

6. Analysis of Industry and Structure of Industry Production in FBiH for the Graphics Industry

6.0 Introduction

Printing is mentioned in Bosnia and Herzegovina for the first time in 1529, at the time when the first printing press was established in Goražde. After that, in 1866 the Sopran printing press in Sarajevo prints the first printed newspaper "Bosanski vjesnik". At the end of the nineteenth century the first state printing office "Oslobođenje" was established in Bosnia and Herzegovina, which was supplied with modern printing devices and the necessary space for machine, stacking, bookbinding, and technical work.

At the beginning of the 20th century there is a growing development of printing in Bosnia and Herzegovina and the capacities of printing offices surpass the needs of the market in Bosnia and Herzegovina. Many printing services for the countries of the Former Yugoslavia were carried out in the printing offices of Bosnia and Herzegovina, and one part of the printing production (books and textbooks) was also exported. Most of the processed materials for the needs of the graphics industry were produced in Bosnia and Herzegovina or in the countries of the Former Yugoslavia.

The time period between 1992 and 1996 was very unfavorable for the graphics industry. Almost all of the factories for the production of paper and cardboard in Bosnia and Herzegovina were devastated, other processed materials were produced outside of Bosnia and Herzegovina, the lag in technological advancement compared to the environment was evident, and the privatization process was very slow. The graphics industry was faced with very harsh competition from export.

6.1 Cross-Section Data of Production Programs

In the last ten years, there was a positive trend in the development of the graphics industry of the Federation of BiH. Some of the state printing offices were successfully privatized: "Grin" Gračanica, GIK "OKO" Sarajevo, GDD "Polet" Sarajevo "Unioninvestplastika" Semizovac, "Svjetlost-štamparija" Fojnica, "Printcom" Tuzla, and "CPA" Tojšići. New private printing offices were also established: "Grafotisak" Grude, "Suton" Široki Brijeg, "Bemust" Hrasnica, "CPU" Sarajevo, "Logotip" Široki Brijeg, "Blicdruk" Sarajevo, "Multimediaprint" Nova Bila, and others. The transformation of

property rights and private capital has enabled the modernization of production plants and an increase in production.

6.1.1 Statistical Indicators of Production

Table 6.1 Production of basic products of the graphics industry in the Federation of BiH

Name of the product	Unit of m.	2006	2007	Index %
Newspapers and magazines	Thousands of pieces	23,712	25,558	107,8
Books and brochures	Thousands of pieces	7,576	13,630	179,9
Agitation and advertisement prints	t	394	488	128,3
Forms and shopbooks	t	1,019	891	87,4
Other printed products	t	251	437	174,1
Total				143,9

Source: Federal Bureau of Statistics, Statistical Yearbook of 2008

The above mentioned indicators show that almost all of the graphic products were produced in a greater amount in 2007, aside from forms and shopbooks, for which there was less demand.

The supply with basic raw materials and processed materials for the needs of the graphics industry comes mostly from import. The neighboring countries: Croatia, Slovenia, and Serbia have most of the processed materials at their own market, so that their product prices are more competitive than products from BiH.

Table 6.2 The spending of basic raw materials and processed materials for the graphics industry in the Federation of BiH

Name of the product	Unit of m.	2006		2007	
		Total	Import	Total	Import
Paper and cardboard	t	9,921	9,850	11,413	11,207
Packaging made of paper and cardboard	t	428	428	476	476
Graphic paints	t	117	117	148	143
Synthetic glues	t	30	27	37	32

Source: Federal Bureau of Statistics, Statistical Yearbook of 2008

6.1.2 Statistical Indicators of Import and Export

A detailed review of the import of products for the graphics industry in the Federation of BiH, compared to the import of Bosnia and Herzegovina, can be seen from Table 6.3.

Table 6.3 A comparative review of the import of the graphics industry in the Federation of Bosnia and Herzegovina

Heading	Name of the heading	Import 2006 (KM)		Import 2007 (KM)	
		Federation of BiH	BiH	Federation of BiH	BiH
4901	Printed books, brochures, flyers, and the like	10,902,930	13,951,539	10,567,878	14,805,234
4902	Newspapers, magazines, and other publications	18,551,398	31,260,044	17,848,219	31,435,685
4903	Children's picture books	357,722	569,647	477,782	709,706
4904	Musical pieces		34,883	50	721
4905	Printed maps	504,443	662,350	137,933	380,893
4906	Original plans	1,279,664	1,317,737	165,673	172,351
4907	Postal, tax, and similar stamps	1,145,933	1,420,936	258,688	2,489,478
4908	Tracing papers	540,427	716,753	594,270	644,961
4909	Postal and wish cards	166,498	409,433	289,574	597,091
4910	Calendars of all kinds	265,197	596,379	417,828	810,218
4911	Other printed materials	12,485,237	13,820,765	10,937,254	12,826,913
	Total import	46,199,449	64,760,464	41,695,149	64,873,250

Source: Indirect Taxation Authority of BiH

Most graphic products are imported from: Croatia, Serbia, France, Germany, and Slovenia, and the largest importers are: "Interpress" Široki Brijeg, "Šahinpašić" Sarajevo, and "Buybook" Sarajevo.

Some of the printing offices in the Federation of BiH also own internationally acknowledged certificates for product and service quality, for work system and organization, and the protection of the environment and employees. In that way, the printing offices are getting increasingly involved in the realization of works for export, especially in the area of printing of books, newspapers, magazines, postal and similar stamps, labels, and other printed materials.

The above mentioned data show that 85% of the total export of Bosnia and Herzegovina in 2007, and 96% of the export in 2006, was performed by firms from the Federation of BiH.

The most significant export markets are: Croatia, Serbia, Montenegro, Switzerland, Germany, Sweden, and Slovenia. The most significant exporters are: "Grafotisak" Grude, "Inter Press" Široki Brijeg, "Unioninvestplastika" Semizovac, and "Roto Press" Sarajevo.

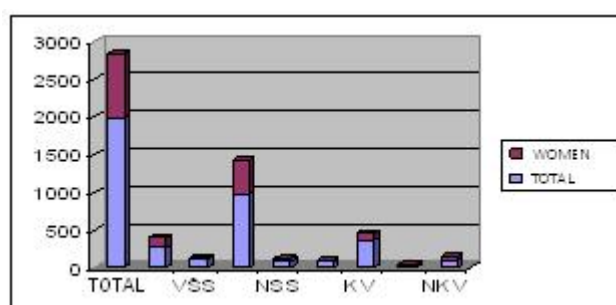
The graphics industry of Bosnia and Herzegovina and the Federation of BiH is very dependent on import even besides the results achieved in export, so that the export of the Federation of BiH in 2006 amounted to 23% of the import, and to only 17% of import in 2007.

Table 6.4 Comparative review of the export of the graphics industry of the Federation of Bosnia and Herzegovina

Heading	Name of the heading	Export 2006 (KM)		Export 2007 (KM)	
		Federation of BiH	BiH	Federation of BiH	BiH
4901	Printed books, brochures, flyers, and the like	1,433,230	1,757,782	3,353,621	3,918,046
4902	Newspapers, magazines, and other publications	2,657,389	3,350,321	2,383,189	3,642,655
4903	Children's picture books	44,412	44,454	73,339	73,400
4905	Printed maps	3,511	4,026	574	929
4906	Original plans	38,629	58,235	84,166	84,176
4907	Postal, tax, and similar stamps	2,204,505	2,151,760	650,648	656,557
4909	Postal and wish cards	4,828	9194	4689	8059
4910	Calendars of all kinds	42,091	57,888	73,339	87601
4911	Other printed materials	404,546	499,147	541,230	646,571
	Total export	6,833,140	7,932,806	7,112,945	9,066,683

Source: Indirect Taxation Authority of BiH

6.1.3 Employment

Table 6.5 Employment in the graphics industry in FBiH according to the professional degree and age in 2006.

	TOTAL	VSS	VŠS	SSS	NSS	VKV	KV	PKV	NKV
TOTAL	1992	265	113	961	82	78	365	38	90
WOMEN	849	129	26	470	44	17	93	17	53
	1	2	3	4	5	6	7	8	

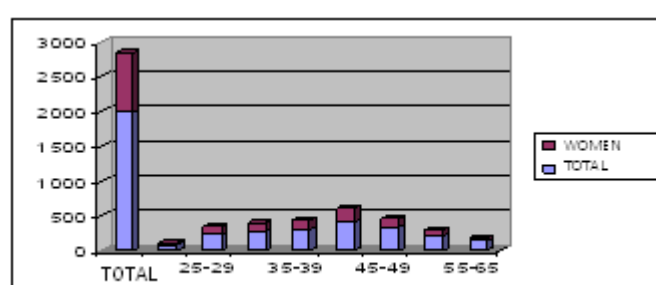
- 1 – University degree
- 2 – Two-year degree
- 3 – Secondary education
- 4 – Lower education level
- 5 – Highly qualified worker
- 6 – Qualified worker
- 7 – Semi-qualified worker
- 8 – Low-qualified worker

Source: Statistical Yearbook of 2007

The graphics industry in the Federation of BiH, according to the data of the Federal Bureau of Statistics, employed 1992 workers in 2006. The structure of employees according to the level of professional degree and age can be seen in Table 6.5.

Out of the total number of employees, 42% of them are women, and with regard to the level of their professional qualification, 48% possess secondary school qualifications, 18% are qualified workers, and 13% of the employees have university degrees. The staff structure of employees is not at a satisfactory level, considering that the graphics industry is a branch of economy which demands the existence of highly sophisticated equipment, which needs to be operated by university-educated staff. The structure is also approximately similar with the employed female workforce.

Table 6 Employment in the graphics industry in FBiH according to age in 2006



	TOTAL	to 24	25-29	30-34	35-39	40-44	45-49	50-54	55-65
TOTAL	1992	81	234	273	311	410	334	210	139
WOMEN	849	32	113	126	124	197	128	89	40

Source: Statistical Yearbook of 2007

It can be seen from the Table that 20.5% of the employees are between 40 and 44 years old, 16.7% are between 45 and 49 years old, and 15.6% are between 35 and 39 years old.

6.2 State of Technology and Technological Systems

The speedy development of modern technologies in developed countries of Europe and the world also demanded a modernization of facilities in printing offices in Bosnia and Herzegovina. Private capital in the newly formed and privatized state printing offices enabled the procurement of new and very modern equipment.

Based on the conducted research, a review of the age structure of the equipment can be given:

- Old equipment 45%
- Combination of old and new equipment 35%
- Modernized technologies 10%
- New equipment 10%

There are two highly modern printing offices in the Federation of BiH which were successfully privatized (GIK "OKO" Sarajevo and "Unioninvestplastika" Semizovac) in the area of rotation print, which are specialized for the printing of newspapers, magazines, reviews, and publications. Their production plants are completely automated, they work at great speeds and they enable the printing of large press runs, so that the capacities surpass the needs of the market of Bosnia and Herzegovina. These are the only printing offices in the area of rotation print.

The other type of printing offices is specialized for offset or the so called sheet-fed print. For the needs of firms, banks, schools, faculties, international organizations, and other institutions, printing companies do: monographs, books, textbooks, catalogues, posters, paper and cardboard packaging, labels, and almost everything that is done in printing offices in the modern world is also done in printing offices in BiH. Printing companies in the Federation of BiH participate in the realization of the most demanding tenders in the area of printing, which is shown by the work performed so far: voting ballots, postal stamps, vehicle and driver's licenses, savings books and other securities used in payment operations, except for passports.

The modernization of offset printing offices began after 1996. Most printing offices have their own way of preparation which is mostly done with PC devices, and more than ten printing offices possess modern CTP devices for the developing and illumination of panels, which enable top level of preparation, with large precision and speed of work. Most CTP devices were procured from famous German firms: Kodak, Agfa, Heidelberg, and the Japanese firm Screen Dainnipon.

Printing is performed in facilities which are getting more and more modernized and automated. The machines are mostly procured from: Germany, Italy, Japan, America, and lately also from China, from famous producers: Man Roland, Heidelberg, XEROX, Müller Martini, Komori, and others. Printing offices possess modern machines for hard and soft covers, multi-colored print, and safety documents, which enables them to print the most demanding products.

In the area of bindery printing modern machines which enable great speed, quality, and precision: of gluing, stitching, plastification, varnishing, binding, numbering, and the like, are also getting procured more and more, from famous firms: Bobst, Heidelberg, and the like.

The graphics industry also has several printing offices in the area of digital printing, which have very few employees, but which can perform complex printings of small scales, for short notice orders. Due to little investments in these printing offices, digital printing has the tendency of speedy development.

In general, it can be said that the graphics industry in the Federation of BiH has numerous capacities which surpass the needs of the market of Bosnia and Herzegovina. Firms that own modern equipment also have a more skilled workforce, so that they can perform the most demanding tasks (luxury books, monographs, catalogues, packaging for the pharmaceutical and food industry, safety documents with various kinds of

protections, and the like). These firms pay more and more attention to the promotion of their products and services, the design, and the enhancement of the quality of the products.

Other printing offices can perform many printing works, but it is not of such quality and speed (books, textbooks, catalogues, forms, labels, simple cardboard and paper printed packaging), and they mostly have an unfavorable staff structure.

6.3 Possibilities for Revitalization and Modernization of Facilities

The revitalization and modernization of facilities is crucial for achieving a higher level of business efficiency, productivity, product quality, and, as the ultimate goal, an increase in the competitiveness of firms.

However, the revitalization and modernization depends on: available financial assets, the existence of a clear vision of the development in firms, the abilities of the managements, the end of the privatization, the motivation, and professional qualifications of the employees.

Most graphic firms do not have a developed strategic planning, the function of development is not present enough, the level of professional qualification of the management is low, and favorable assets for investments into modern equipment are hard to reach.

The possibilities for revitalization and modernization should be sought in:

- the establishing of a strategic management in firms,
- permanent investment in development,
- the implementation of permanent education,
- the introduction of ISO standards

It can be expected that more and more firms will procure automated equipment for multi-colored printing, which will enable great speeds and quality of printing. Since it is the imperative in the world that modern equipment from all segments of printing should also comply with ecological standards, it can be expected that the printing offices in the Federation of BiH will also pay more attention to the meeting of ecological and protection measures in the future.

6.4 Internal and External Constraints (SWOT Analysis)

Based on the analysis which was carried out, the presented statistical data and data received from firms, a SWOT matrix was performed which presents the following four strategies as the final interpretation of accomplished results:

Table 6.7 SWOT matrix

Strengths (S)	Weaknesses (W)
<ul style="list-style-type: none"> – tradition in production – versatile assortment of products – significant number of newly formed and modernly equipped firms – size of the company – a growing orientation towards export – cheap workforce 	<ul style="list-style-type: none"> – Old technology – Unsatisfactory staff structure – Lack of market information – Insufficient promotion – Unfavorable conditions for doing business compared to the competition – Lack of own processed materials for production – Lack of marketing services in firms – Lack of permanent training
Opportunities (O)	Threats (T)
<ul style="list-style-type: none"> - Opening of a Faculty of Graphic Arts in BiH - Usage of foreign cooperation - Expansion of the market - Ever growing investments in education - Proximity of the high-end technology market 	<ul style="list-style-type: none"> – Political instability of BiH and the Western Balkans – Global economic crisis – Speed of the development of new technologies – Market power of buyers – Unfavorable financial assets – Notable great competition of foreign markets

6.5. Possible Strategic and Development Goals

The graphics industry of Bosnia and Herzegovina has a long year tradition in production. The capacities of the graphics industry have different levels of equipment and size, as well as of professional qualification and number of employees. The graphics industry is very dependent on import, and the export results are still very humble. The capacities of the graphics industry surpass the needs of the market of Bosnia and Herzegovina. Printing offices in the Federation of BiH are exposed to a very strong competition from import, so that they can take part in the fierce market race only with modern equipment, expert workforce, and a clear vision.

With the aim of increasing production, the product quality, and the export, as well as lowering import, it is necessary to:

- Improve the organization of production and introduce strategic planning into firms,
- Introduce market researches as a significant segment of the firm's operations,
- Have a quality promotion of products at the domestic market and at the exporting market,
- Apply EU standards in firms,
- Implement permanent education.

In order to carry out the possible strategic and development goals, the institutions of the system of Bosnia and Herzegovina need to take the following measures:

1. Implement a quality privatization in all remaining printing offices in the Federation of BiH
2. Create a more favorable surrounding for doing business (by lowering taxes, abolishing customs taxes for the import of processed materials which are not produced in Bosnia and Herzegovina, and which are necessary for the graphics industry)
3. Customs tax exemption for the import of equipment
4. Stimulate the introduction of ISO standards in firms
5. Enable the modernizing of capacities and the procurement of modern equipment with favorable credit lines.
6. Stimulate education in the graphics industry.
7. Harmonize programs of secondary school education in the field of graphics with the demands of the market.
8. Stimulate upgrading and retraining of employees according with the needs of the job.
9. Enable domestic printing offices to take precedence at international tenders in the field of printing, which are invited for the needs of the institutions of BiH.

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