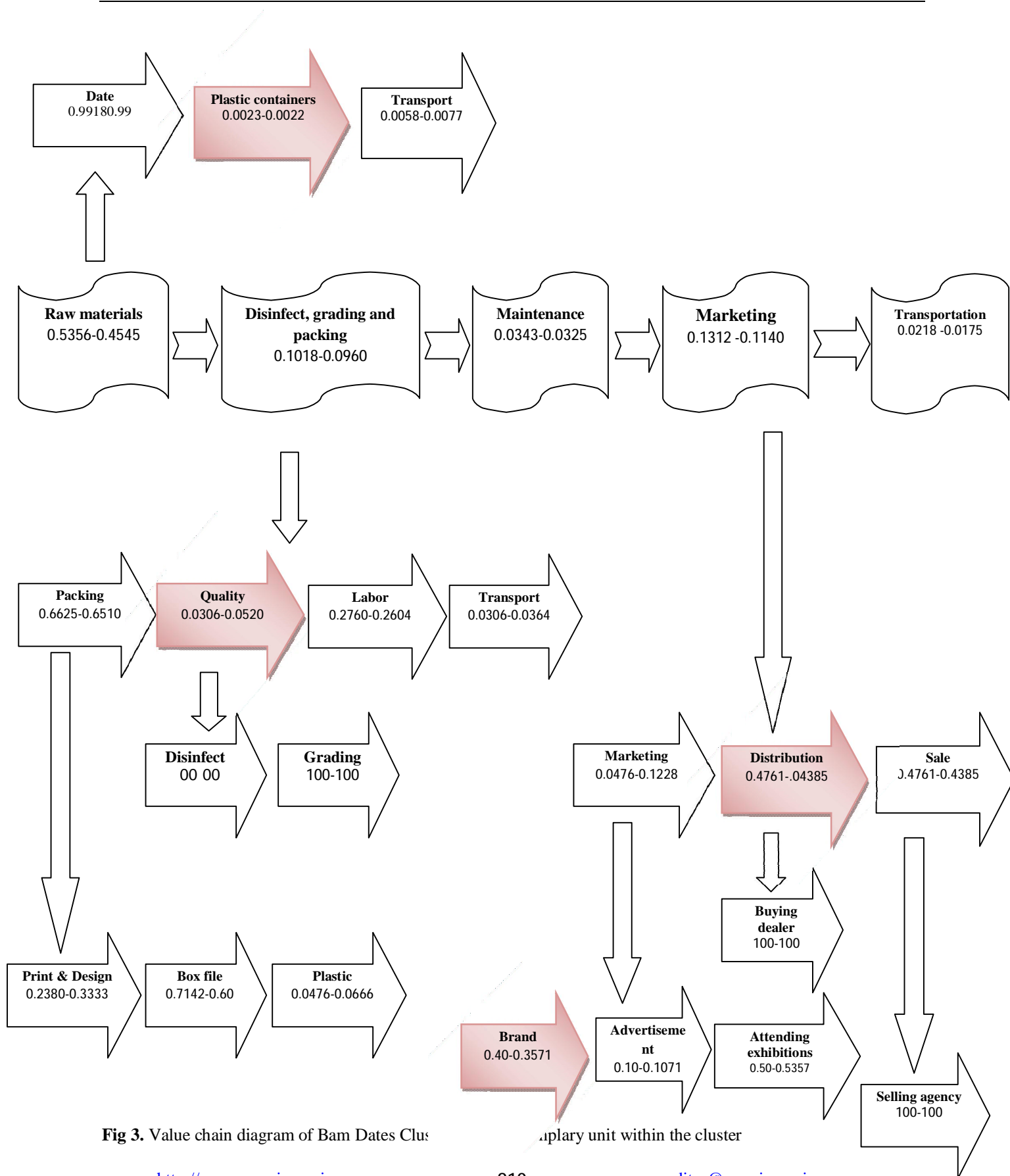


Table1. Calculation of the value chain of Bam Dates Cluster and the exemplary unit within the cluster

Product	Industry	Raw material	Grading & Packing	Maintenance	Marketing	transport	prime cost	Sell	profitability	Profit Ratio
750 grams of File box	Bam Cluster	8570	1630	550	2100	350	13200	16000	2800	17.5
		0.5356	0.1018	0.0343	0.1312	0.0218				
	Sample Unit	9090	1920	650	2280	350	14290	20000	5710	28.55
		0.6510	0.0960	0.0325	0.1140	0.0175				

Resource: Research findings (based on report data of analytical study of Bam's date industrial cluster)

The expenditure or non-expenditure while comparing cluster with the sample industry can easily determine the problematic points of cluster for us. In accordance with the above diagram, the process of supplying raw materials at the cluster level owns the highest contribution in the value chain. If we try to divide this process into the related subsections, we will see that supply of date allocates more than 99 percent of the cost of raw materials for producing such a product (99.18 percent from 53.56 percent). The reason for costliness of this type of raw materials is the lack of presence of the trade associations, consistent bodies to purchase high amount and lack of the good quality materials by considering the unit's requirement. The other process, having a high contribution in the chain of value, is the marketing and sale cost which includes 13.12 percent of the sale price. This occurs as a result of some major reasons. Non application of mechanisms for distributing products in the local and foreign markets through establishment of some integrated trade associations and bodies of sale at shops and agencies of such trade associations, several disqualified or poor quality transportation vehicles used for delivery of product to be sold at the local and foreign markets, poor advertisements for presentation of a well-known brand inclusive of the cluster level in different places of the country and the world and the impossibility of return of money earned by sale of more products at the foreign market due to the matter of brokerage, all have lead to the increase of the contribution of this segment of the supply chain. Alongside the cluster's value chain, an amount of 10.18 percent is related to the production and packaging activities, which indicates the high level of value created during this process. This issue is the result of non application of washing and grading equipments due to the soft texture of the Mazafati date product in comparison with other varieties, lack of appropriate acculturation in order to change the habit of producers for replacement and making changes at the current packing systems at the cluster level and non application of skillful and trained labor for the purpose of packing. In addition, a major portion of packing is done in the gardens and/or at homes in

semi-traditional and semi-sanitary manner and this has lead toward the high contribution of this segment of the supply chain. According to Almas Porter, the comparison of 2 chains of cluster value with sample industry at the local market is entirely evaluated at 4 different areas. These areas include supplying raw materials, labor, production and the market.

- **Raw materials**

Regarding raw materials, the sample unit has higher quality raw materials (organic type) in order to offer at the local and foreign markets when compared with the cluster.

- **Production**

- 1- Grading and packing of sample unit in comparison with the cluster has better performance
- 2- Disinfection of none of the processes conforms to any specific standard.

- **Labor**

With respect to labor required for packing, none of the units use the skillful and trained human labor.

- **Markets**

With respect to marketing of the sample unit because of branding and more advertisements and attendance in the exhibition, this segment is enabled to better present its product.

B) A comparison of value chain made among Bam's cluster, sample unit in the cluster and Tunisia as a successful country in the export market

In this section, a general comparison has been made in the area of cluster's value chain of date of Bam, sample unit in the cluster and country of Tunisia as the successful country the result of which have been presented in the following diagram. Regarding the export markets, we compare cluster's expenses, sample unit and country of Tunisia as the successful country. It is necessary to mention that all expenses for this section relate to date exports.

The cluster's chain of value from the starting point till the end for the first cluster (primary number), sample unit (secondary number) and country of Tunisia as a successful country (tertiary number) will be presented as the following diagram.

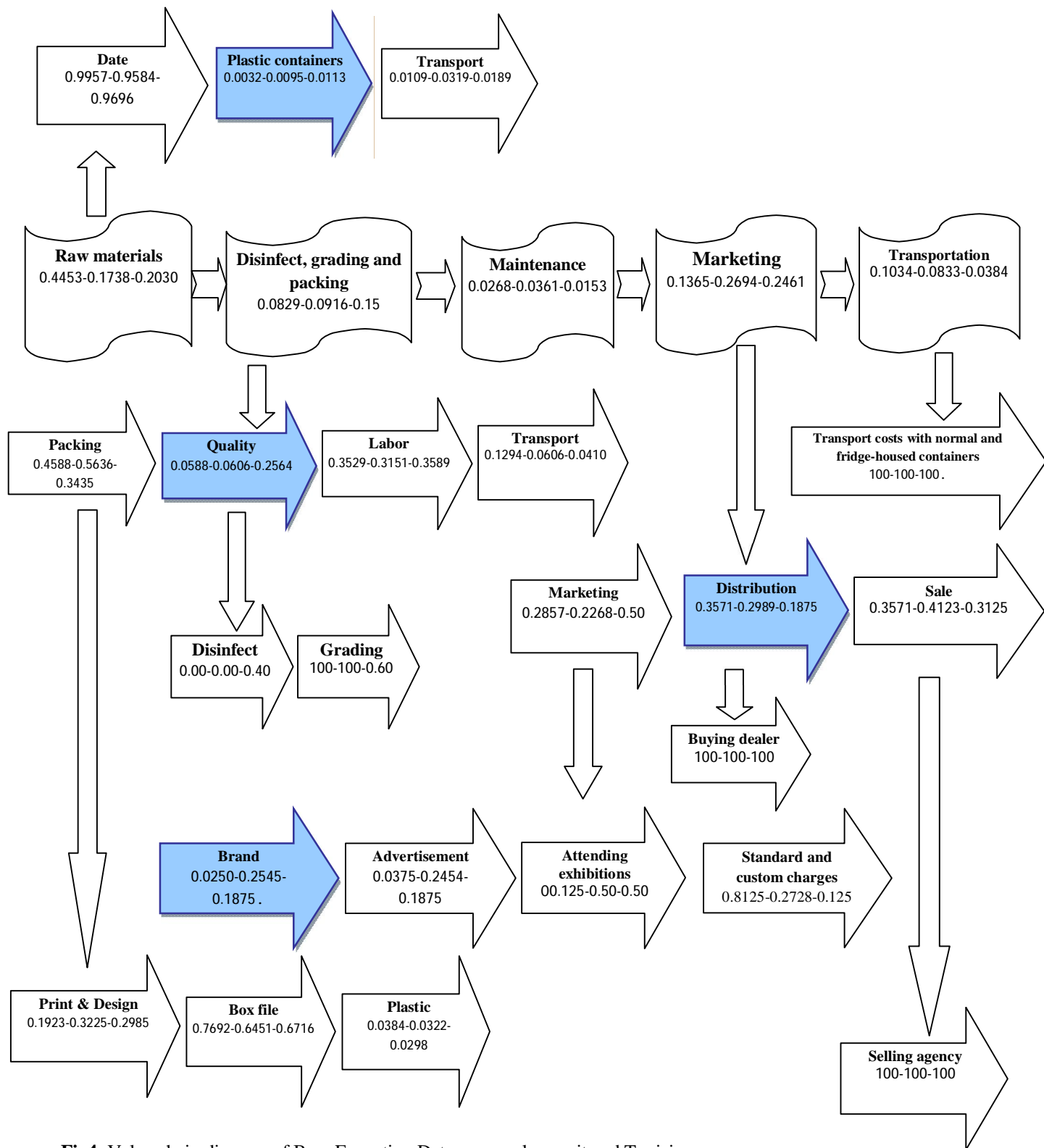
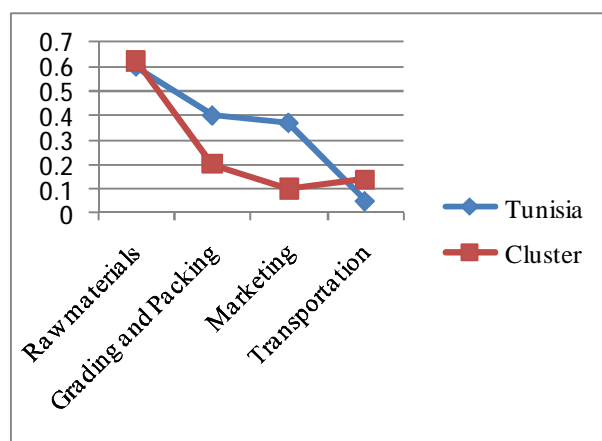


Fig4. Value chain diagram of Bam Exporting Dates, exemplary unit and Tunisia

Table2. Calculation of the value chain of Bam Exporting Dates Cluster and the exemplary unit within the cluster and Tunisia

Product	industry	Raw material	Grading & Packing	Maintenance	Marketing	transport	prime cost	Sell	profitability	Profit Ratio
750 gramms File box	cluster	9130	1700	550	2800	2120	16300	20500	4200	20
		0.4453	0.0829	0.0268	0.1365	0.1034				
250 gramms File box	Sample	3130	1650	650	4850	1500	11780	18000	6220	34
		0.1738	0.0916	0.0361	0.2694	0.0833				
250 gramms filebox	Tunisia	2640	1950	200	3200	500	8490	13000	4510	35
		0.2030	0.1500	0.0153	0.2461	0.0384				

Resource: Research findings (based on data of study report regarding Bam's date industrial cluster)

Fig5. Comparing production expenses of Bam's cluster with Tunisia

Based on the diagram and analysis of the cost centers according to Almas Porter, the following comparative results are gained:

- **Supply of the raw materials:**

Non existence of unified and integrated trade associations and bodies in order to purchase high amount and good quality raw materials and determination of price of date by paying attention to its quality

Turning product into nonorganic item in a major segment of the cluster's level considering the conducted antitoxic sprayings for eradicating cricket pest and recent famines which have brought about the decrease of product quality.

- **Labor**

The labor applied at the cluster level consists of unspecialized and they lack the efficient

and effective trainings who achieve most of their job mechanisms through case study by practice.

The lack of expertise and skills for sale and marketing at the cluster level

- **Production and packing:**

A major part of packing is done at workshops in the gardens and/or at homes in a traditional and semi- sanitary and semi-sanitary manner.

Incapability in applying washing and grading machineries due to the soft texture of Mazafati date product compared to other varieties

- **Marketing, distribution and sale.**

The lack of the final product's appropriate sale and distribution channels

Demolishing Bam's brand in the local and the foreign markets due to instability of product's quality

5- Discussion and conclusion and presenting suggestions

In this article, we dealt with the development model based on analysis of the value chain of Bam's date industrial cluster and for achieving this end; we made use of the comparative analysis. In fact, each phase of the chain of value of industrial cluster for Bam's date was first compared with the sample unit active at the international level. By considering analysis of the cluster's value chain which indicates the cluster's pressure points as non-expenditure in the market and nonexistence of appropriate grading and packing, it is suggested that two strategies should be followed in order to get rid of this situation:

a) **Market development**

- Developing market at both the local and foreign markets of Asian, European and American countries.

b) Increase quality

- Establish a system for classifying products in proportion to the quality (grading) and product price
- Increase quality and variety of packages of date in order to be consumed as a fresh product.
- Conduct all activities of growing, cultivating and sanitary and standardized grading of dates.

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