WOOD PROCESSING SECTOR IN BOSNIA AND HERZEGOVINA

Report

Sarajevo, April 2006

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1. EXECUTIVE SUMMARY

In January 2006, Prism Research conducted a special survey of companies in the wood processing industry in Bosnia and Herzegovina. The survey was commissioned by and for the use of the Cluster Competitiveness Activity (CCA) which is financed by the United States Agency for International Development (USAID).

A database of companies from the wood processing sector – developed by GtZ in September 2005 – was used in constructing the sample. We used stratified random sampling to select 200 companies from throughout Bosnia and Herzegovina from this database.

Given that 40% of companies in the GtZ database were involved in primary wood processing (sawmilling), the share of the primary sector in the sample was reduced. In agreement with USAID, the sample included a higher percentage of companies involved in rough production (veneer and board products) and in final wood processing.

An additional 42 companies selected by USAID were added to the database at a later stage of the research. These companies had been identified for their export potential and were interviewed by another contractor. The selection of this sample of 42 companies was neither stratified nor random. The following summary conclusions are true for the entire sample of 242.

State of the Industry

Of those surveyed, most companies identified their principal activity as either final production (47.5%) or primary production (25.6%). In terms of their primary business, companies are commonly involved in more than one activity. The greatest number of business registrations are for firms doing business as construction joinery producers (36.4%), furniture producers (36%), sawmills (35.1%), and veneer or board producers (21.4%).

The companies' most common products include saw mill products (38.4%), construction joinery products (39.2%), solid wood furniture (23.9%), veneer or board products (21.4%), panel furniture (22.9%), furniture elements (22.3%) and upholstered furniture (9%). The primary raw materials companies use in their work include logs (47%), green lumber (38.4%), particleboard (33.6%) and different cut kiln-dried lumber (29.8%), most of which are purchased locally in B&H. However, businesses who import material import finished elements, particleboard, and veneer more frequently than other materials.

More companies from the Republica Srpska (52%) than from the Federation of Bosnia and Herzegovina (35%) register as sawmills. More companies from the Federation (40%) than from the RS (22%) produce furniture. More companies from the RS (32%) than from the Federation produce wood veneer or boards.

More companies from the Federation (52%) than from the RS (31%) are involved in final production. Companies from the RS are more commonly involved in primary production, so that the percentage of such companies in the RS (43%) is more than double that in the Federation (20%).

Wood processing sector businesses reported increases in their sales in 2005 compared to 2004. An average wood processing company in Bosnia and Herzegovina achieved sales of 2,797,282 KM from the sale of its products in 2004 compared to 3,888,925 KM in 2005.

The increase was recorded in both domestic and foreign markets although most sales revenue in 2004 was achieved in domestic markets (1,431,408 KM). This proportion did not change significantly in 2005 with 1,989,445 KM having been achieved in domestic markets.

As many as 62% of surveyed companies do not posses any quality certificate and half (50%) do not have plans to obtain one in the future. Still, about a quarter of companies surveyed (28%) stated that they were in the process of preparing for certification, while one in ten companies (8%) claim they have satisfied the quality criteria and were awaiting certification.

About a third of surveyed companies (33%) say they have developed detailed business plans in writing. These documents include mainly operational plans, financial plans and marketing and sales plans.

Marketing

Most wood processing companies distribute their products through a company salesperson (49.6%) and in this manner obtain a third of total sales (33.1%) Additionally, some of these companies (38.4%) distribute their products through independent agents through which they can trace one fifth of their domestic sales (20.9%). Larger companies use more distribution channels, while smaller size ones rarely opt for wide distribution of their products.

In promoting domestic sales, most surveyed companies use family or personal contacts (58.5%) or visit different trade fairs (49.8%). The third most commonly used domestic sales promotion activity is television and radio advertising, which a third (35.3%) of surveyed companies claim to use.

Asked to assess their competitive advantages, 87.2% of surveyed companies believe they provide high-quality products. Surveyed companies identified Krivaja Zavidovici (5.3%), Konjuh (3.7%) and Dallas (3.3%) as the main competitors (in their sector) saying the principal advantage of these companies was the price of their products. Concerning their pricing policy, most companies surveyed say they develop their prices based on market trends (50%), while a little under a half of them say they base their prices on cost plus mark up (41%).

Industry Outlook

The key business goals most companies hoped to achieve were to increase domestic and export sales of existing products. The goals that were of the lowest priority were to develop new products for export markets and to acquire new equipment. Major challenges identified by those surveyed include access to new international markets and to increase the sales in both domestic and export markets. Less important challenges included development of business plans and training workers in required skills.

A large majority of surveyed companies were highly interested in acquiring additional assistance with exports (85.1%) or with attracting investment (86.7%)

Conclusion

When asked to rank key business goals from a list, increasing the sales of existing products ranked the highest while achieving profitability was seen by the surveyed companies as the least important goal. The 42 companies that are focused more specifically on exporting (31 currently export) ranked sales growth of current export and domestic products as the most important, and development of new domestic products as the least important; profitability ranked in the middle. However, the total group of companies surveyed appears not to have clearly defined their future goals. Different companies have different views on all of the proposed goals, since each goal received an average ranking number of between three and four, on a scale of one to seven.

When asked to rank strategic challenges from a list, the development of a business plan was ranked as least challenging while increasing the level of exports and accessing export markets were ranked most challenging by the entire sample. A great discrepancy can be seen between large and small size companies on the issue of increasing the current export levels, with large companies considering it to be one of the three most important challenges (average rating number 3.3) and the small ones rating it as a less important challenge (average rating number 6.3). On the other hand, maintaining the current level of domestic sales was seen as a more important challenge by the small companies (average rating number 5.3), while the large companies rated it as less important (average rating number 8.5).

As only a third of surveyed companies (33%) say they have developed detailed business plans, and the actual number is likely lower, there is sufficient room for CCA to provide training in business plan development to help meet business goals and strategic challenges. This group is dominated by companies with more than 50 employees (60.7%), followed by companies with between 11 and 50 employees (33.6%) and 16% of companies with fewer than 10 employees. Also, larger companies usually have more complex business plans (with 9.6 elements on average) than do the medium size firms (8.4 elements) or small companies (7.5 elements).

Although all companies claim they recorded increased sales in 2004 and 2005, they also claimed a slight decrease in the number of people they employ. An average wood processing company in Bosnia and Herzegovina employed 63 people in 2004 and 59 in 2005. Generally, an increase in sales and a decrease in employees would be a sign of increased productivity. However, revenue figures and the numbers of employees are commonly underreported in surveys, and conclusions regarding these data should be made with caution.

Two thirds (66.8%) of surveyed companies use just one distribution channel for their products. A smaller percentage of companies (23.9%) use two different distribution channels and only 9.3% use three or more distribution channels. However, some channels preferred by wood companies do not contribute equally to the percentage of sales. Generally speaking, the percentage of sales achieved though specific distribution channels is proportional to the frequency of use of those channels.

By observing the domestic sales promotional activities of companies of different sizes, larger companies use more and a greater variety of promotional activities. In fact, half of small size companies (49.4%) are using only one promotional activity, compared to 27.3% of mid size and 8.5% of large companies. There may be opportunities to increase sales through the use of a greater diversity of distribution channels, or by emphasizing those channels through which the greatest percentage of sales is achieved.

Generally, the larger companies in the industry are more developed. As distinguished from small size firms, they use a greater number of distribution channels, rely more on company salespersons, engage in more diverse promotional activities, have developed business plans (or more detailed plans than smaller companies), and they are more likely to be exporters.

Areas of potential CCA support for larger firms are assistance with export development and for smaller firms include education and assistance in the:

- Advantages of quality certification,
- Advantages of business planning and strategy development,
- Competitive advantages in the development of new products, and
- Role of quality and pricing in competitiveness.

2. INTRODUCTION

In January 2006, Prism Research conducted a special survey of wood processing companies in Bosnia and Herzegovina commissioned by and for the use of the Cluster Competitiveness Activity (CCA), financed by the United States Agency for International Development (USAID).

The research was conducted on a sample of 200 companies from throughout Bosnia and Herzegovina. An additional 42 companies selected by USAID were added to the database at a later stage of the research. These companies had been identified for their export potential and were interviewed by another contractor.

The goal of the CCA is to increase the rate of economic growth in Bosnia and Herzegovina by working in the wood processing and sector to raise productivity, profitability and employment. Information obtained in this research is to be used to formulate the principal assistance strategy for the sector in general, as well as to design strategies for individual companies to increase exports and attract investment.

The main goals of this research were:

- To provide an overview of the sector
- To obtain information about the primary activities within the sector
- To obtain information about the size of companies by number of employees, revenue and export sales
- To obtain information about the future plans of company managers and owners
- To assess the level of interest for improving the marketing strategies, business activity, financial management and cooperation within the sector

3. RESEARCH RESULTS

3.1 Basic information about companies

Table 3. Companies' "demographic characteristics" by key variables

		N	%
ENTITY	FB&H	188	77.7
	RS	54	22,3
	Total	*242*	*100*
NUMBER OF EMPLOYEES	Less than 10	87	36,0
	11 – 50	104	43,0
	More than 51	51	21,1
	Total	242	*100*
PRINCIPAL ACTIVITY	Forestry	8	3,4
	Primary production	61	25,6
	Rough production	16	6,7
	Semi-finished production	34	14,3
	Final production	113	47,5
	Trading	6	2,5
	Other	2	0,8
	Total	*242*	*100*

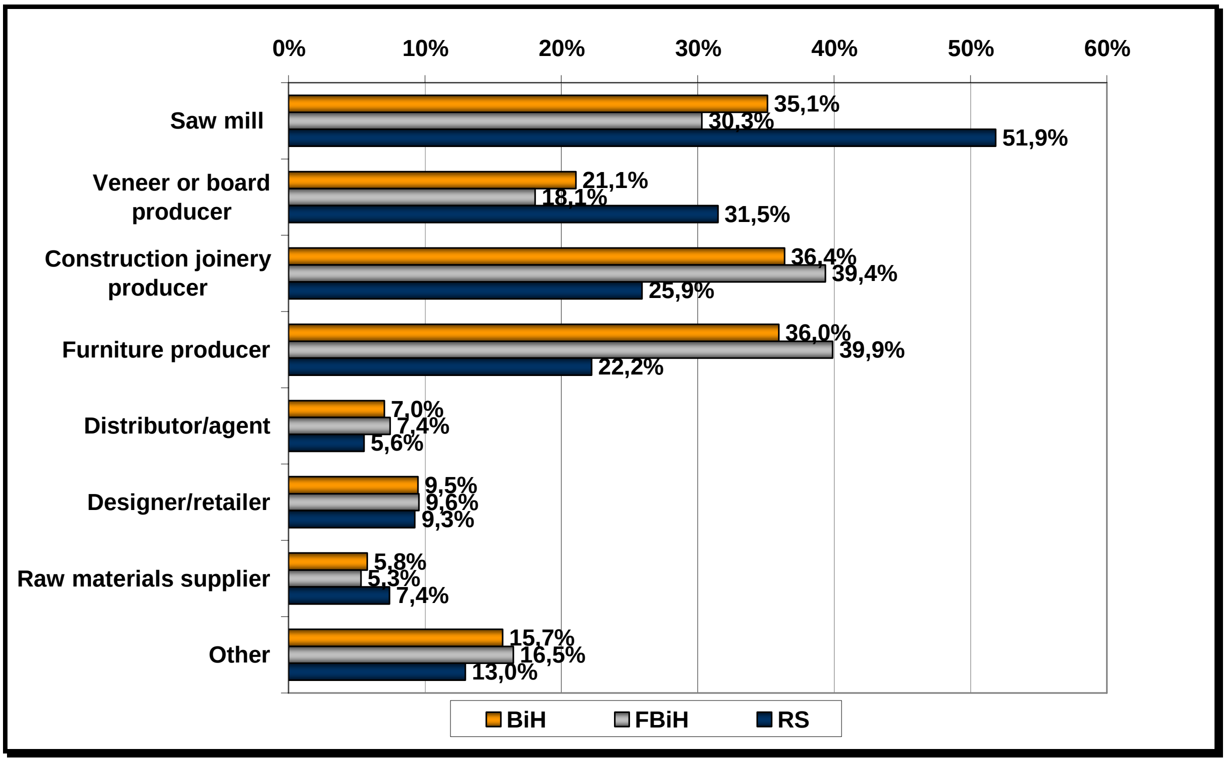
For the purpose of this study, a total of 188 companies from Federation B&H and 54 companies from Republika Srpska were surveyed. The majority of surveyed companies are small or mid-size companies with less than 10 employees (36%) or between 11 – 50 employees (43%). Regarding the principal activity, the majority of the companies are primarily involved in final production (47.5%) or primary production (25.6%). Only a small percentage of the companies from the sample are involved in semi-finished production (14.3%), rough production (6.7%), forestry (3.4%) or trading (2.5%). Due to the small samples and the fact that the majority of companies are in either the final or primary production sector, it won't be possible to compare companies regarding the principal activity (see Methodology in Section 4 below).

Regarding the ownership structure, most companies from the sample (93%) are 100% privately owned. Only a small percentage is totally state-owned (2%). A small percentage of companies are mixed or shareholding companies - 2% of companies are majority state owned companies (more than 50% of state ownership) and 4% are majority private owned companies (more than 50% of private ownership).

In terms of organizational structure, a large majority of businesses (76.4%) are registered as limited liability companies (d.o.o). Only a small percentage of companies are registered as share holding companies - A.D (4.5%) in Republika Srpska or joint-stock companies - D.D (3%) in Federation B&H.

In the terms of joint venture structure, one in ten surveyed companies (11.1%) is a joint venture, with this percentage being the same among small and large companies.

Graph 1. Primary business – results for the whole of Bosnia and Herzegovina and by entities



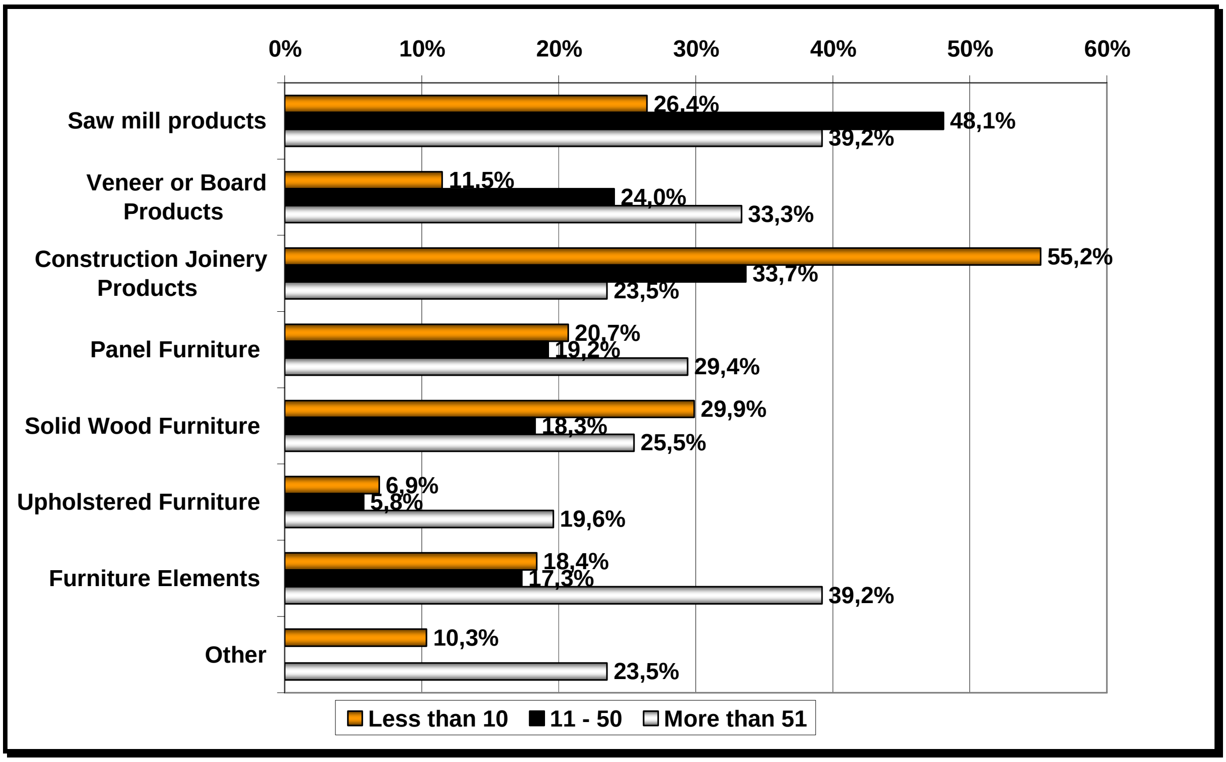
In terms of the companies' primary business, research results indicate that the wood processing companies tend to have more than one business activity. While the majority of companies specialize in only one business activity (56.8%), some have a broader range of activities: 29% are registered for two business activities 14% are registered for three or more business activities.

At the level of the state, the highest percentage of companies are registered as construction joinery producers (36.4%) or furniture producers (36%), One third of the surveyed companies are registered as sawmills (35.1%), while one in five (21%) produce wood veneer and boards. A small percentage of surveyed businesses registered as designers/retailers (11%), distributors (7%) or raw material suppliers (6.5%).

Comparisons between companies in the Federation B&H and in the RS reveal that more companies from the RS (51.9%) than from FB&H (35.1%) are registered as sawmills. More companies from the Federation B&H (39.9%) than from the RS (22.2%) produce furniture, while more companies from the RS (31.5%) than from FB&H produce wood veneer or boards.

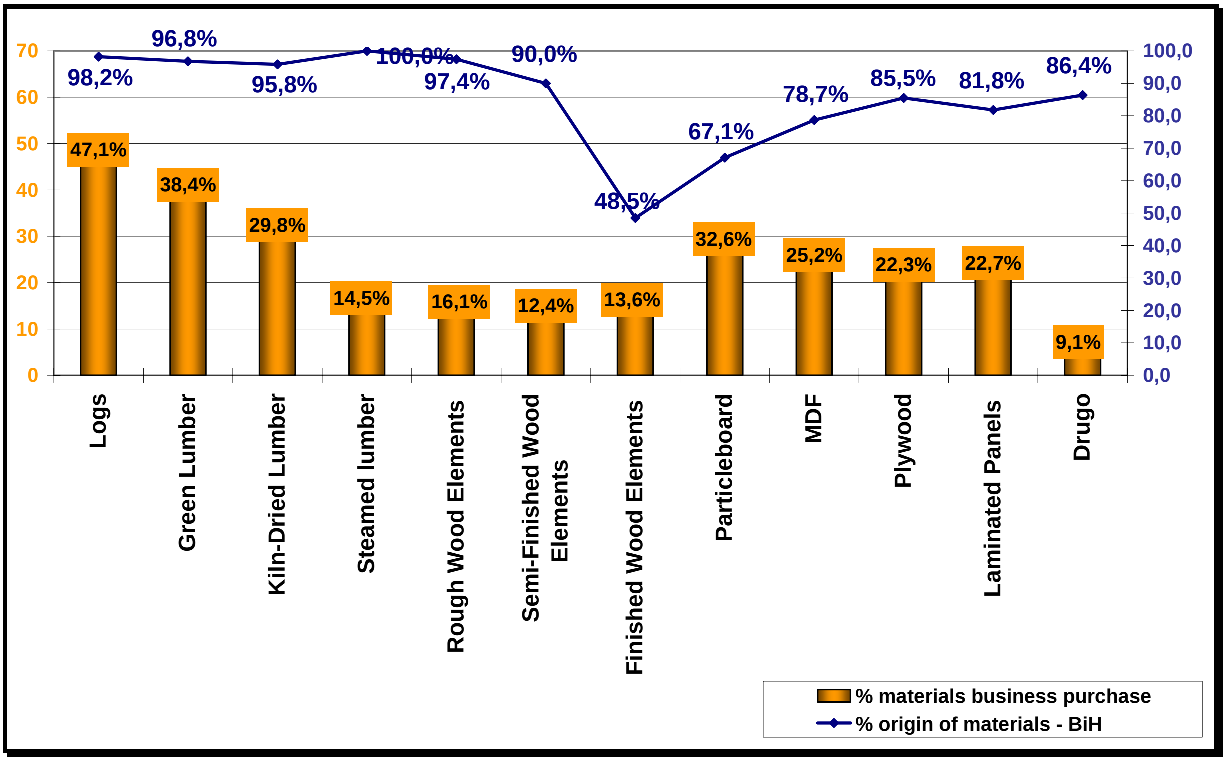
As for the principal products, most surveyed companies offer just one type of product (46.9%), while some report offering two different products (29.5%) or more than three different products (23.7%). Taking into consideration the variety of wood products, the most common products produced by surveyed companies are sawmill products (38.4%) and construction joinery products (39.2%). A lower percentage of companies, beside other products, are producing solid wood furniture (23.9%), panel furniture (22.9%), furniture elements (22.3%), veneer and boards (21.4%) or upholstered furniture (9%).

Graph 2. Companies' principal products – by company size



Looking at the companies' principal products in relation to their size, it becomes obvious that the small companies are most commonly involved in production of construction joinery (55.2%), solid wood furniture (35.6%) or sawmill products (21.8%). On the other hand, large companies with more than 51 employees are most commonly involved in producing furniture elements or sawmill products (39.2% respectively).

Graph 4. Primary raw materials used by companies and their origin – results for B&H



Surveyed companies use different raw materials in their work and in most cases obtain them locally, in Bosnia and Herzegovina. The top five most used materials are logs, green lumber, kiln dried limber, particleboard and MDF. Given that there is no production of particleboard and MDF in Bosnia and Herzegovina, particleboard and MDF are the actually imported materials.

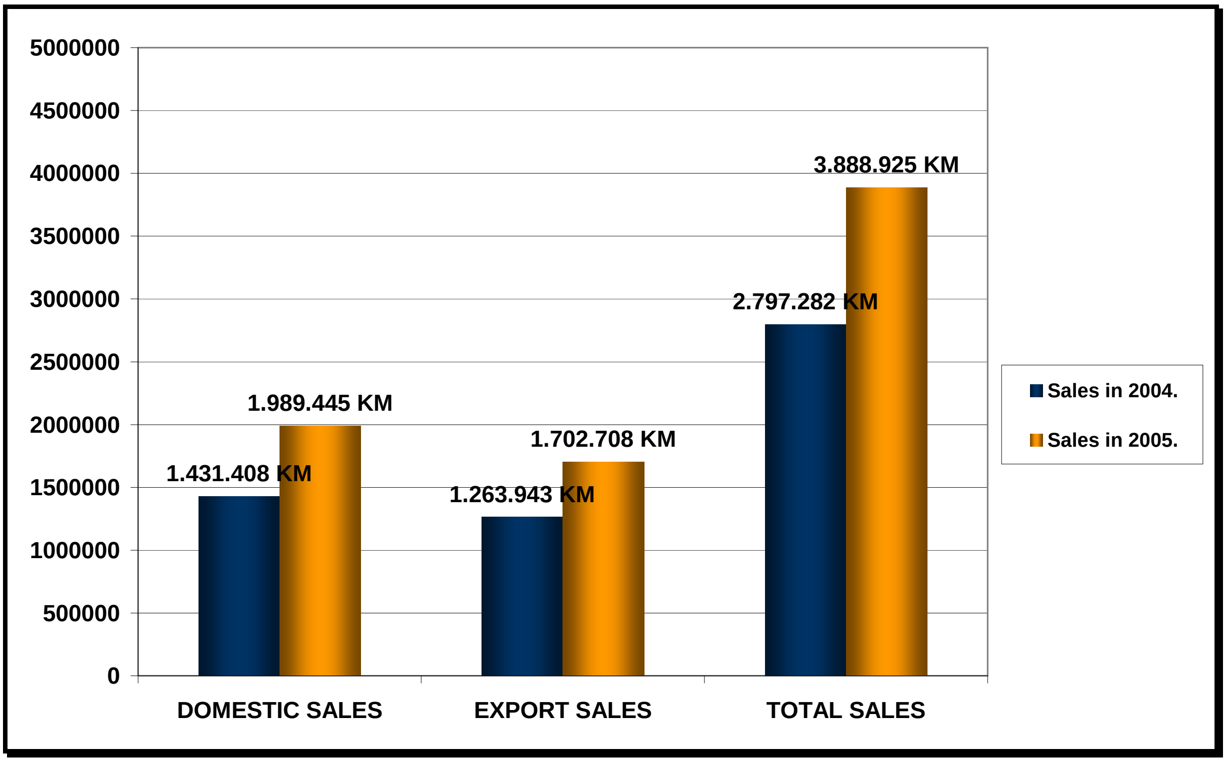
BiH companies likely purchased these materials from a BiH importer, unaware of their origin or assuming the products were domestically produced as 33% claim to purchase particle board and 67% of them say it is BiH particle board. (It is important to note that there is also a possibility that companies did not fully understand this question. They were asked to answer whether they import some of the materials or whether the materials they use are originally from B&H) About a quarter of companies (25.2%) say they use MDF and 78.7% of them say this product is originally from BiH.

One of the primary raw materials, used by nearly a half of surveyed companies (47%) is logs, which most companies (98.2%) purchase in Bosnia and Herzegovina. More than a third of surveyed companies use green lumber (38.4%), which is almost always (96.8%) originally purchased in Bosnia and Herzegovina.

Less than a third of all companies use cut kiln-dried lumber (29.8%) which in most cases companies say they purchased locally (95.8%). However, despite the fact that a small percentage (13.6%) of companies use finished wood elements, those materials are mostly imported (51.5% directly import and 48.5% obtained in B&H from other companies).

3.2 Sales and employees

Graph 5. Sales in 2004 and 2005 – results for B&H

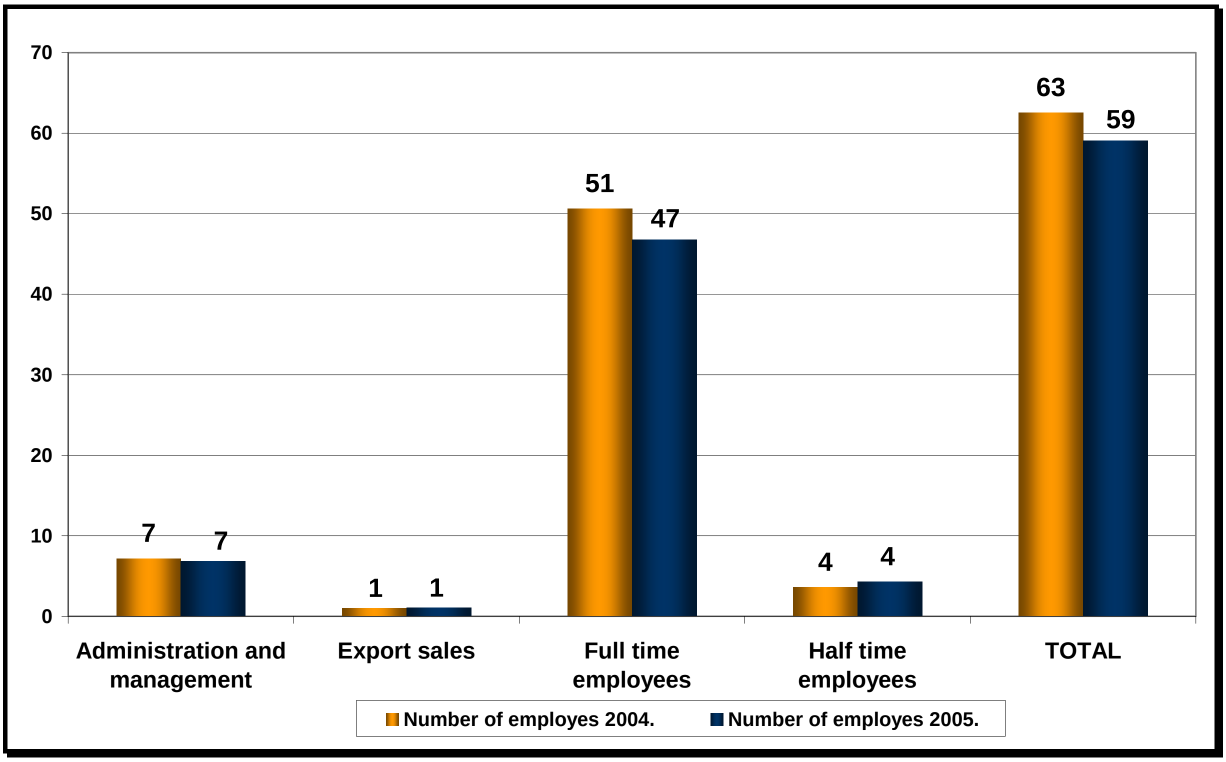


Companies from the wood processing sector reported increasing their sales in 2005 compared to 2004. An average wood processing company in Bosnia and Herzegovina achieved sales of 2,797,282 KM in 2004 compared to 3,888,925 KM in 2005. The increase has been recorded in both domestic and foreign markets although most sales revenues in 2004 were achieved in domestic markets (1,431,408 KM). This proportion has not changed significantly in 2005 with 1,989,445KM having been achieved in domestic markets.

Not all the companies were equally successful. Companies from the Republika Srpska achieved significantly lower sales in 2004 with an average profit of 1,494,387 KM, while companies from FB&H achieved almost twice that amount (3,177,292 KM). The difference in the profits was even more significant in 2005 with companies from FB&H achieving sales of 4,468,194 KM and those from the RS of 1,660,962 KM.

Companies with a higher number of employees had higher sales that did the companies with fewer than 10 employees.

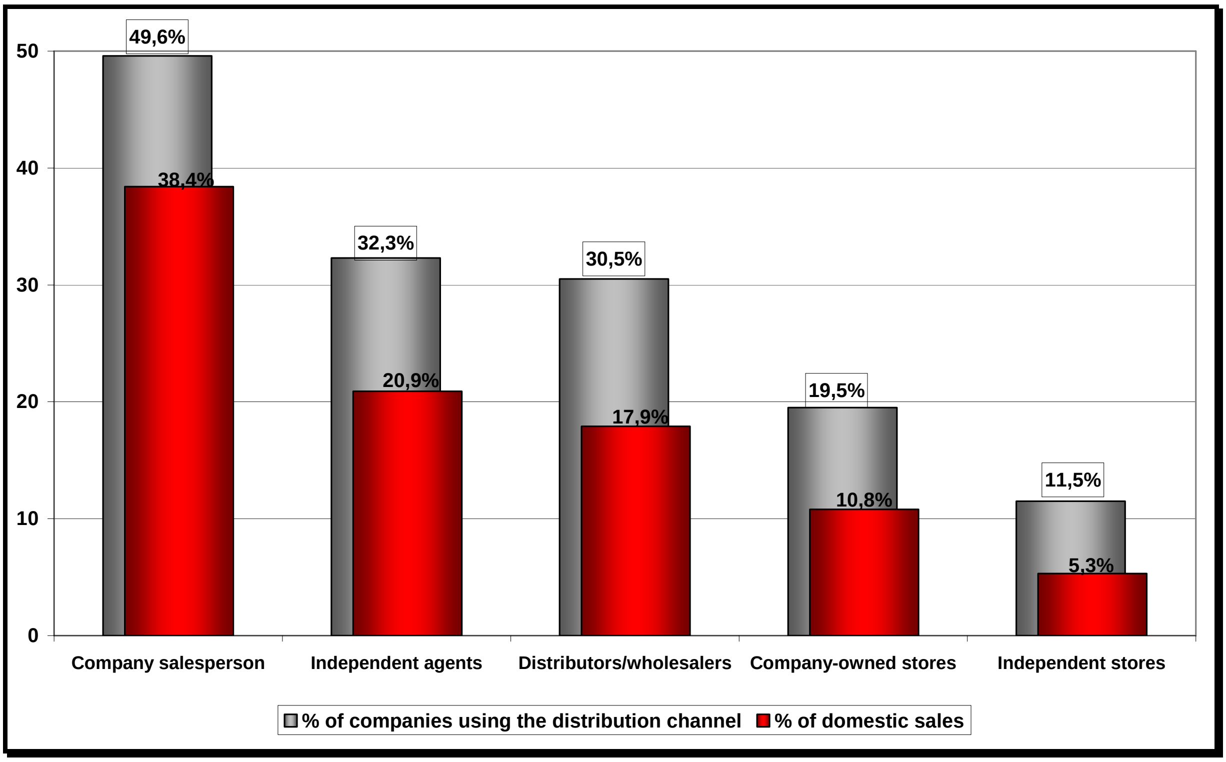
Graph 6. Average number of employees in 2004 and 2005 – results for B&H



Although all the companies recorded increased sales in 2004 and 2005, there was somewhat of a decrease in the number of people they employ. An average wood processing company in Bosnia and Herzegovina employed 63 people in 2004 and 59 in 2005. In the terms of total number of employees in 2005, as noted before, the majority of surveyed companies are small or mid size companies with less than 10 employees (36%) or between 11 – 50 employees (43%). A smaller percentage (21.5%) of the companies is large companies with more than 51 employees.

As for the employment structure, most workers or an average of 51 in 2004 and 47 in 2005 were employed full time. On average, wood processing companies have 7 employees in management and administration positions and one in export sales department. Companies have an average number of four part-time employees.

Graph 7. Current distribution channels and percentage of sales achieved through them – results for B&H

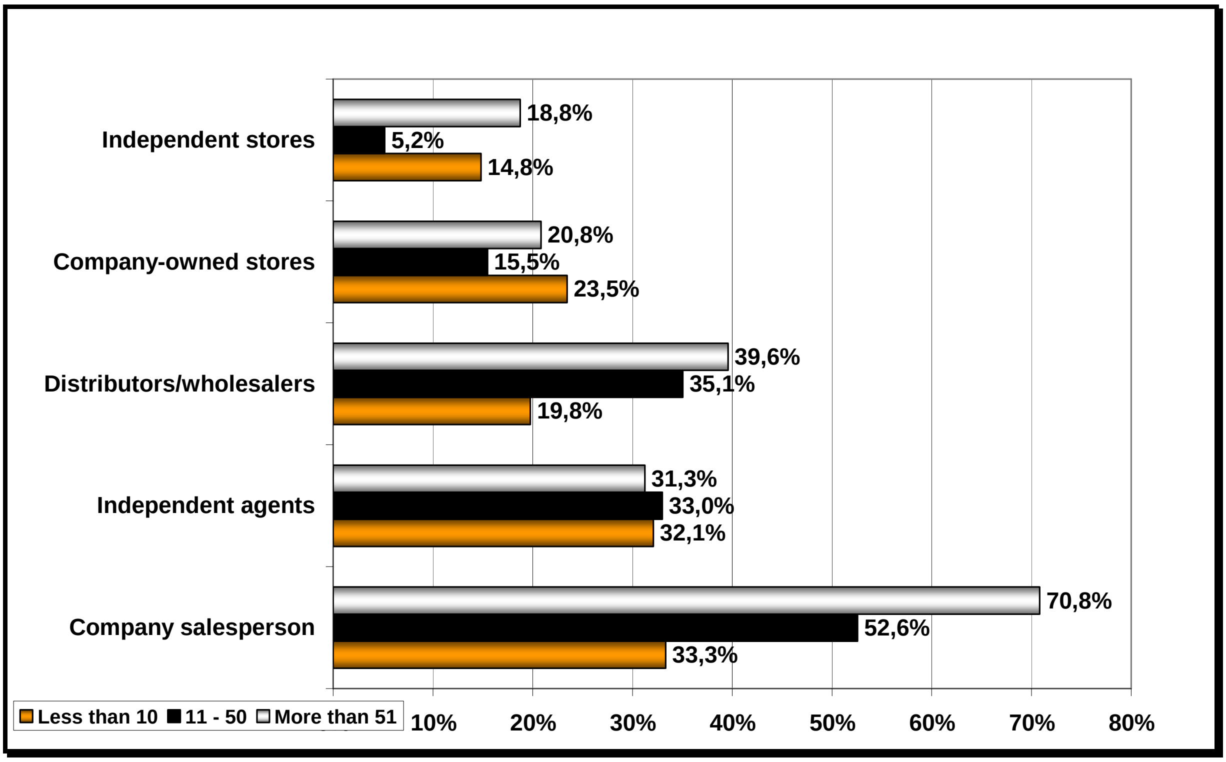


Two thirds (66.8%) of surveyed companies use just one distribution channel for their products. A smaller percentage of companies (23.9%) use two different distribution channels and only 9.3% use three or more distribution channels. However, some channels that are preferred by wood companies do not contribute equally to the percentage of sale. Generally speaking, the percentage of sales achieved though specific distribution channels is proportional to the frequency of use of those channels

Most wood processing companies distribute their products though company salespersons (49.6%) and in this way achieve most of their domestic sales (more than a third of the entire sales or 38.4%). A third of surveyed companies (32.3%) distributes their products through independent agents or through distributors/wholesalers (30.5%) and in this way achieves less than a quarter of domestic sales (20.9% and 17.9% respectively).

The smallest percentage of surveyed companies distribute their products through independent (11.5%) and company-owned (19.5%) stores making it the least profitable domestic distribution channel (10.8% and 5.3% respectively) .

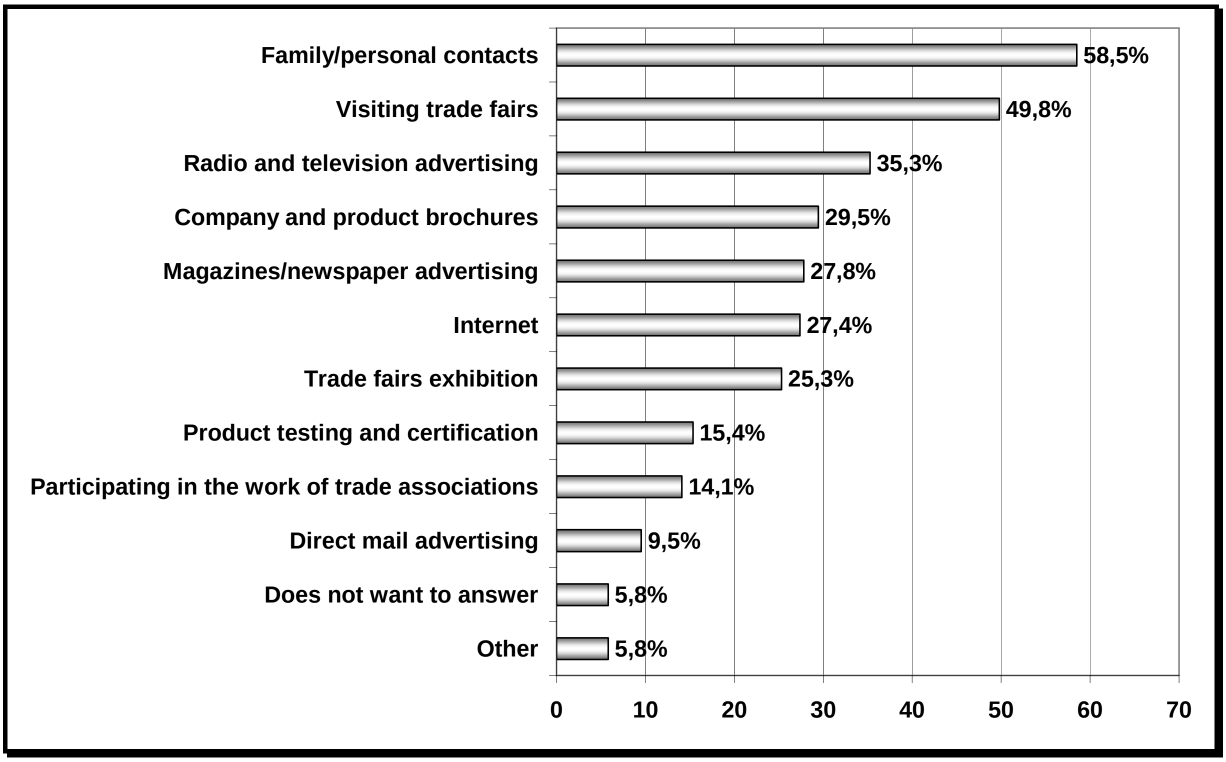
Graph 8. Current distribution channels – by company size



Considering company size, large companies use a greater number of distribution channels, while smaller ones rarely opt for broad distribution of their products. The majority of small companies (82.7%) with less than 10 employees use only one distribution channel, while a smaller percentage of mid size companies (63.9%) or large companies (45.8%) choose only one channel of distribution for their products domestically. They are more likely to use two, or more than three, different distribution channels.

Despite the fact that they use all distribution channels, large companies most commonly rely on company salespersons (70.8% of companies with over 50 employees) and are the least interested in distribution via independent stores (18.8%). Companies with less than 10 employees also equally use all distribution channels, and are again least interested for distribution through independent stores (14.8%).

Graph 9. Domestic sales promotion activities – results for B&H

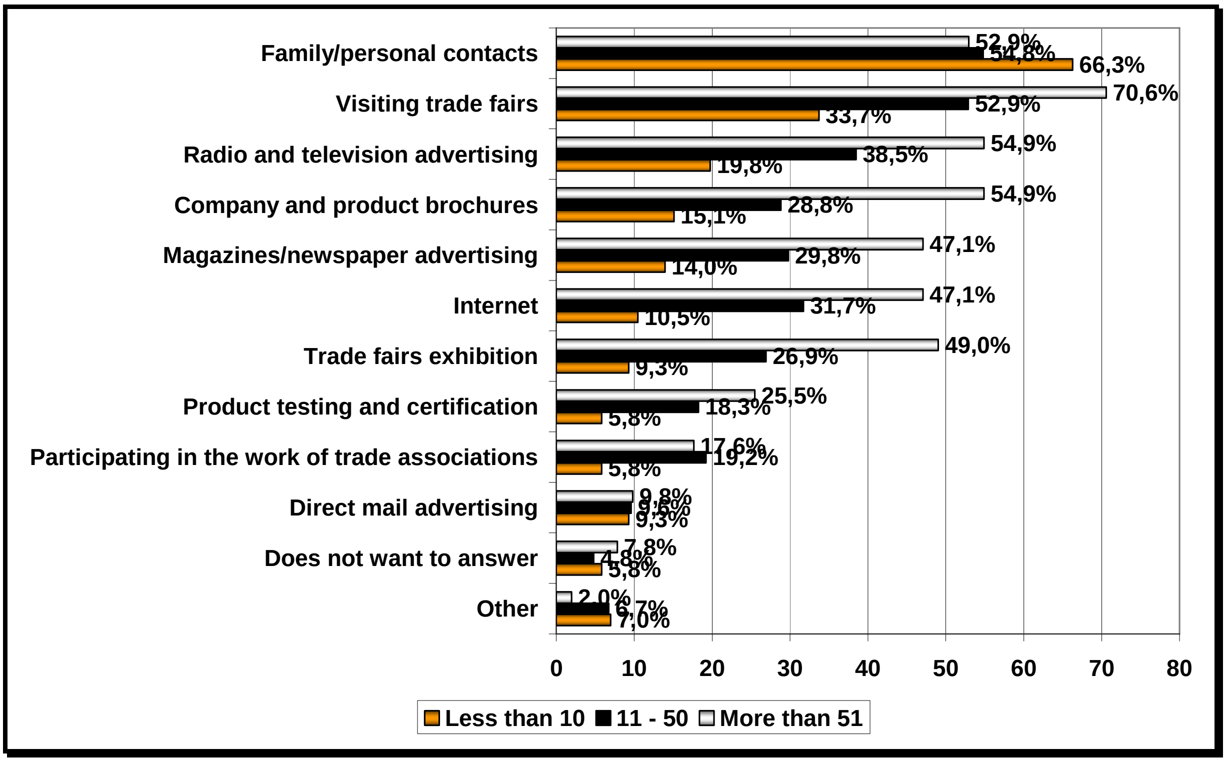


In promoting domestic sales, almost a half (48.9%) of companies uses three or more promotional activities. One third of the companies (31.3%) use only one promotional channel.

In terms of the type of promotional activity, family and personal contacts are the most commonly used (58.5%) by the companies in promoting domestic sales, followed by visits to trade fairs (49.8%). The third most commonly used promotional activity is television and radio advertising, reported by a third of surveyed companies (35.3%).

An equal percentage of surveyed companies - or a quarter of them - uses brochures and advertising in newspapers, magazines and on the Internet. It appears that the smallest percentage of companies chose direct mail advertising (9.5%) and promotion through product testing and certification (15.4%).

Graph 10. Domestic sales promotion activity – results by company size



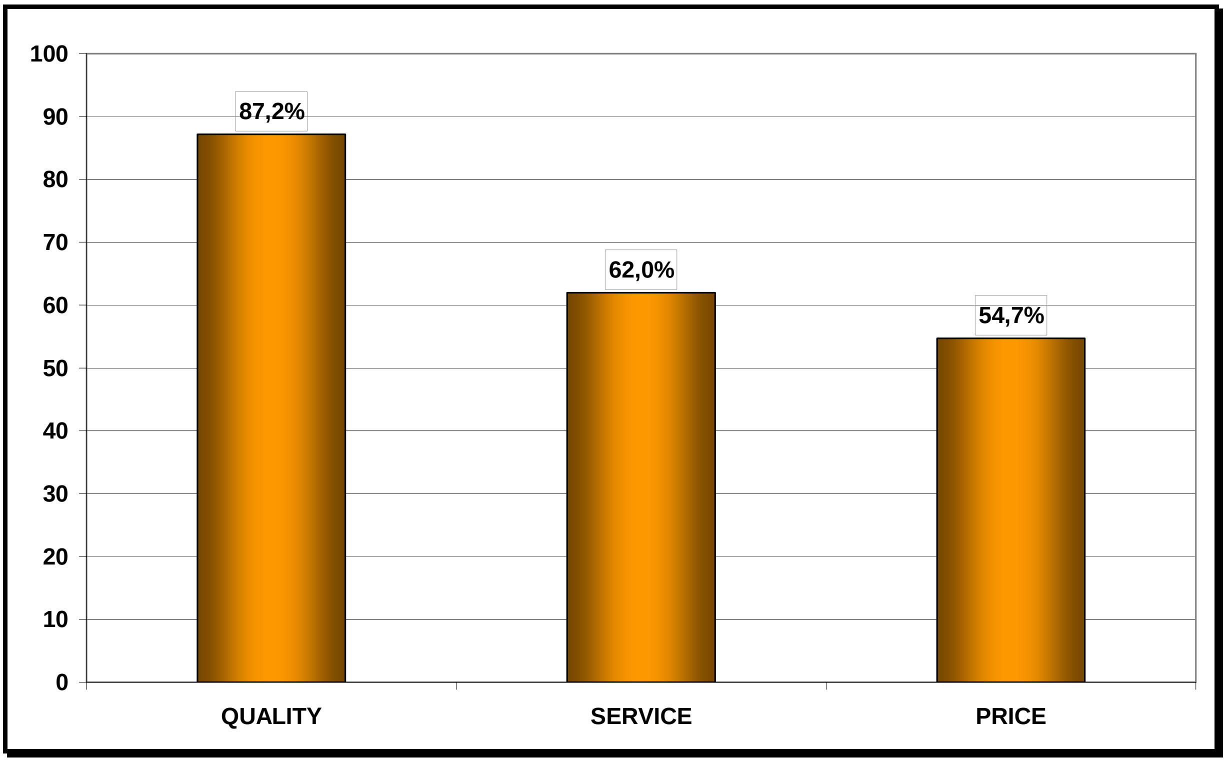
By observing the domestic sales promotional activities of companies of different sizes, we see that large companies use several different ways to promote their product just as they use a greater variety of product distribution channels. In fact, half of small size companies (49.4%) are using only one promotional activity, compared to 27.3% of mid size and 8.5% of large companies.

Regarding the type of the promotional activity, a smaller percentage of large companies (52.9%) than of companies with fewer than 10 employees (66.3%) use family and personal contact in promoting their products. On the other hand, large companies more frequently promote their products in trade fairs (70.6%), compared to only 33.7% of small companies. In addition to visiting trade fares, large companies more commonly exhibit their products in fairs than do the small companies.

Only 19.8% of small companies used television and radio advertising, compared to over half of large companies (54.9%) and a third of medium size companies (38.5%). Only 10.5% of small companies use Internet advertising compared to a much higher percentage of medium (31.7%) and large companies (47.1%).

3.3 Competition and quality certificates

Graph 11. Main competitive advantages – results for B&H



When asked about their main advantages over competitors, as many as 87.2% of surveyed companies stated that their main competitive advantage was the quality of their products.Two-thirds of surveyed companies said that the quality of their service was their main competitive advantage, while half believed they had competitive prices. No major differences were established in comparisons between companies of different size and from different business sectors.

The companies of different size equally believe that their competitive advantages include the quality of products, quality of service and price. Most companies believed not only some, but all of their products to be of superior quality (88.4%).

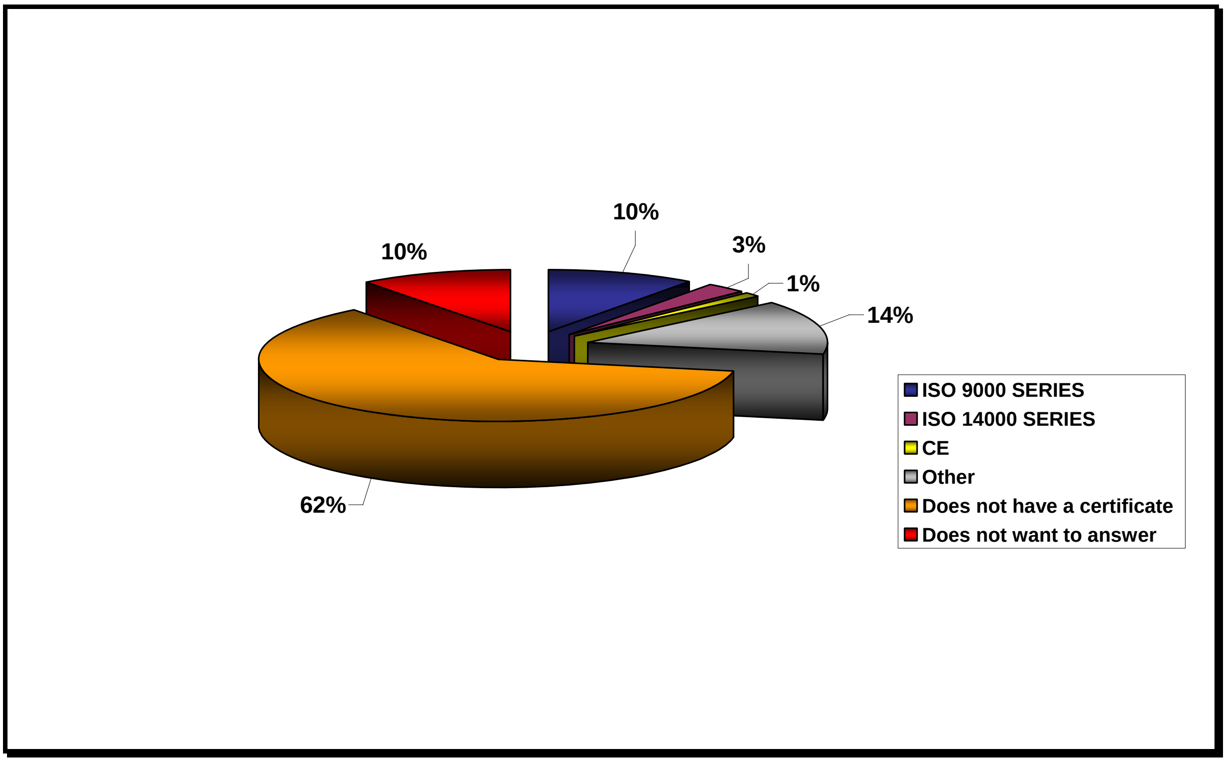
Only 8.6% of companies said that not all of their products were of an equally high quality, but stressed the high quality of their furniture, different wood products, joinery and trade programs.

The firms surveyed identified the following companies as their major competitors (regardless the principal activities of the competitive companies):

1. Krivaja Zavidovići (5.3%)
2. Konjuh (3.7)
3. Dallas (3.3%)
4. Different international companies (2.8%)
5. Kontinental Kiseljak (2.8%)
6. Fis Vitez (2.4%)
7. Fagus (2.4%)
8. Jafa/Jasa Srebrenik (2%)
9. Sabix (2%)
10. Grey market (2%)

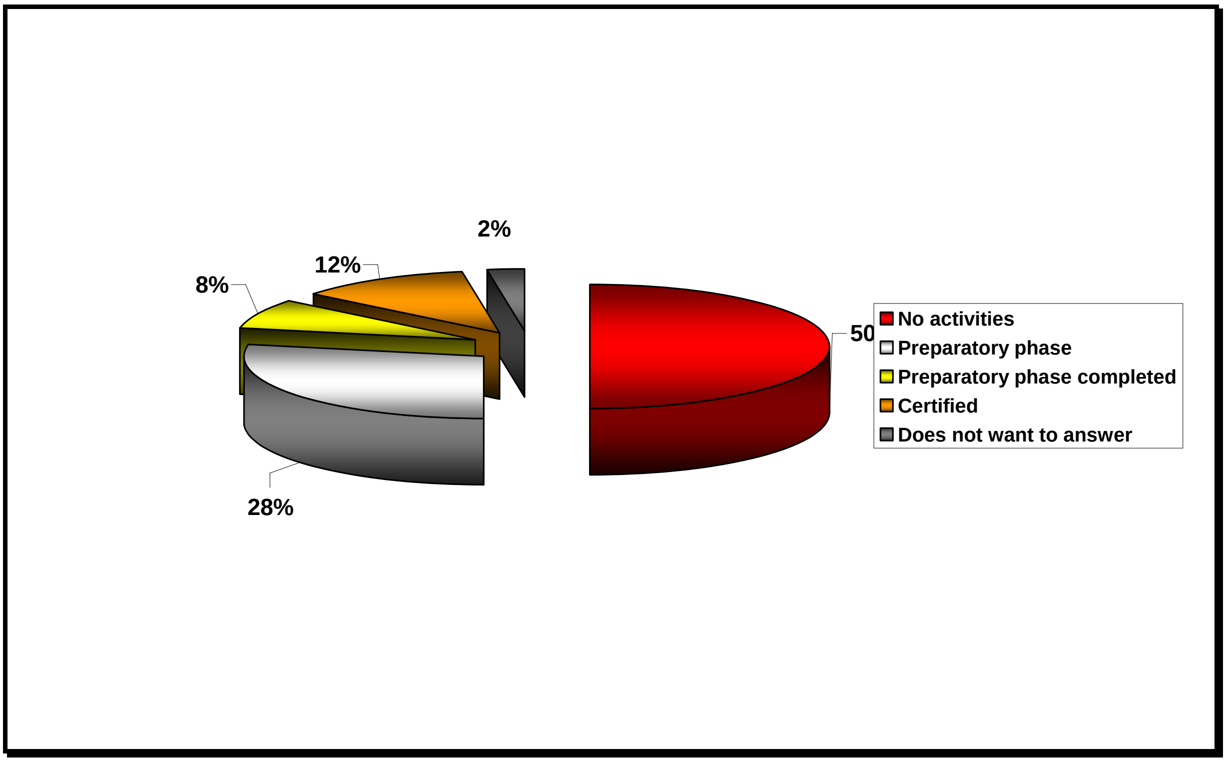
Most respondents said that the greatest advantage of their competitors was favorable prices. . Only a small percentage of surveyed companies said that their greatest competitors had an advantage because of the high quality of their products and services.

Graph 12. Quality certificates owned by companies – results for B&H



We asked surveyed companies to report whether they have any document which certifies their QAS. As many as 62% of surveyed companies do not own a single quality certificate, while 10% have ISO 9000 and 3% ISO 14000 certification. The percentage of companies with quality certification is higher among companies with a high number of employees (41.3%) than among companies with fewer than 10 employees (14.9%).

Graph 13. Phases in obtaining quality standard – results for B&H

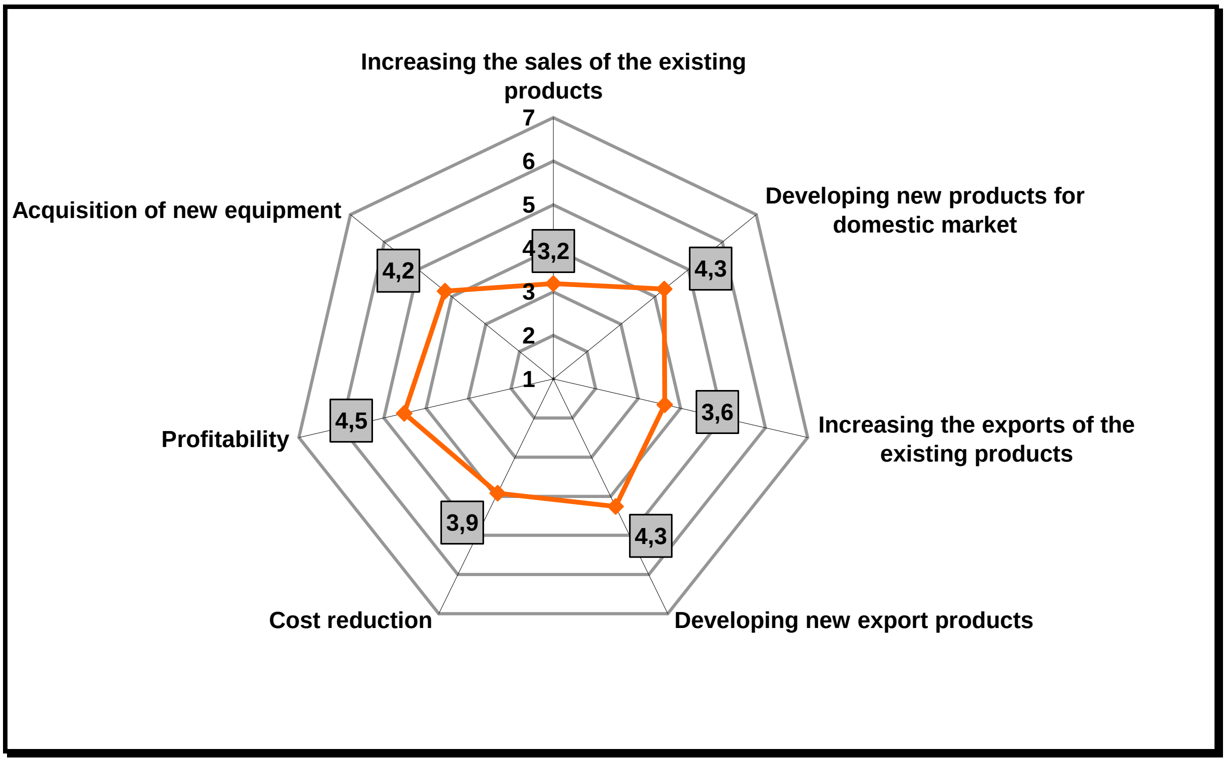


In addition to the fact that a large majority of companies do not have quality certificates, half (51%) do not appear to be interested in satisfying a quality standard in the foreseeable future (no activities regarding QS). However, a quarter of companies (28%) are in the phase of preparing for certification, while one in ten companies (8%) had satisfied the criteria and await certification. Only 12% of companies claimed to be certified regarding QS.

Companies with over 50 employees prevail (41.1%) among the companies preparing for certification or having completed the preparatory work, compared to a lower percentage of companies with fewer than 10 employees (27.5%).

3.4 Company management and planning

Graph 14. Companies' key development goals – results for B&H



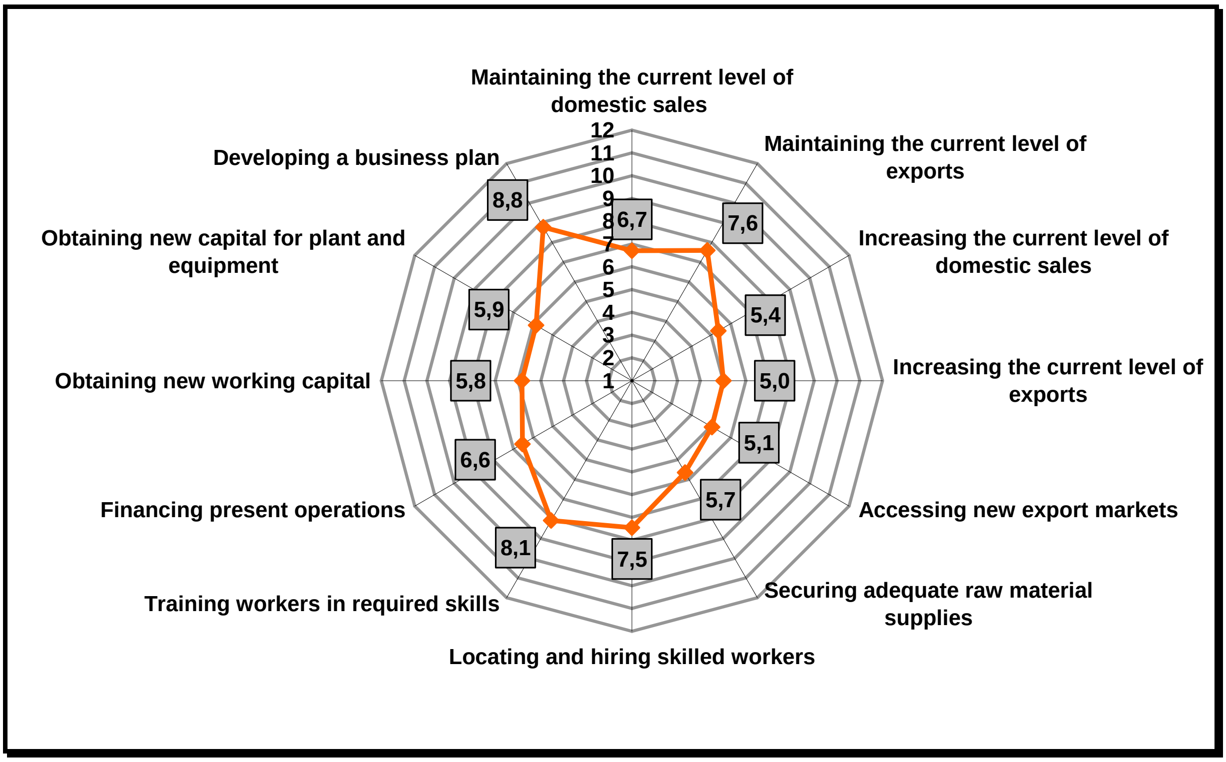
In order to learn more about the wood processing companies' goals, we asked them to rank seven possible answers from the most to the least important (on a scale from one to seven). The lower ranking numbers were assigned to the most important goals and higher numbers to the goals of lesser importance for future development. However, the companies appear not to have clearly defined their future goals.

Different companies have different views on all of the proposed goals, since each goal has achieved an average ranking number of between three and four. One of the goals that was ranked as more important was to increase the sales of existing products (average ranking number 3.2), while achieving profitability was seen by the surveyed companies as the least important goal (average ranking number 4.5 on the above-mentioned scale).

However, if the goals of importance for companies' development are observed in relation to mode and not mean values, differences in the opinions of surveyed companies become obvious. Most surveyed companies do not intend to develop new products for export markets or to acquire new equipment (mode ranking value 7). On the other hand, most companies selected as their most important goal for the future to increase domestic and export sales of the existing products (mode ranking number 1).

Large and small companies held similar positions regarding the goals of importance for their future development

Graph 15. Important strategic challenges for development of companies – results for B&H



After ranking possible goals for the future, surveyed companies were asked to assess strategic challenges they were likely to face over the coming three years. The companies ranked possible challenges on a scale from 1 to 12, with ranking number 1 for the most and 12 for the least important challenge.

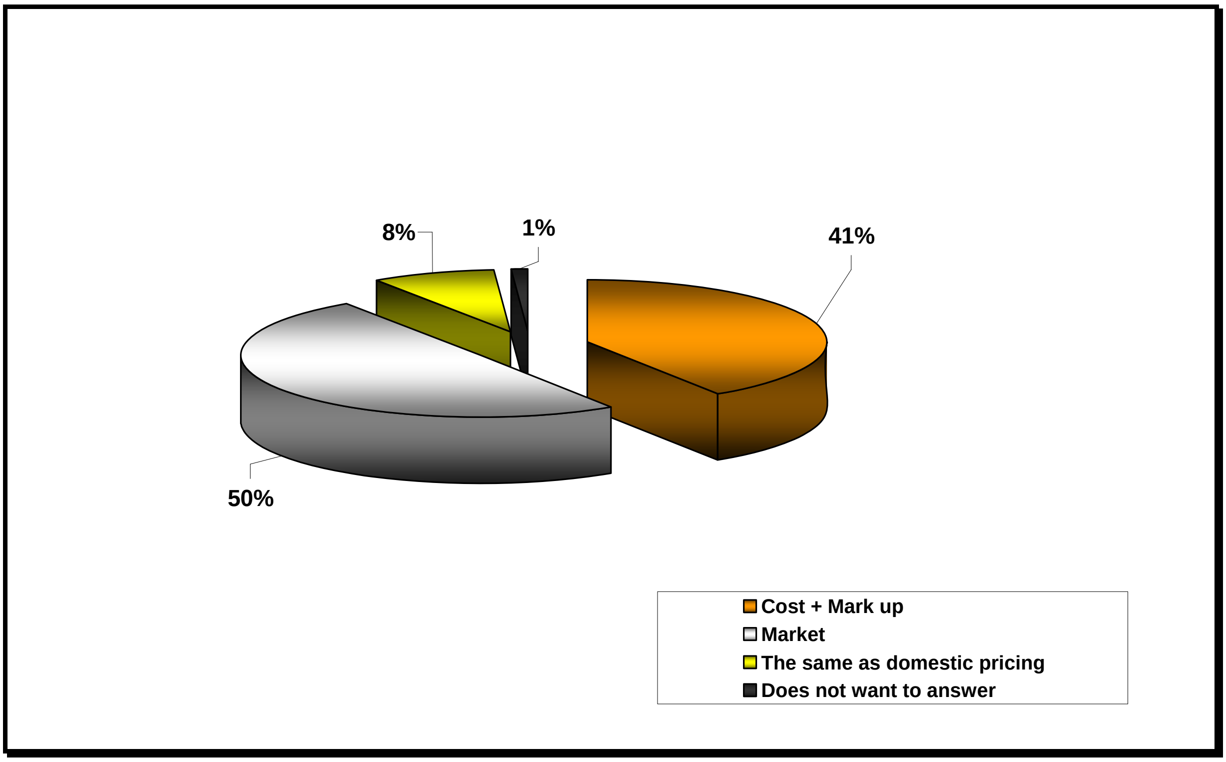
The opinions of surveyed companies were somewhat more uniform on the issue of challenges they were likely to face over the following three years. It is obvious that the companies expect the greatest future challenges to be related to exports. In the opinion of surveyed companies, accessing new export markets (average ranking number 5.1) and increasing sales in domestic and export markets (average rating number 5.4 and 5.0) are the most important future challenges.

Other, more significant future challenges relate to equipment, raw materials and capital. The companies agree that acquisition of an appropriate stock of raw materials (average rating number 5.7) and new capital would be important future challenges (average rating number 5.8)

On the other hand, the companies consider development of a business plan (average rating number 8.8) and training of workers in required skills (average rating number 8.1) to be among less important future challenges. The export companies do not expect any major problems with maintaining the current level of exports as indicated by the fact that this challenge had been rated as less significant (average rating number 7.6).

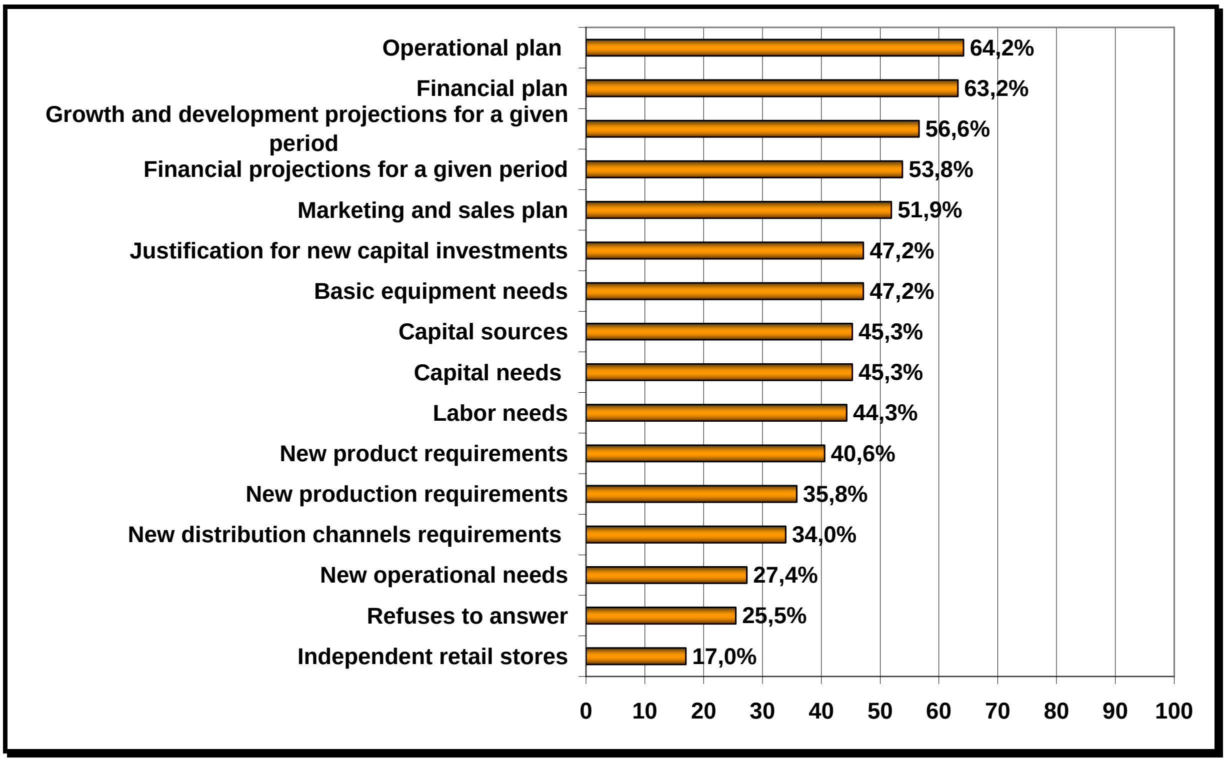
However, companies of different size do not expect to face the same challenges in the future. The greatest discrepancy between company size was seen between large and small companies on the issue of increasing the current export levels, with large companies considering it to be one of the three most important challenges (average rating number 3.3) and the small ones rating it as a less important challenge (average rating number 6.3). On the other hand, maintaining the current level of domestic sales was seen as a more important challenge by the small companies (average rating number 5.3), while the large companies rated it as less important (average rating number 8.5).

Graph 16. Pricing policy – results for B&H



In formulating pricing policy, a half of surveyed companies say they follow the market trends (50%) and little under half say they calculate prices based on cost plus mark up (41%). Smaller companies (51.7%) form their prices based on cost plus mark up more commonly than do the large companies (39.2%). Most large companies follow market trends (52.9%) in formulating their prices.

Graph 17. Business plan elements – results for B&H



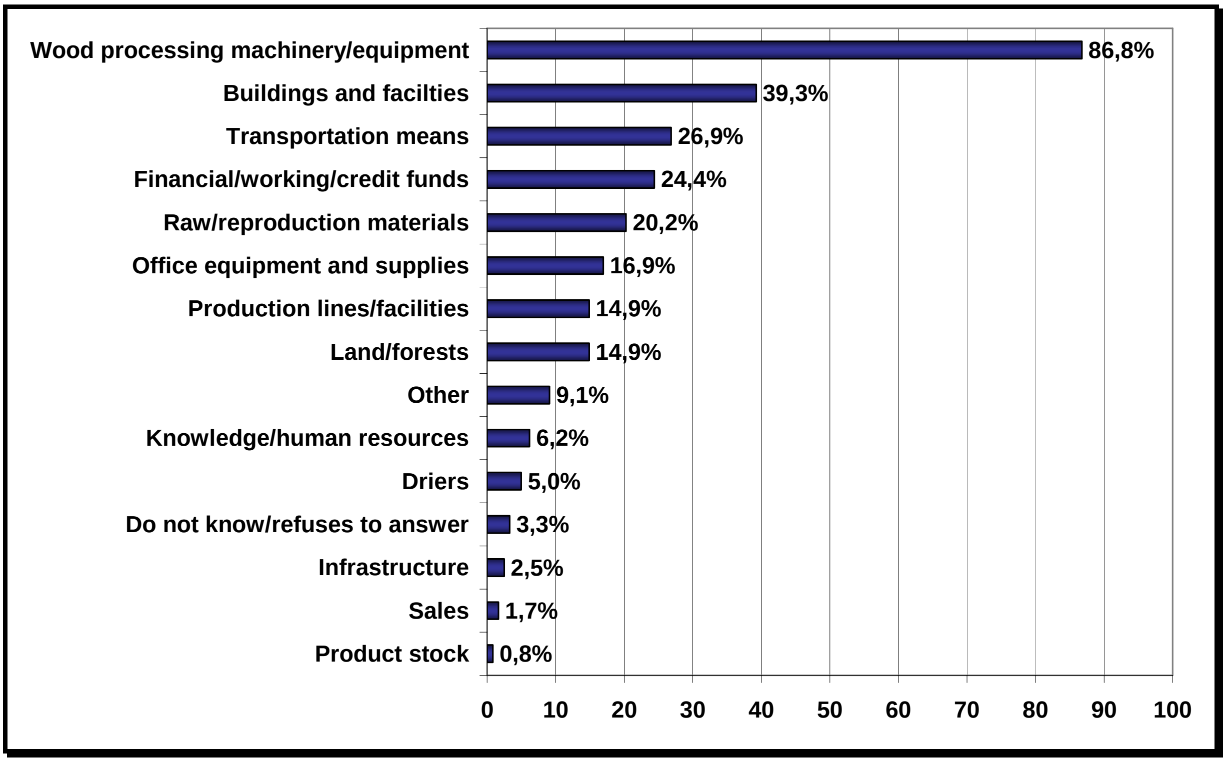
Only one third of surveyed companies (33%) said they have detailed business plans in writing. This group is dominated by companies with more than 50 employees (60.7%), followed by companies with between 11 and 50 employees (33.6%) and 16% of companies with fewer than 10 employees.

Among the companies with written business plans, most report that their plans include operations plan (64.2%), financial plan (63.2%), development and growth plan (56.6), financial report (53.8%), marketing and sales plan (51.9%). A lesser number of business plans of surveyed companies also include projections for new operational requirements (27.4%) or the plans concerning independent retail stores (17.0%).

According to the survey, the average business plan of a wood processing company contains eight different elements (mean), but it most frequently has five different elements (mode). However, some of the surveyed companies said that their business plans included all 15 elements and others had business plans with only one element.

Also, the larger companies usually have more complex business plans (with 9.6 elements on average) than do the medium size (8.4 elements) or small companies (7.5 elements).

Graph 18. Companies' key physical assets – results for B&H



Most surveyed companies reported wood processing machinery and other equipment as their key physical assets (86.8%). A third of surveyed companies (39.3%) reported the business premises they use in their work as the key physical assets. A quarter of surveyed companies (24.4%) listed financial and credit funds, and about a quarter (24.5%) raw and reproduction materials and transportation means (26.9%).

Finally, a large majority of surveyed companies were highly interested in acquiring additional assistance with exports (85.1%) or with attracting investment (86.7%).

4. METHODOLOGY

4.1 Method

Table 1. Organization of research

Research period	January 2006 –February 2006.
Location	B&H
Data gathering instrument	Structured personal interviews with directors of companies from the wood processing sector
Research conducted by	Prism Research and USAID consultant
Questionnaire	Developed by USAID CCA and adjusted by Prism Research
Surveyed population	Directors of companies from the wood processing sector
Sample size	N=242 FB&H N= 188; RS N=54

This was a quantitative field survey based on face-to-face or personal interviews with directors of companies from the wood processing industry. The survey instrument was a questionnaire developed by the USAID CCA with input from Prism Research. Prism Research formatted the questionnaire after which it was approved by USAID.

4.2 Sample

A database of companies from the wood processing sector – developed by GtZ in September 2005 – was used in constructing the sample. The database of companies from all sectors of the wood processing industry includes information on their name, location, address, contact details and the sector.

We used stratified random sampling to select 200 companies from throughout Bosnia and Herzegovina. Given that 40% of companies in the GtZ database were involved in primary wood processing, the share of the primary sector in the sample was reduced.

In agreement with USAID, the sample included a higher percentage of companies involved in rough production (veneer and board products) and final wood processing. Another 50 companies were identified in case that some of the companies in the principal sample refused to participate.

An additional 42 companies selected by USAID were added into the database at a later stage of the research. These companies had been identified for their export potential and were interviewed by another contractor; data about these companies were later added to the sample of 200. The selection of this sample of 42 companies was neither stratified nor random. The following summary conclusions are true for the entire sample of 242.

4.3 Training

Prior to the field research, methodological training was organized for participating interviewers and coordinators. The training included the following:

- Learning about the overall B2B (business-to-business) research methodology
- Learning about the main goals of this research
- Learning about the specific methodology of this research
- Reviewing the questionnaire
- Practical role-play exercise to learn how to use the questionnaire
- Pilot survey

4.4 Fieldwork and response rate

Before start of the fieldwork, Prism Research contacted directors/managers of companies from the wood processing industry to inform them about the research goals and schedule interviews. Well-trained Prism Research interviewers and coordinators conducted the interviews at selected companies, that is, at the place of work of respondents. (A total of 42 companies were contacted and interviewed by USAID.)

The interviews were conducted in late January 2005 and early February 2006 over a two week period. Interviewers conducted several interviews per day. Each day, interviewers submitted completed questionnaires to coordinators or directly to the central Prism Research office. Completed questionnaires were first controlled by regional coordinators. All mistakes were reported to project manager and data gathering manager. Additional training was provided to Interviewers that required it.

The average duration of an interview was 24 minutes; the longest interview lasted 90 and the shortest 10 minutes. Most interviews lasted for 20 minutes.

Respondents had no problems understanding the questions from the questionnaire. However, a certain number of respondents refused to provide information about profits achieved in 2004 and 2005.

Detailed information about achieved contacts and responses is provided in the table below. The response rate for the sample of 200 companies interviewed by Prism Research is 70%, meaning that 286 companies were contacted to complete 200 planned interviews.

Table 2. Response rate

Contact outcome	**N**	**%**
Interview completed	200	70.0%
Rejected at the level of the company/by director	20	7.0%
No contact achieved/contact avoided	23	8.1%
Insolvency/company no longer registered/stopped working/changed name	26	9.1%
Director/owner absent	1	0.3%
Does not fulfill criteria/change of business activity	9	3.1%
Incorrect address, impossible to locate company	7	2.4%
Total number of contacted companies	**286**	**100%**

Obviously, the major problem identified by Prism Research during the fieldwork was that some businesses registered for wood processing have ceased to operate. Almost one in ten companies contacted by interviewers was out of operation or insolvent. 7% of contacted companies refused to participate, while it was difficult to achieve contact with 8.1% of other companies. Some contacted company managers and directors saw no direct benefit for themselves from the research and were thus not interested in taking part.

In our contacts with the companies we learned that some had in the meantime changed their business activity away from wood processing. Also, some companies that are registered for wood processing have in fact never been involved in this activity.

4.5 Data control and entry

At the end of the field research, all completed questionnaires were submitted to the central office in Sarajevo. As already mentioned, regional coordinators carried out the initial control of questionnaires. All irregularities in the completed questionnaires identified during the initial control were reported to the central office. Visual and logical controls of all the questionnaires were performed in the central office. Further data control and entry included the following:

- Software program used for data entry was Survey System 7.0 in which a special graphic user interface had been designed to facilitate data entry and reduce data entry operator error to the greatest possible extent.
- Quality control of entered data was performed by randomly choosing original questionnaires and checking them against the entered data.
- Logical controls were also used to filter data. All answers that were outside the given set of answers were checked by using the original completed questionnaire. If logical control established a mistake in data entry, it was corrected. If identified mistake was established to have been made during the initial filling out of a relevant questionnaire, the data in question was declared missing.
- Additionally, in cases of missing data and inaccuracies, companies were contacted by phone to check and correct the answers.
- A method of control was also applied to questions that should have been logically related, as filter questions.

4.6 Data analyses

Data analyses in SPPS were completed for the whole sample of 242 surveyed companies. The database had previously been designed and adapted for the statistical analyses. Open-ended answers were coded and multiple choice questions were transformed into *multiple datasets*.

The statistical analyses included three steps:

1. Showing total results for all questions, including the results for N and the percentage for all questions.
2. Calculating average values for questions where respondents were required to state financial amounts, numbers of employees or to rate different categories. For all questions of this type the following results were given: mean, median, mode, minimum and maximum.
3. Cross tabular presentation of results

Cross-tabular presentation of results for all questions for two independent variables:

- Entity (RS and the Federation B&H)
- Company size (less than 10 employees, between 11 and 50, more than 51).

In the earlier stage of the research it was planned to provide cross tabulation by principal activity, but it was decided to exclude this cross tabulation after adding the 42 questionnaires conducted by USAID consultant. This decision was made based on the fact that the majority of companies are involved either in primary or final production. Due to the small samples in the other sectors it would not be possible to analyze data by principal activity. However, additional cross tabulations by principal activity are provided in the appendix of this report.

Tables are available in the following formats: Excel, Adobe and SPSS output.

In the annex to this report, the tables are given in order of the questions asked in the questionnaire. The same concept has been used in the writing of this report.