

OPERATIONS MANAGEMENT ASPECTS AT PRODUCTION ENTERPRISE

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Abstract

In this paper are analyzed the operation aspects of a production enterprise “Natyra-Rol” that is dealing with the production of different blinds. The purpose of this paper is to identify the preferences and deficiencies of operations at “Natyra-Rol”; to analyze the supply chain; the production process; the store, distribution and sale; quality management and marketing.

In this paper is used inductive method, by using primary source to gather data and through quality research, where as a technique of gathering primary data is used half structured questionnaire. As secondary source is used literature, to analyze the theoretical aspects of operations and its practical intercommunication at “Natyra-Rol”.

Based on findings it is ascertained that enterprise “Natyra-Rol” is rentable and is developing its production and business activity only inside Kosovo. From the point of view of Operations Management, the activities of enterprise are focused on operational level. In order to achieve performance and competition in the market, the enterprise should adopt measures to produce cost-benefit; to have production plan and strategic plan for marketing.

Keywords: Operations management, blinds, supply chain, production, distribution

I. Introduction

Small and Medium Enterprises in Kosovo (SME)¹ are considered to be an engine of economic growth through employment generation, contribution to GDP, technologic innovations etc. Urgent need in Kosovo is development of strong private sector that will support high economic activity and generate distinctive growth in order to enable creation of sustainable working places.² This is a difficult challenge for Kosovo.

¹ Enterprises that employ less than 250 employees are considered SME (*OECD and European Commission*). *Medium sized enterprises are considered with 50-249 employees and micro enterprises with 1-9 employees.*

² Development&Transition, publication “Private Sector Development” Frode Muring, , Kosovo 2007

Kosovo is state under transition where passage to trade economy is linked closely with the development of private sector and particularly with SME that play a key role on economic reforms which Kosovo is executing³. Private sector is weak and not much competitive and as a result of this the deficit of merchant goods remains around 50% of GDP in 2006, with the total value from import from €1.26 billion and total value from export with €100 million.⁴

This data suggest that in Kosovo an urgent need is to develop strongly the private sector. As the production is not satisfactory in Kosovo, the production for export is slightly present. Therefore is very important to make a concentration on stimulation of industries of export associated with strong support of some particular sectors in order to have success outdoors.

The study presents some aspects of OM at “Natyra-Rol” enterprise that is dealing with the production of external blinds, internal Venetian blinds and ribbons, for homes and offices. The purpose of this study is to present applicable alternatives which would have impact on increase of performance of the enterprise and its competition abilities. Enterprise is registered in 2005 as Limited Liabilities Company (LLC). It is situated near the Turk College in Prishtinë. It has very suitable position for development of production activity and enough space for transporting vehicles, and counts 23 employees.

After participation at several fairs, the enterprise has add on its business networks and that has created name enabling to remain at some point stable in Kosovo market. The enterprise sales its products in domestic market, while the incomes from production of products coming from export are zero. The source of financing is from the self capital of part-owners, they have no loan neither are members of any institution that would raise financial capital. Within 2009 the turnover from the production of enterprise was in the parameters 200.001€-500.000€ and the participation of its profit on turnover is around 55% that means it is rentable business. The management of enterprise is not happy with the bureaucracy that is linked with difficulties and delays at the customs for ensuring of raw material.

Enterprise “Natyra-Rol” is leaded by two part-owners who are founders as well. They hold the functions of general director and financial director, but also perform the functions of production, marketing and administration. Other employees are technical staff. The recruitment of staff is done based on recommendation of others. The enterprise has mainly

³ http://www.ks.undp.org/repository/docs/Dev_transit_shq.pdf

⁴ Riinvest survey, SME Investment by sectors, data 2003-2006

needs for training on financial management, but, there is difficult to find Experts for computerized production equipments.

II. Theoretic Aspects Of Operations

Operations Management (OM): Everyday creation and distribution of products / services of enterprise is defined as Operations Management. According to Slack⁵ OM is defined as ‘business function that organizes, harmonizes and controls the needed sources to produce products / offer services of the company’. The function of operations has to deal with the management of inputs in system and the process of their transformation to outputs for sale to customers. In an typical organization, main operations function employs most employees, manages most assets and spends most money.

Supply Chain Management: The series of steps involved between the origin of the service or product in question and your use or consumption of it to customer is known as supply chains⁶. It is a network of means an distribution options that performs the functions of procurement of material, transformation of those materials into mediatory and final products and distribution of final products up to the consumer.⁷ The complexity of supply chain depends from the size of business, numbers and complication of items produced. There are several elements of supply chain intercommunicated with the movement of products along it. Supply chain starts and ends with customer.

Supply Chain Management (SCM) is an integration of key business processes through supply chain with the purpose of adding value for the customers and other stakeholders (Lambert, 2008-Global Supply Chain Forum). In a word Supply Chain Management is design, planning, execution, control and monitoring of activities of supply chain from the raw material to the final product and customer. It ensures the needed movement of product wisely, speedy and efficiently to the customer in time, in place and due price. SCM may be divided in three main flows: flow of product, flow of information and financial flow.

Main objective of SCM is to create net value, to build a competition environment and to synchronize the supply and demand. Good examples of efficient management of SCH are: distribution of post, newspapers, ordered food to homes at the requested time.

⁵ www.pearsoned.co.uk/media/OnlinePreviews/pdf. (Nigel Slack 2004)

⁶ “Operations Management”, Terry Hill, second edition 2005

⁷ Ram Ganeshan, Terry P. Harrison. *“An Introduction to Supply Chain Management”*, Department of Management Science and Information Systems, Penn State University, PA 16802, 202, USA

III. Description Of Operations Aspects At The Enterprise

Managing of operations effectively is a key factor for well-being and improvement of raise and prosperity of organization. Here are analyzed several aspects:

Supply chain, production process, distribution and sale

Enterprise “Natyra-Rok”, produces to fulfill the needs of its customers based on the short term orders from them but does not have any approved plan for production. They don’t have marketing plan, and the promotion of its products is mainly done by participation on fairs for similar products where has ensured a number of customers. These customers are mainly owners of flats and contractors of construction building.

One from directors is responsible for the coordination of works and rational supply and in time with raw material. Enterprise is not in consortium with any similar business so that the raw material ensures and pays by oneself, but, has difficulties to ensure raw material, and is supplied every quarter based on the needs while the price of raw material is considered normal. Once the orders are taken from customers for the type and amount of blinds, than is made a list of raw material, than are contracted suppliers to negotiate the price and payment, selection of supplier and provision date. As raw material for production of blinds and curtains enterprise uses wood, metal and cloth. The import is directly from outdoors and mainly from Serbia with (outsourcing) with 80%, while only 20% of raw material is purchased inside Kosovo.

Inventory: Once the raw materials have been received from suppliers, it is controlled its quality, and then the material is placed to the warehouse. The actual value on stock (raw material under the production process) is 144.000 €.⁸

Production: According to request the raw material is delivered from the warehouse to the production hall where is proceeded with production as per orders (‘batch’). Below is shown a view of operations process that is transformation of inputs to outputs at the enterprise:

SECTOR	ORG.	INPUTS	PROCESS OF OPERATIONS	OUTPUTS
Production	Production of blinds	<ul style="list-style-type: none"> - Machines - equipment - tools - energy - capital - human recourses - information - raw material 	<ul style="list-style-type: none"> - sorting - division - sewing - cutting of ribbons - drilling of ribbons - cutting of cloth - put in of mechanism - equipment maintenance 	<ul style="list-style-type: none"> - Venetian blinds - Internal blinds - External blinds - service of consignment

⁸ Source: Canvass Questionnaire, Riinvest

			- painting - distribution	
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Table 1: Process of transformation of inputs to outputs at the enterprise

During the production process the materials are converted to products. Plan of production-as per order is realized by using human resources in disposal, equipment and technology, time limit of production as well as distribution of production within required time. Enterprise does not have strategy; it has market-driven access. Operational works include 91% of operations and the production sector is almost divided from customers. Production system is traditional chain where products are realized in consistency with the type and volume of order. The enterprise possesses several machines and tools of different capacities, as shown in the table below:

No.	Type of machine and type of its work	Product coming out from the machine	Unit/ piece	Capacity of machine production per hour
1	Machine for sewing of ribbons for curtains	Curtain's ribbons for 'band' curtains	2 piece	40 ribbons/hour
2	Machine for cutting and drilling of ribbons for 'venetian' curtains	Ribbons of 'venetian' ribbons	1	40 ribbons/hour
3	Machine for cutting of holding profiles	Curtain holders	1	10 ribbons/hour
4	Computerized machine for cutting and drilling for ribbons of 'venetian' curtains	<u>Remark:</u> machine is at service at the time of canvass	1	1000 ribbons/hour

Table 2: Production machines, type of its work and capacity (Source: Canvas Questionnaire).

From the table is seen that the production capacity per unit of computerized machine is 25 times bigger than the capacity of common machine.

1. Band curtains			
Raw material	Means for work	Manual work	Product / no. of workers
ribbons string brackets	- Working table- holding construction - sewing machine 'Singer' - Hand saw - Scissors - screw-bolt cramp	Cutting, sowing, assembling etc.	Manual work / 2 workers
2. 'Venetian' curtains			
Raw material	Means for work	Manual work	Product / no. of workers
ribbons string brackets	-machine for cutting and drilling -machine for cutting of brace profiles	Assembling	Final product/ 3 workers
3. 'Rolo' curtains			
Raw	Means for work	Manual work	Product / no. of

material			workers
ribbons string brackets	- Working table- holding construction - table for cutting of ‘cloth’ - Hand saw - Scissors - scalper	Cutting, sowing, assembling etc	Manual work/ 1 worker
4. External blind for windows			
Raw material	Means for work	Manual work	Product / no. of workers
PVC blinds mechanisms brackets	- Working table for cutting - Hand saw - screw-bolt cramp	Cutting, assembling	Manual work/ 2 workers

Table 3: Production process of the blind types (Source: Sketch from the enterprise)

From the table is seen that works are carried out part by part, while main process passes through several steps:

1. Selection of raw material
2. Cutting of ribbons and its drilling
3. Sewing:
4. Assembly:
5. Joining of constructions
6. Finalization of product

After finalization of production process the final product does not go to the warehouse. The workers of “Natyra-Rol” immediately make the distribution of products to the buyers who have previously made an order. The payment for the goods is done in two ways: upon distribution and on short term. The level of production technology is not advanced comparing to competition therefore it is necessary investment on the computerized process of machines.

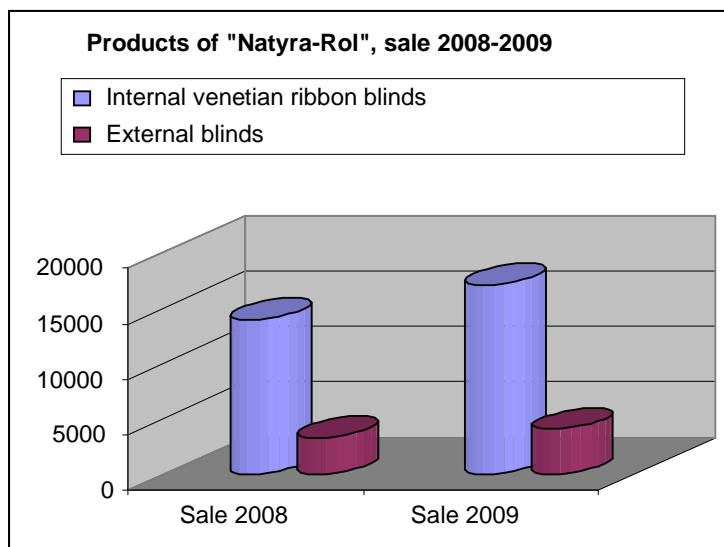


Fig. 2: Graphic presentation – Comparison of sales of blinds during 2008 and 2009

The best sold product is internal Venetian ribbon blind. In 2008 the internal Venetian ribbon blinds were sold with 14.300 m² while in 2009 this sale is increased for 2800m². The amount of production sale of external blinds is 4085m² in 2009 that is 785 m² more than in 2008. In both cases is seen increase trend of business and profitable business of enterprise.⁹ However the enterprise has no sufficient capacity to be competitive in the market for a long time.

Quality management (QM)

Only in 70s and 80s is seen an increase of awareness for importance of performance dimension with improvements that are carried out at Japan companies, as well as the impact of it on increase of sales. At production companies in Kosovo, today, there is a lot of space for improvement of quality management. “Natyra-Rol” enterprise business is not certified for the quality management, hence we are not able to know at what point the enterprise fulfills the international standards ISO 9000 for its products, and neither for the raw material that is 80% imported from abroad. Lack of certification for quality management explains a disconnected linkage between customer, producer and international standards.

Recent longitudinal studies found strong evidence that ISO 900 does lead to improvements in performance.¹⁰ ISO 9000 certificate ensures customers that a company has designed processes and is managing them in order to offer services and deliver products as

⁹ Source: Canvass questionnaire, Riinvest

¹⁰ UNIPG “Impacts of ISO 900 on business performances: a literature review”, Luca Cagnazzo, Paolo Taticchi, Francesco Fuiano, University of Perugia, Department of Electronic and Information Engineering, Via Durantil7, Perugia, Italy

per foreseen specifications. Hence the company is encouraged to get certified with the certificate for quality management within one year.

From the data of questionnaire it is not seen if an enterprise has carried out planning for zero-mistakes, as well as there are no data for training of employees, to achieve at zero-mistakes level. There are no remnants from the raw material during the production process that is good indicator because it decreases the production cost by protecting quality.

Execution of Pareto principle and List of control would help on managing quality. Through Pareto analyze would be identified the problems where the improvements have to start immediately and frequency of happening problems would be registered. It is not known how many products of enterprise “Natyra-Rol” is coming out with defects for a certain number of products. In this way enterprise actually may not aim **six-sigma quality**, that is only 3,4 products in one million to come out with defects, that is virtually products without defects. This aim is very difficult to realize, as in common there are 35000 defects in one million products that represents three and a half sigma qualities.

From the questionnaire there may be taken a conclusion from many grounds. First ground is state, second one next to it is business and the third one is customer. Our state, Kosovo, must adhere to international organizations for standardization ISO and to implement them in cooperation with businesses and customers. State should make conditions to the businesses to get supplied with international certificates for standardization, which is Quality Management Certificate.

Informatics System (including storage, sale, accountancy and production process system)

The enterprise “Natyra-Rol” counts 23 employees including management and two owners. Each enterprise aims to enlarge its own capacities, to increase products, to increase quality with low costs, to increase number of employees when needed, in order to raise its profit and its value. Taking into consideration that the enterprise has started the work in 2005, it may be justified the lack of integrated computerized system, for storage, sale and accountancy, that is consequence of the cost. The production process is also not carried with computer installed system as the only computerized machine is actually not operational.

Marketing

Marketing is the process of searching the market, sale and products and / or services to customers by promoting them through promotions with the purpose of increase of sales in the future. “Natyra-Rol” enterprise have not compiled ay marketing strategy but thinks in the

future to create a marketing plan. Its products have promoted in the fairs, but does not have person in charge for marketing.

- **Products** are produced after accepting an order from the customers.
- **Price** of products the enterprise determines based on the actual market of similar products. Payments are carried out upon delivery or with short time of payment.
- **Distribution**- final products are distributed by workers directly to the locations of buyers according to their orders for the designated products.
- **Promotion**, the enterprise is doing mainly by participation on fairs and has not developed other forms of promotion.

Enterprise considers that her main competitor is “Euro roleta” leading three main competitors in the internal market, while there are more than seven competitors that export their products.

Unfair competition (corruption, fiscal evasion, informal economy), are main obstacles of the business, but the enterprise is also faced with lack of request that follows because of the lack of information for product and market.

Conclusion

The role of private sector on revitalization of Kosovo economy is very important factor on general economic increase and human development but needs support. “Natyra-Rol” is a serious enterprise and at some point competitive only within Kosovo market. It has not provided any export of its products yet.

The activities of enterprise are of operational level. The decisions to the production business are taken day by day and that have impact on the movement of products through supply chain; planning of sources is done based on customer orders from and in coordination with the suppliers. In absence of orders, the enterprise has no production plan neither action plan that brings it on non-utilization of capacities at definite time.

The operations at the enterprise involve ‘batch’ production as they receive orders from customers while there is no additional cost for storing of final products as they are immediately delivered to buyers. The enterprise has not adopted measures to produce cost benefit as per best practices, has not developed strategy of purchase and sale and has no business plan.

The enterprise actually does not have computerized system of production, as the only computerized machine they have is actually not working, therefore only if this machine is repaired and put into function we may consider that the enterprise has partial computerized system of production. Without implementation of IT is difficult and impossible for any

company to be competitive at the dynamic and innovative environments that are only few steps away from Kosovo.

For the future the potential of this business may be expressed in two ways. Firstly the settling of machines capacity especially computerized one, which will increase production and save time. Secondly the promotion of marketing strategy would increase sale of products and this way enterprise would raise its production capacities. This would be a path toward opening of wholesale store. They must develop business plan, compile marketing strategy and production plan, seek technical help for development of capacities related to market investigation with Kosovo Chamber of Commerce or any NGO, to become member of business associations, to install computerized program for sale, storing and accountancy. As is actually, the enterprise “Natyra-Rol” cannot be competitive in the market for a long time.

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