ISO 9000 and Wood Products
International Case Studies
of
Manufacturers and Buyers Perspectives

Working Paper

CANADA~BRITISH COLUMBIA PARTNERSHIP AGREEMENT ON FOREST RESOURCE DEVELOPMENT: FRDA II

Canada

BC

ISO 9000 and Wood Products
International Case Studies
of
Manufacturers and Buyers Perspectives

Edited
by
Dr. James S. Swanson and Dr. W. Wilson

The studies in this report were prepared under the direction of the Working Group to the Opportunity Identification Program of the Canada-British Columbia Partnership Agreement on Forest Resources Development: FRDA II.

WP - OI - 94.02

May, 1994

CANADA-BRITISH COLUMBIA PARTNERSHIP AGREEMENT ON FOREST RESOURCE DEVELOPMENT: FRDA II

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Acknowledgments

The research completed in these case studies was supported by the Canadian Forest Service through the Canada - British Columbia Partnership Agreement on Forest Resource Development: FRDA II.

The research was undertaken, in part, to support a series of ISO 9000 and Wood Products regional workshops. The British Columbia venues included Vancouver, Prince George, and Kelowna.

The efforts of Ilona Swanson and Lubna Ekramoddoullah in getting the manuscript in the final form are gratefully acknowledged.

Foreword

Industry Canada and the Canadian Forest Service, in cooperation with the Council of Forest Industries of British Columbia and the BC Ministry of Employment and Investment, delivered four regional workshops in British Columbia as part of a national series on the evolution of the ISO 9000 standards for quality management. The focus of these workshops was to provide the forest products industry with a current overview to the emerging role of the International Organization for Standardization (i.e., ISO) and the global momentum toward environmental standards.

ISO 9000 is a family of guide-lines that can be adopted by a company to provide a set of standards designed to improve manufacturing quality. There are four levels in the family 9004 to 9001, with the 9001 designation being the level associated with all aspects of design, development, production and after-sales service .. the most comprehensive level.

Workshop presentations were designed to examine the impacts of existing and emerging codes and standards on the international movement of forest products. It is clear that the continued reduction in institutional trade barriers will encourage progress toward greater uniformity among global codes and standards. This progress is stimulated by the inherent efficiency gains available to both buyers and sellers through improved product and process harmonization.

In an effort to support the quality of the regional workshops specific studies of selected markets were undertaken by researchers with an expertise in these markets. The studies gathered primary through a questionnaire distributed within the forest products industry in an effort to gather their perspective related to ISO 9000 certification. The analysis also provided an estimate of the ISO 9000 adoption level.

The regions included in the studies were Japan, Germany and Central Europe, the United Kingdom and the Nordic countries (Norway, Sweden and Finland). All these countries are significant importers or exporters of softwood products. The results of this research generated considerable interest when discussed at the regional workshops and it was decided that the material should be collected, edited and put together under a single cover.

According to the researchers some of the more apparent challenges to improved market access for forest products are:

- the proliferation of codes and standards;
- the use of codes and standards as non-tariff barriers; and
- increasingly competitive markets and restricted economic performance.

The Japanese report notes the new liability laws in Japan which assign responsibility for a product from manufacture to disposal (i.e., cradle to grave). This responsibility will encourage producers to pay still closer attention to the detail of manufacturing in an effort to factor in whole life costs. Japan is keen on standards harmonization as a means to

deflect some of global criticism that Japan deploys their own standards as a regime of non-tariff barriers. The rapid expansion of Japanese manufacturing direct investment in pursuit of lower costs has also encouraged an interest in harmonization.

The report on the EC and Germany concluded that current ISO 9000 registration is low but that 50% of the companies contacted would be seeking certification in the next few years. There are market advantages and the internal improvements for a certified company are considerable (e.g., cost reductions, reduced claims).

The United Kingdom has witnessed rapid adoption of ISO 9000 a rate supported by government cost-sharing of the implementation costs and national purchasing requirements. The certified companies have demonstrated an improved degree of financial viability than those companies without certification.

The Scandinavian countries have a low but increasing rate of certification. There are government efforts to promote adoption. Companies that have adopted ISO 9000 are not reporting market impacts but instead cite the improvements in company operating performance. The domestic market is serviced by a multiplicity of national certification options but the ISO 9000 has proven useful in certain of the export markets.

In the new global economy there is considerable challenge on products and processes. It is unlikely that this challenge will abate. The research completed for these workshops has illustrated that there is progress towards the use of ISO 9000 as a vehicle to meet this challenge. In addition, strong international support was found for having ISO providing a lead role to the creation of the new codes, standards and regulations impacting on trade.

May, 1994
jss and bw
Editors

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May, 1994

The views expressed in these studies by the consultants are not necessarily those of Natural Resources Canada, Canadian Forest Service or the B.C. Ministry of Forests.

"Future Trends Of ISO-9000 and Japan Agricultural Standards Accreditation In The Wood Products Sector"

Wayne Beatty, Director - Mill Services
Council of Forest Industries, Vancouver, B.C.

ISO IN JAPAN - OVERVIEW

Canada exported almost C$1.5 billion in wood and plywood products to Japan in 1992. This represents 67% of Japan's total sawn softwood lumber imports and 76% of North American originated sawn softwood imports. Canada's position for future growth will be limited by increasing pressure from competitive suppliers such as Scandinavia, New Zealand and Chile. Canada's future for growth lies in the development of engineered wood products, prefabricated manufactured housing, and secondary, value-added products.

The greatest barrier for market access lies in meeting the high quality standards that major Japanese housing companies require. Japan has not readily accepted other countries' product codes and standards; however, ISO 9000 certification is currently receiving attention as the 'new messiah' for quality in Japan by the prefab component industry.

Japan's current economic recession is causing an exodus of manufacturing to the ASEAN countries, especially Singapore. The ASEAN shift will also bring increased competition to Canadian secondary wood product exports in Europe.

DAIWA HOUSE is currently ISO 9000 certifying seven of their own plants; it may demand that its suppliers do so as well.

The new product liability laws in Japan will also create opportunities for those manufacturers who can guarantee product quality.

This study quantifies the areas, timing and direction that ISO, JAS, JIS and other related quality standards will have on the Canadian wood products and building material sector trade with Japan.

GEOGRAPHIC FRAMEWORK AND SUBJECT

For the purposes of this study, the geographic territory was limited primarily to Japan with some initial baselines established for ISO 9000 activity in the remainder of the Pacific Rim.
The subject content is restricted to primary and secondary wood manufacturers and the forestry profession. A focus was made on how ISO 9000 will influence trade from a buyers and a sales perspective.

♦ DEFINITION OF THE PRODUCTS AND SECTORS

For the purposes of this study, we limited the survey to the following products and sectors:

1) Softwood lumber
2) Panel products such as raw particleboard and veneer
3) Manufactured wooden components for windows, doors, furniture and kitchen cabinets
4) Forestry sector
5) Prefab and precut housing

SCOPE OF STUDY

SECTOR BACKGROUND

Sector profiles of the above product categories in Japan are provided. This was achieved from information received from MITI, Ministry of Forests, Ministry of Construction, and the Japanese consulate. In addition, a questionnaire was developed and sent to 320 Japanese manufacturers to find out what their current ISO 9000 activity is and what their requirement will be from their suppliers.

Follow up interviews will be conducted with the following influential leaders in the building products sector and key government agencies:

- Daiwa House
- Ministry of Agriculture, Forests, and Fisheries (MOAFF)
- Kobayashi Sangyo Co., Ltd.
- Prefab Association of Japan
- Hamano Juken Co., Ltd.
- Japan Industrial Standards Association (JIS)
- Ministry of Construction (MOC)

GENERAL BACKGROUND

Japan takes justified pride in its quality control and management systems. The term TQC, or total quality control, and *kaizen,* or incremental improvement, is closely associated with Japanese management practices.
This has put the Japanese in an interesting position regarding the ISO 9000 series of standards:
How are they reacting to this external push to internationalize quality control?
How do they harmonize their existing quality control procedures with the new standard?

American quality control expert W. Edward Deming has had a lasting influence on Japan. The basic Deming cycle of Plan, Do, Check, and Act has been incorporated into
TQC. One of the most coveted awards in Japan is the Deming Prize. This prize is awarded by the Union of Japanese Scientists and Engineers (JUSE) to a company that has passed a rigorous QC audit. This is, in some ways, a predecessor to the ISO 9000 internal and external audits.
The Deming theory of quality management has placed an emphasis on worker involvement, goal setting and communication. He has also argued that quality could be better improved through process control rather than lecturing workers about the cost of mistakes.

Deming's death at the age of 93 in Washington, D.C. has created a vacuum to be fulfilled over the next few years in quality circles in Japan.

The importance that the Japanese have given to quality control has been awarded by great success in the past, success not only in the quality of production, but also in the efficiency of production.

The obsession with quality control has meant that a Q component is incorporated into more conventional product standards, such as the Japanese Agricultural Standards.

But the interest in quality control has also contributed to a proliferation of quality control systems. Each major *keiretsu,* as Japan's industrial combines are known, has its own quality control standards and procedures for its chain of suppliers. One company may have several different, and not always compatible, systems in place.

This proliferation of different systems, with economic developments of the past decade, have conspired to raise the profile of ISO 9000 in Japan.

A popular phrase in Japan over the last few years has been *kokusai-kai,* or

internationalization. This has two implications for ISO 9000. First, Japan has been forced by the rising yen and balance of trade considerations to move a significant amount of its production overseas. Sometimes the Japanese have established their own plants, but they are also coming to use more overseas and independent suppliers. The Canadian wood products industry has been a beneficiary of this trend and stands to gain much more over the next 20 years. This movement of production overseas makes the standardization and internationalization of quality control a real concern for Japanese industry.

Second, internationalization has also come to mean the harmonization of Japanese practices, including domestic and international standards. The International Standards Organization is clearly a leading player in the move towards the harmonization of standards and ISO 9000 will become part of this trend.

The Japanese want to harmonize their standards with the world for two main reasons:

- To ward off accusations that their own standards are a non-tariff barrier, and
- To make sure they are inside other nations' non-tariff barriers.

In addition, recent renewed threats by the United States of reenacting "Super 301" and the new trading blocks of the EEC, NAFTA, and others are increasing the pressure towards internationalization

JAPAN'S INTEREST IN ISO

There has been a flurry of interest in ISO 9000 in both the professional and popular press. *Gendaiyougo,* a popular annual of new words entering the mass media, has had its first entry into ISO 9000 this year. It appears on the same page as virtual reality and MAP (Manufacturing Automation Protocol). Newspapers carry articles on ISO 9000 almost every week, and major bookstores have devoted whole sections to texts on the standard.

Toin K.K., a well known publishing company, has established a translation department for articles related to ISO due to the increasing demand for information on this subject.

ISO REGISTERED COMPANIES IN JAPAN

To date, telecommunications equipment and chemical companies are taking the lead in applying for ISO 9000 registration. Chemical companies, including pulp companies, are presently investigating ISO registration, while some translation companies are preceding with ISO 9000 registration.

Electronics and Telecommunication

Northern Telecom and Mitel, two successful companies in Japan, credit some of their market access to the fact that they are ISO registered. Newbridge is presently undergoing ISO 9000 registration to further assist in its joint venture projects in Japan. In addition, it is asking its suppliers of goods and services to become ISO registered.

Wood Products Sector

The reluctance of Japanese building products companies to adopt ISO relates to the strong quality assurance requirements established within the JAS (Japan agricultural Standards) and JIS (Japan Industrial Standards). The forest products sector in Japan is primarily a domestic industry, with little need to adopt ISO standards market needs.

A comparison of the quality assurance elements within the JAS standards will be compared to the requirements of ISO 9002.

Interviews were conducted by Suzuki-San of the Council of Forest Industries (COFI) Tokyo to decide which agencies in Japan are overseeing ISO 9000. It seems that the responsible agency for ISO depends on the product concerned. For JIS related items, it is the Ministry of International Trade and Industry (MITI). The responsible agency for JAS related items is the Ministry of Agriculture, Forests and Fisheries (MOAFF) and the JAS associations. MOAFF has had little feedback from companies interested in forest product related ISO issues.

There has been considerable talk of applying ISO 9000 registration to the construction industry, mostly by large general contractors. The prefab industry is not regulated by the JAS standards, but the construction method is independently approved by Section 38 of the Ministry of Construction building code. Twenty percent of the prefab industry, which accounts for 270,000 housing starts per year, is wood systems based. The prefab industry may be turning to ISO 9001 certification for their internal plant quality assurance systems.

One Japanese housing company is currently applying for ISO registration. We have spoken to the Vancouver and Japanese representatives of Daiwa House, and they have provided us with some important insights about why a Japanese company would undertake such a process. To begin with, the company is applying for ISO 9001. It had considered beginning with the less rigorous ISO 9002 registration, but recently decided that only ISO 9001 would achieve its objectives. Its reasons for applying for registration are primarily *internal.*

Over the years, Daiwa House has accumulated a variety of different quality control

standards and processes, and it felt that ISO 9001 would be a good way to enforce uniformity across the company. At this time, it does not enveige using its registration as a marketing tool, whether in Japan or abroad, although it did not completely discount the significance of ISO 9000 in this regard.

The company plans to first register its new automated factory in Osaka, which it hopes to accomplish this year. It will then extend the registration to its other six plants and to other aspects of its business, including marketing, administration, and design. It felt it was very important that these elements of customer service, and not just the physical production process, be made part of a unified quality control system under ISO 9000.

Once the company has registered its own operations under ISO 9000, it will begin to ask its suppliers to register. This will not be limited to its Japanese suppliers but will include Canadian suppliers. At this stage, the company has not finished its planning process, and was unable to comment on when or how this would happen. It was unable to say if it would provide help to its suppliers, but the impression was that suppliers would be asked to have themselves registered sooner rather than later.

The company stressed that 'suppliers' should not be taken to mean only suppliers of materials but that suppliers of services would be included as well.

The moral seems to be that suppliers who do not get themselves registered are likely to find their products subject to their own quality control programs. They may find themselves at a significant competitive disadvantage unless they are registered.

Daiwa House has recently begun sourcing materials in Scandinavia, where there are already several ISO 9000 registered mills. When asked whether these mills provided a higher quality product and service than mills that had not registered, the company replied that it did not have enough data for an answer. The impression was that ISO 9000 registered mills provided more consistent quality.

ISO AND JAS

Since November of 1991 COFI as an accreditated Foreign Testing Organization (FTO), has assisted many firms in certification under the Japan Agricultural Standards:

	Certified
Structural Softwood Lumber for Wood Frame Construction	11
Structural Fingerjointed Lumber	2
Structural Glued Laminated Timber	1
Structural Softwood Lumber (Traditional Products)	1
CCA Treatment Plants	3
Plywood Plants	11

Time required for certification has varied from as little as 5 weeks to 12 months. Without a doubt, the greatest barrier to certification has not been the ability to manufacture the product.

The greatest deterrent to certification has been the lack of a clearly written and practiced quality assurance procedure for production. The ISO 9000 Standards can provide that framework.

We have attempted to provide some 'harmonization' by developing quality assurance and manufacturing procedures in an attempt to help plants in obtaining JAS certification.

Firms that have developed a quality assurance program that meets the criteria for ISO 9002 registration would find that the time and costs for JAS certification would be substantially reduced. It would prepare them for eventual registration and access to the European Economic Community under EN 9000 customer requirements.

BARRIERS TO CERTIFICATION

The ISO standards comprise a series of well over 2400 individual standards. During the JAS certification of Canadian plants, it has become apparent that unless there are greater standardization and mutual recognition of countries' product and quality assessment programs, our ability to compete effectively will be seriously compromised. Specific examples of this include:

1) **Similar standards, but no mutual recognition agreement** to adopt changes to the standard. The Structural Softwood Lumber Standard for Wood Frame Construction (JAS 600) was written after the National Lumber Grading Authority (NLGA) rule of 1972. Not only no provision exists to recognize changes to the standard, but also interpretations are consistently 'highlined' which results in a Structural Lumber standard is being interpretated as an 'appearance' standard.

   A mutual recognition agreement, complying with the ISO quality systems, could potentially help in the uniform application of standards.

2) **Incompatibility of Product Standards.** The Structural Softwood Lumber standard (JAS 143), which covers traditional construction products in Japan, has a unique method of knot measurement. This method of measurement does not compare with any other international wood product standard. The argument is made that it applies to domestic production as well. However, since the standard is not mandatory, it potentially detracts from the ability of foreign producers to comply with the standard.

Compliance to the ISO TC 165 'Standard for Wood Structures' would ensure a common international accepted method of measurement of characteristics.

3) **Differing Test Methods.** The Japan Industrial Standard measurement method for retention of CCA chemicals in treated wood products effectively created a barrier to access to a very large segment of the wood products industry in Japan. The x-ray spectroscopy method of testing, commonly used in North America, required 18 months of lobbying from COFI, Forintek, and government partners prior to acceptance.

   An ISO committee for test method assessment could provide an avenue for common or equivalent test method acceptance.

4) **New Wood Product Standards.** The Japanese have accepted several new wood product standards for Japan. These have included Structural Fingerjointed Lumber and Machine Stress Rated Lumber, products that previously were not manufactured in Japan. Differences in building code requirements for structural design safety values have further complicated certification. For example, in North America, a design safety factor of 2.3 is used. In Japan, the safety factor is 3.0.

   Common international limit state design would promote the adoption of new wood product standards. ISO could provide that forum.

5) **Wood species design stress values.** Lodgepole pine is not allowed for use in the manufacture of large dimension glue laminated timbers in Japan.

   A common ingrade test program for species would provide ready resolution of some of these technical issues.

ISO ELEMENTS IN JAS

Incorporated in the Japanese Agricultural Standards is a number of key elements found in the ISO 9000 quality assurance procedures. I would like to provide some insight on how these have helped Canadian manufacturers.

The JAS standards for wood products were originally written to provide consumer protection by the standardization of production by various suppliers. The following ISO elements are found in the JAS standards:

1) **Management Responsibility**
   Identifying who in the plant is responsible for quality assurance and demonstrated independence from production. Included are resumes of the people and detailed related job experience and training. People are trained

and receive JAS qualification certificates before the plant obtains certification.

2) **Quality System**
Clearly defined quality system must be developed for the plant.

3) **Contract Review**
not specifically required in JAS; however, the mill must designate whom they will use as a shipper. One plant did not accept a large order of structural glue laminated timber, as it did not feel that they could deliver in the 1 ½ month time period as specified in the contract. Credibility is important for long-term success in Japan. Shipments to Japan have increased to 30% of its business in less than six months.

4) **Design Control** - JAS covers only well-proven technology; new proprietary products are not covered under the JAS standard. Proprietary products such as parrallam must be certified under special design approval of Section 38 of the Ministry of Construction building code.

5) **Document Control** - Easy to accomplish, as all masters are in Japanese; there only exists one master copy. Development of bilingual forms resulted from our experience in plywood certification. All documents must be original and handsigned.

6) **Purchasing**
It is important that all suppliers be involved as your success is dependent upon them. One fingerjointed lumber supplier had initial product failure; it turned out that it was caused by improper pH level in the supplied resin. A major claim was soon resolved by having the glue supplier always supply a certificate of assay of each bulk shipment. It was found that by reviewing quality control records for previous resin shipments that only 30% of the shipments were within specification. This new procedure resulted in fewer QC checks at the plant, with fewer raw material failures. Independent checks of certificates of assay, with simple check methods, can greatly reduce supplier generated product claims. The new approved test procedure? A $2 roll of litmus paper purchased from the local drug store.

Internal purchasing is just as important: during the certification process for a sawmill, it was found that all stem blocks were cut 2" overlength which resulted in a loss of 2' off the top of each log. At 35,000 stems per shift, this resulted in a 3% loss of fibre.

7) **Process Control** - In North America, quality control systems for engineered products (glue-laminated, treated, etc.) exist, but many times they do not cover all phases of production. In JAS, a manufacturer must

identify all equipment and instructions for 'pass or fail'.

8) **Inspection and Testing**
In North America, we do a good job of final product inspection and testing. Often, however, we do not establish easily understood criteria for acceptance. For example in NLGA, 95% must be 'on grade'. Frequently this may mean 95% on size, 95% at the proper moisture content, and 95% on grade. What is not clearly identified is the sample size and clearly understood retest procedures.

In JAS, test methods are clear, with clearly defined requirements for retest, not only for grade, but also for size and moisture content.

The test requirements for visually graded lumber is a minimum of once per month in NLGA. In JAS, this can be as infrequent as once every 20 or 50 days. The sample size is quite small, just 80 pieces per similar production lot. In North America, we inspect and reject failures; in Japan, care is taken to guard against failure by quality assurance during the production process.

9) **Inspection, measuring and test equipment requirements** are clearly identified in JAS. A plant must not only supply a list of all quality control equipment, but also monitor calibration dates and supporting standards related to calibration.

10) **Inspection and Test Method**
Only after verification of product quality has been completed is 'permission to ship' or the JAS stamp applied. It is important to note that COFI as a third party agency can test and inspect the standard; the Ministry of Agriculture approves the grade inspection. Provision is made to fax the results of initial production before shipment.

11) **Corrective Action**
Responsibility and corrective action is clearly outlined in the plant's QC program. Three trial runs are required prior to certification, which ensures that the mill can consistently "walk their talk."

12) **Handling, storage, packaging and delivery** are part of a plant's quality control system.

13) **Quality Records** - The regional QC inspectors are responsible for verification of the in-plant quality control system. This is done at each inspection and is verified by the FTO on an annual basis. Results of these surveys are submitted to the Ministry of Agriculture, Forests, and Fisheries of Japan.

14) **Internal Quality Audits** - While they are an option for a plant, frequent external audits are conducted by the FTO and TCQCCS on an annual basis. The plant's quality assurance manual is treated as a 'living document', with changes made as they occur.

ISO SURVEY

A survey was prepared with the assistance of COFI-Tokyo and Fact International and was sent to 320 selected building products firms throughout Japan. The questionaire is found under Appendix A.

Interest in ISO has been confined mainly to the electronics and chemical sectors in Japan. The mailing of the questionaire resulted in more than 70 telephone calls to the COFI-Tokyo office requesting more information on "What is ISO 9000?" These telephone inquires were sent a copy of the *Gendaiyougo* explanation of ISO. Needless to say, ISO 9000 has had little, if any, impact to date on the building materials sector in Japan.

MOAFF, who was interviewed by Edward Matsuyama and Suzuki-San, indicated that it has had little feedback from companies interested in forest product related ISO issues.

A summary of the questionaire follows:

REASONS FOR ISO ACCREDITATION

The low response rate from the questionaire indicates that there is very little need at the present time to pursue ISO accreditation for market access into Japan. However, there are perhaps some exceptions to this:

1) **Wood Products** - JAS certification is a more appropriate certification for companies seeking greater access to the wood product sector in Japan. The quality control component of JAS will meet the requirements for ISO 9002 accrediatation for access to other international markets.
ISO 9002 registration will, however, reduce the time and cost related to JAS certification.

2) **Prefab Industry** - The Prefab industry is not regulated by the JAS standards but rather by Section 38 approval under the Ministry of Construction. ISO 9002 registration would provide a higher level of confidence and reduced ongoing quality control costs for a plant servicing this sector. Frequently, mills are required to submit quality control data on a daily basis; ISO accrediatation could elminate this requirement.

3) **Building Materials** - Windows, doors and cabinets are required to meet JIS requirements. A manufacturer's declaration of quality, supported by an ISO 9002 accreditation, would help foster the tendency to buy 'brand names' in the building materials sector.

4) **Engineering and Proprietery Products** - ISO 9001 registration would provide a level of confidence and open new oppportunities for acceptance of new products into the marketplace.

5) **Service Sector** - Shipping and translation companies are now being asked to demonstrate conformance to the ISO 9000 series. A translation company in Canada will be required to register to ISO 9002 in order to service an telecommunications company in Japan.

Japan is a market that demands high quality; ISO registration can assist a firm in maintaining its competetive advantage in this high valued market. In certain sectors, such as the prefab market, it may become a requirement in the next 3 - 5 years.

REASONS FOR NOT BECOMING ISO ACCREDIATED

At this point in time, ISO registration would provide little, if any, competetive advantage in Japan. Reasons for ISO accreditation should be primarily internal, with reduction of rework costs and greater consistancy of product quality providing the primary motivation for accreditation.

ISO ENVIRONMENTAL AUDITING IN JAPAN

The ISO TC 207 Environmental Management committee, whose secretariat is held by Jim Dixon of the Canadian Standards Association, is extremely well supported by Japanese delegates. Appendix B provides a list of these delegates.

Japan has very recently raised its environmental awareness, with concern regarding whether Canada will be able to maintain its supply of wood products as a result of potential timber withdrawal being expressed.

The development of a Canadian Eco-labeling and Eco-auditing standard would help mitigate the fear of further reductions in supply.

REPORT SUMMARY AND CONCLUSIONS

The Canadian forest products industry can utilize the International Standards Organization to improve and maintain Japan as an important building materials market. The following reccomendations have been prioritized:

1) **ISO TC 207 Environmental Management**
Canada needs to proactively inititate a sustainable forestry policy. The 'sage' initiative and Canada's role as secretariat to this standard need to be enhanced.

2) **ISO TC 165 Timber Structures**
It is important that Japan accept the working guidelines of TC 165 as a method of standardizing codes and standards related to wood products. COFI's role in various standards committees in Japan can be enhanced with the support of government partners.

3) **ISO AQR**
Formal recognition of Canadian quality assessement systems through the Standards Council of Canada is necessary to reduce the buracracy related to recognition that exists for foreign testing organizations.

4) **ISO 9000**
ISO 9000 accreditation can provide the framework for JAS certification and brand enhancement of companies' product quality. The need for ISO 9000 registration at this time is primarily internal.

ISO 9000 QUESTIONNAIRE FOR THE WOOD PRODUCTS SECTOR OF JAPAN

The following questionnaire has been prepared for Industry Canada and the Council of Forest Industries (Canada) to determine what future trends in quality assurance standards the Japanese building materials industry will demand from supplying manufacturers.

In addition, this survey would also like to determine what quality assurance systems Japanese manufacturers presently use; and what changes your company is planning to address the quality control requirements of your own customers, both domestically and internationally.

The completed questionnaire can be faxed to any of the following individuals. Please feel free to contact the listed individuals for further information, or if it would be possible to arrange a personal interview to discuss in greater detail.

Edward Matsuyama
Masatoshi Tomoi
Council of Forest Industries (Canada)
Tomoecho Annex-II 9F
3-8-27 Toranomon, Minato-Ku
Tokyo 105
Tel: (03) 5401 0531
Fax: (03) 5401 - 0538

Wayne Beatty
Council of Forest Industries
1200-555 Burrard Street
Vancouver, British Columbia
Canada, V7X 1S7

Tel: 604 891 1229
Fax:604 687 4930

Steven Forth
Fact International
Vancouver, Canada
Tel.: 604 636 8783
Fax:604 732 7331

RESPONDING COMPANY

Contact person:
Company:
Address:
Tel:
Fax:

QUESTIONNAIRE

1) What is your company's principle business?

2) For what **current** Quality Assurance and Product Standards is your company presently registered? Please detail WHEN and to what standards

ISO 9000
JAS
JIS
Section 38 (Ministry of Construction)

3) What are your future plans for ISO 9000 Quality Assurance Registration? Please specify.

4) Are your **suppliers**, domestic or foreign, required to meet specified quality standards? Please detail ISO or company specific quality requirements. (Attach where applicable)

5) Are any of your **suppliers**, currently ISO CERTIFIED? Please provide company name and contact person if possible.

6) Do you think ISO certification will be necessary for other markets? Please specify for which markets and for what products.

7) Do you think IS0 9000 will influence future building material codes and standards?

Results of this survey will be sent to all responding companies, please advise of name and address of principal contact.

APPENDIX B

ISO/TC207 ENVIRONMENTAL MANAGEMENT - JAPANESE DELEGATES

Japanese Industrial Standards Committee (JISC)

Registrations of delegates to ISO/TC207 (first meeting) and SAGE (fourth meeting).

1. Toronto, Ontario, Canada

2. June 1-8, 1993

3. Japanese Delegates:

Tamotu Nukai	Director General for Standards Department Agency of Industrial Science and Technology MITI
Kazuo Katso	Manager JETRO - Geneva
Satoshi Noguchi	Deputy Manager for Global Environmental Affairs Office Environmental Policy Division MITI
Hisashi Ishitani	Doctor of Engineering Professor Department of Mineral Development Engineering The Faculty of Engineering The University of Tokyo
Tooru Ishihara	Advisor Japanese Standards Association
Osamu Ishioka	Director Environmental Centre JMI Institute
Shigeru Suda	Manager Environmental Information Division Industrial Pollution control Association of Japan
Tetsuro Fukushima	General Manager Global Environment Protection Centre Hitachi Ltd.

Akinori Gumi	Deputy General Manager Environmental Control Department The Japan Iron & Steel Federation
Yoshitaka Hoshikawa	Director JCIA Information Centre Japan Chemical Industry Association
Yoshiyuki Ishii	Senior Engineer Global Environment Protection Centre Environment Policy Office Hitachi Ltd.
Konosuke Sugiura	General Manager Washington Office The Tokyo Electric Power Co. Inc.
Koichi Natsumi	Chief Engineer Environmental Control Division NEC Corporation
Kenji Natsuo	Manager Washington Office The Tokyo Electric Power Co. Inc.
Yoichi Nishijima	Senior Advisor Environmental Management SQE Div. (Safety, Quality and Environment) Chiyoda Corporation
Tomonobu Shibaniya	Senior Manager Environmental Protection Centre Productivity Division Toshiba Corporation
Tooru Tamura	General Manager Environmental Protection Promotion Office Natushita Electric Industrial Co. Ltd.
Hiroshi Terada	Director Global Environmental Affairs Office The Japan Electrical Manufacturers' Association

Koji Yamaguchi	General Manager Environmental Control Division NEC Corporation
Mitsutsune Yamaguchi	General Manager Marketing Promotion Dept. (Commercial) The Tokio Marine & Fire Insurance Co. Ltd.
Takashi Yoshida	Manager Environmental Protection Strategy Environmental Protection Dept. Mitsubishi Electric Corporation
Asada Satoshi	Manager Advanced Material Toyota Technical Centre - USA
Michinori Hachiya	Director Industry Government Affairs Nissan Research & Development, Inc.

" The Status Of ISO-9000 In The Secondary Wood Sector In The European Community"

Prof. Dr. Klaus Binder
Rosenheim Consult©
Schechen, Germany

I. Introduction

In the first nine months of 1993, about 18,000 ISO 9000 certificates were issued world-wide, in total over 45,000 by October 1993. However, there are considerable differences between the single regions in the world. The United Kingdom alone accounts for over 28,000 certificates compared to North America with only over 2,000 certificates. Obviously, awareness and valuation of ISO 9000 are different in the various regions. Analyzing the single industry branches, it becomes evident that the wood industry's participation in ISO 9000 is minor or even zero until now.

From the Canadian wood industry companies' perspective, serious questions arise:

By having an ISO 9000 certificate:

- Would the competitive power increase in the domestic and US markets?
- Would it be easier to keep up the present Canadian export targets against future competition of European ISO 9000 certified companies?
- Would it be possible to increase exports to world markets, especially Europe, by meeting customers' demand for ISO 9000?

To answer these questions and to make the right conclusions, it is of high interest to have information about the future behavior, considerations, and acceptance of competitors and potential customers with respect to ISO 9000.

This study analyzes the status and future development of ISO 9000 in the wood industry of France, Germany, and Italy, with the significant secondary manufacturers. These three countries are also accounting for over 60 % of all softwood and hardwood imports of the European Community.

The study is restricted to the following industry groups:

Products:

- furniture
- windows and doors
- kitchen cabinets

Materials used:

- lumber and finished components
- panel board and panel board components
- particle board and veneer

A questionnaire was developed and sent to the companies.
We got nearly 50 answers. In addition, many of these companies have been interviewed.

II. Wood Industry

1. Figures

The European wood industry employs over 1 million people. The production value is over 150 billion DM, comparable to that of the USA. The most important part of the European wood industry is the wooden furniture industry, including kitchen cabinets with about 50 %.

The following figures are incomplete and have to be looked at as rough estimations. There is no standardization between the single countries on how to collect and calculate those statistical figures. Different sources in the literature show different figures for the same product group and year. Therefore, it is not recommended to use these figures for further publication.

Secondary Wood Products Industry (1989)

Sales (million DM)

Germany:	42,100	(47,100 in 1992)
Italy:	24,000	
France:	21,900	
Canada:	23,000	(1988)
USA:	137,200	(1988)

Furniture:

Sales (million DM)

Germany:	38,000	(1992)
Italy:	27,900	(1989)
France:	11,500	(1992)

In this study, analyzed product groups were wooden furniture, kitchen cabinets, and windows/doors:

Wooden Furniture:

	Sales (million DM)	
Germany:	25,200	(1992)
Italy:	18,000	(1991)
Canada:	6,200	(1990)

Kitchens:

	Sales (million DM)	
Germany:	5,600	(1992)
Italy:	2,300	(1991)
France:	1,450	(1991)
Canada:	1,200	(1990)
USA:	7,000	(1991)

Windows and Doors:

	Sales (million DM)	
Germany:	3,700	(1991)
Canada:	1,600	(1990)

2. Trends

Intensive automation combined with high investment and new organization concepts, such as lean production and just-in-time, create sensitive production systems. Therefore, a nearly 100 percent reliability in quality is enforced for supplied materials and components in the secondary wood products industry in Europe. The future challenge for the suppliers will be to convince their present and potential customers of their permanent quality strength, which is easier in a long lasting one-to-one correspondence between customer and supplier.

However, the supply markets for materials, components and products become more and more European-wide and world-wide with anonymous suppliers. Having no previous experience with the supplier, the customer takes a higher risk of failure and disappointment. A world-wide accepted quality mark issued to qualified companies would help to find the right partner: customer and supplier. The benefits for both might be higher market success and internal improvements.

The consumer would learn to select quality marked products if he would expect to have less trouble afterwards. The architects, builders, and government would use the quality mark as a pre-condition in their tenders, just as they have done with standards (DIN and others) for many years.

Several woodworking companies in Germany have and will have production facilities in Eastern Europe because of the lower wage-levels there, but those facilities in most cases, are component producing facilities. The components are imported to the mother companies in Germany, but the available wood species and quality, the low skill level of the workforce, and a partly poor infrastructure cause quality problems even between German mother companies and their subsidiaries.

Most German high-end furniture producers stay in Germany with their core production. Highly skilled wood processing engineers and apprenticed workers are available, and the infrastructure is nearly perfect. However, these companies are interested in buying high-quality components from high-quality suppliers.

The strength of the Canadian woodworking industry with respect to component export to Europe is the availability in Europe of highly demanded wood species like Maple, Hemlock, Cedar, Douglas Fir, Alder, etc. Combined with the ability to produce the quality and quantity demanded by the European customers and to ensure reliable delivery time, the export chances would be great. But how to find and select reliable Canadian component suppliers? A quality mark would help.

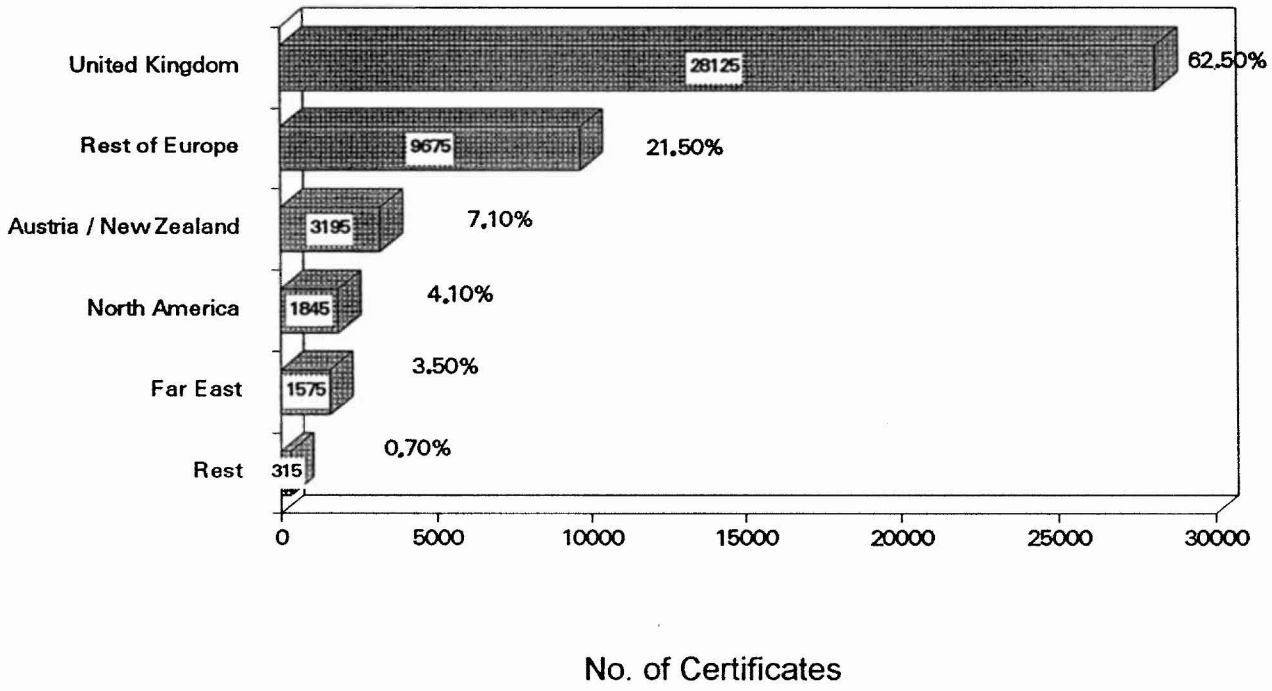
III. General Situation of ISO 9000 in Europe

At the end of October 1993 over 45 000 ISO 9000 certificates were issued world-wide. The potential of growth can be noticed from the following figures:

- end of 1992 about 26 400 certificates
- end of October 1993, about 45 000 certificates

That is an increase of 70 % in nine months.

World-wide Distribution of the 45 000 Certificates
(End of October 1993)



(Source: Mobil Europe)

Issued ISO 9000 certificates in several European countries: (December 1993)

Germany:	2,800
France:	4,000
Italy:	600
Denmark:	700
Austria:	250

The above figures are rough estimates and word-of-mouth information. There is no single institution which is collecting certification information from the different numerous certification bodies in each country. In UK alone 34 certification bodies are accredited.

More impressive than the present number is the rapidly growing number of certification requests: in France, for example, about 3000 at present.

It is really difficult to prove the reasons for the huge difference between the certification figures of the UK and the rest of the world. Does the UK produce the better products? Is it too easy for a company in the UK to be certified (weak accreditation of the certification bodies)? Or is the rest of the world too "lazy" or too "arrogant"? One main reason is government financial support of the UK companies for ISO 9000 certification.

Some arguments of an ISO expert in the "ISO 9000 News", January/ February, 1994, with respect to the problems of assessment of registration bodies are:

- the qualification of auditors was sometimes questionable;
- some registrars had too little experience; and
- some registrars were mixing up certification with consulting.

Of course, a more or less careless use of the ISO 9000 concept, in this way, would lower its acceptance and value. However, looking at the high and even increasing number of present certification requests in the large European countries, a damage of the image of ISO 9000 cannot be observed. This will be emphasized also by the following study's results for the wood industry.

IV. Wood industry and ISO 9000 in Several European Countries

Looking at the certification statistics of the European countries to find certified wood industry companies, is like searching for a needle in a hay stack. Compared to most other industries, the wood industry is nearly not listed.

Number of certified wood industry companies:

Country	wood industry	Total
Germany	6	2800
France	2	4000
Italy	1	1000
Austria	2	250
Denmark	2	700

(The numbers in this tables are partly information, partly estimates)

It might be worthwhile to find some arguments for these low numbers. Experienced with the German secondary wood products industry, I refer mainly to that industry. Some arguments are also valid for the other European countries.

The secondary wood products industry grew traditionally out of small workshops. Apprenticeship, technician and wood engineer programs delivered highly qualified experts. Together with an increasing number of accepted technical standards (DIN, EN, etc.), a production system arose with the growing companies, which produced and produces high quality products. A certain feeling of self-confidence and pride was established. "Made in Germany" was, in a sense, a trademark by itself, a kind of "early ISO 9000". Not long ago most wood industry companies didn't even think about ISO 9000 . They didn't see any necessity to introduce it into their systems, for they felt themselves quality strong. This view and behavior have obviously changed. The external advantages, but even more the internal improvement possibilities, are recognized. And like the study results show, a rush for ISO 9000 certification for woodworking companies is just starting.

V. The Attitude and Engagement of Woodworking Companies with Respect to ISO 9000

– An Inquiry into France, Germany and Italy –

1. Goal of the Study

The study intends to give answers to the following questions:

- How important is ISO 9000 to the companies?
- How many companies in the study are certified, intend to be certified in the near future, or have no intention of being certified?
- What internal and external reasons do companies have to be or become certified?
- Which facts might impair the image and internal value of ISO 9000?

2. Study Procedure and Scope

A questionnaire was developed with the following structure and content:

Company:					
Street:					
City:					
Phone:					
Fax:					
Address Person:					
Product lines:					
Number of employees:	total:				
	Production:				
	Administration:				
Total sales 1993:	Million	X		Million	X
	0-10			200-300	
	10-50			300-400	
	50-100			400-500	
	100-200			500-	

1. **How important is ISO 9000 for your company? :**

We are already certified since:	
We intend to be certified till:	
We see no reasons for introduction: (X)	
Other remarks:	

(please go on to 4.)

2. **Which parts of ISO 9000 are of interest for your company? :**

9001	9002	9003	9004

X : already introduced
(X): not introduced till now

3. **How many employees are directly involved in the organization of ISO 9000? :**

	Full time	Part time	Occasional
Engineers			
Technicians / Master Craftsmen			
Others			

4. **How important for you are the following reasons, to realize ISO 9000, or not? :**

Reason	Importance

	important	average	not important
better company image			
customers expectation/demand			
reduced quality tests by customers			
future official regulations			
market share extension			
access to new Europe			
market areas World			
competitive advantages			
because of competitors			
employees identification with the company			
enforced quality behavior of employees			
internal information system improvement			
cost reduction of production and customer claims			
environmental aspect: less defects → less waste			
own remarks:			

5. **Reasons which, in your view, influence the value and importance of ISO 9000:**

causes to high costs			sufficient own internal quality assurance system	
inflexible standards			no demand for it by customers	
certification procedure lasts too long			no competitive advantages	
too many external influences during certification			different certification executions in the single countries	
too serious internal changes			certification inflation to reach international competitive advantages	
lack of suitable staff			own remarks	
Until now we didn't think about ISO 9000 intensively				

6. **Which standards are important for you now and in the future?**

Thank you !

This questionnaire was mailed to French, Italian and German companies. About 50 German companies answered. However the conclusion of many phone calls with experts of the French and Italian wood industry is that the situations are similar in all three countries.

The answers have been evaluated in the following way:

- sorting into seven industry groups:
  furniture, kitchens, windows, veneer, sawmills, particle board, construction

- sub-sorting each industry group into three size classes of sales:

0	-	50	million DM
50	-	100	million DM
100	-	400	million DM

  Only one company in the study had more than 400 million DM sales.

- assigning to each size class the number of companies which are certified, intend to be certified, don't intend to be certified.

- extracting the important reasons for being certified or not
  → for each industry group
  → for all groups together

- showing the arguments which doubt ISO 9000
  → for each industry group
  → for all groups together.

3. Results

a) The table below shows the present status of certification for 43 companies in the study

Status of Certification

Industry group	Sales million DM	Are Certified	Intend	No reason
furniture	0 - 50		5	1
	50 - 100		2	1
	100 - 400	5	7	1
kitchens	0 - 50		2	
	50 - 100		1	
	100 - 400	1	1	2
windows	0 - 50		2	2
	50 - 100			
	100 - 400			
construction	0 - 50		1	
	50 - 100			
	100 - 400		1	1
particle boards	0 - 50			
	50 - 100			
	100 - 400		3	
veneer	0 - 50		1	
	50 - 100			
	100 - 400			
sawmills	0 - 50		3	
	50 - 100			
	100 - 400			
total		6	29	8

All six German woodworking companies which are certified participated in this study. Remarkable is the high number of companies which intend to be certified within the next two years. Only eight companies don't see a need for certification.

b) The following two tables show the frequency of the answers for question #4:

How important for you are the following reasons, to realize ISO 9000 or not?

In the attached charts the answers are ranked according to their frequency.

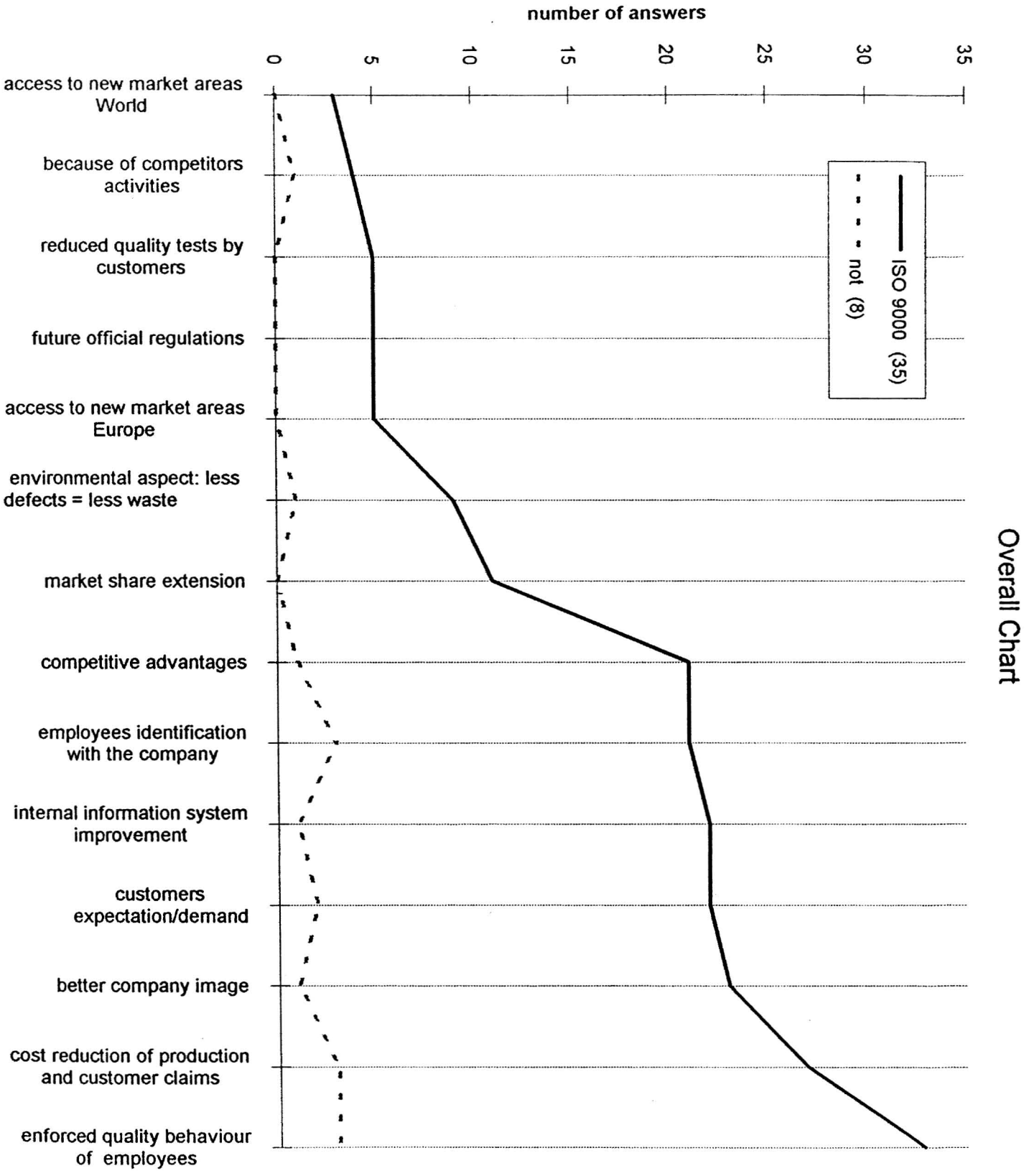
The tables are summarized as follows:

- certified + intend = ISO 9000
- no different size class

In brackets below the industry group names are the numbers of the ISO 9000 companies (first number) and of the not intending companies (second number).

Important Reasons	Certificated / intend ——— Don't intend	Furniture	Kitchens	Windows	Veneer	Sawmills	Particle Board	Construction	Overall
		193	52	22	10	30	30	21	358
Better company image	ISO 9000	14	2	2	1	3	0	1	23
	not	0	0	1	0	0	0	0	1
Customers' expectations / demands	ISO 9000	11	5	1	1	2	1	1	22
	not	1	0	1	0	0	0	0	2
Reduced qulity tests by customers	ISO 9000	3	0	1	0	1	0	0	5
	not	0	0	0	0	0	0	0	0
Future official regulations	ISO 9000	4	0	0	0	1	0	0	5
	not	0	0	0	0	0	0	0	0
Market share extension	ISO 9000	6	2	1	1	1	0	0	11
	not	0	0	0	0	0	0	0	0
Access to new market areas - Europe	ISO 9000	3	1	0	0	1	0	0	5
	not	0	0	0	0	0	0	0	0
Access to new market areas - World	ISO 9000	2	0	0	0	1	0	0	3
	not	0	0	0	0	0	0	0	0

Important Reasons	Certificated / intend ——— Don't intend	Furniture	Kitchens	Windows	Veneer	Sawmills	Particle Board	Construction	Overall
		193	52	22	10	30	30	21	358
Competitive advantages	ISO 9000	11	3	2	1	3	0	1	21
	not	1	0	0	0	0	0	0	1
Because of competitors'	ISO 9000	3	0	0	0	1	0	0	4
activities	not	0	0	0	0	0	0	1	1
Employees'	ISO 9000	11	4	1	1	2	1	1	21
identification with the company	not	1	0	1	0	0	0	1	3
Enforced quality	ISO 9000	17	6	3	1	3	3	0	33
behaviour of employees	not	2	0	0	0	0	0	1	3
Internal information	ISO 9000	11	5	1	0	2	3	0	22
system improvements	not	1	0	0	0	0	0	0	1
Cost reduction of	ISO 9000	12	6	2	1	2	3	1	27
production and customer claims	not	0	0	1	0	0	0	2	3
Environmental aspect:	ISO 9000	5	2	1	0	2	0	0	9
less defects = less claim	not	0	0	0	0	0	0	1	1


number of answers
0
5
10
15
20
25
30
35
access to new market areas World
because of competitors activities
reduced quality tests by customers
future official regulations
access to new market areas Europe
environmental aspect: less defects = less waste
market share extension
competitive advantages
employees identification with the company
internal information system improvement
customers expectation/demand
better company image
cost reduction of production and customer claims
enforced quality behaviour of employees
ISO 9000 (35)
not (8)
Overall Chart

The overall evaluation of question #4,

How important for you are the following reasons, to realize ISO 9000, or not?

clearly shows that the main benefits which are expected by a certification are internal ones:

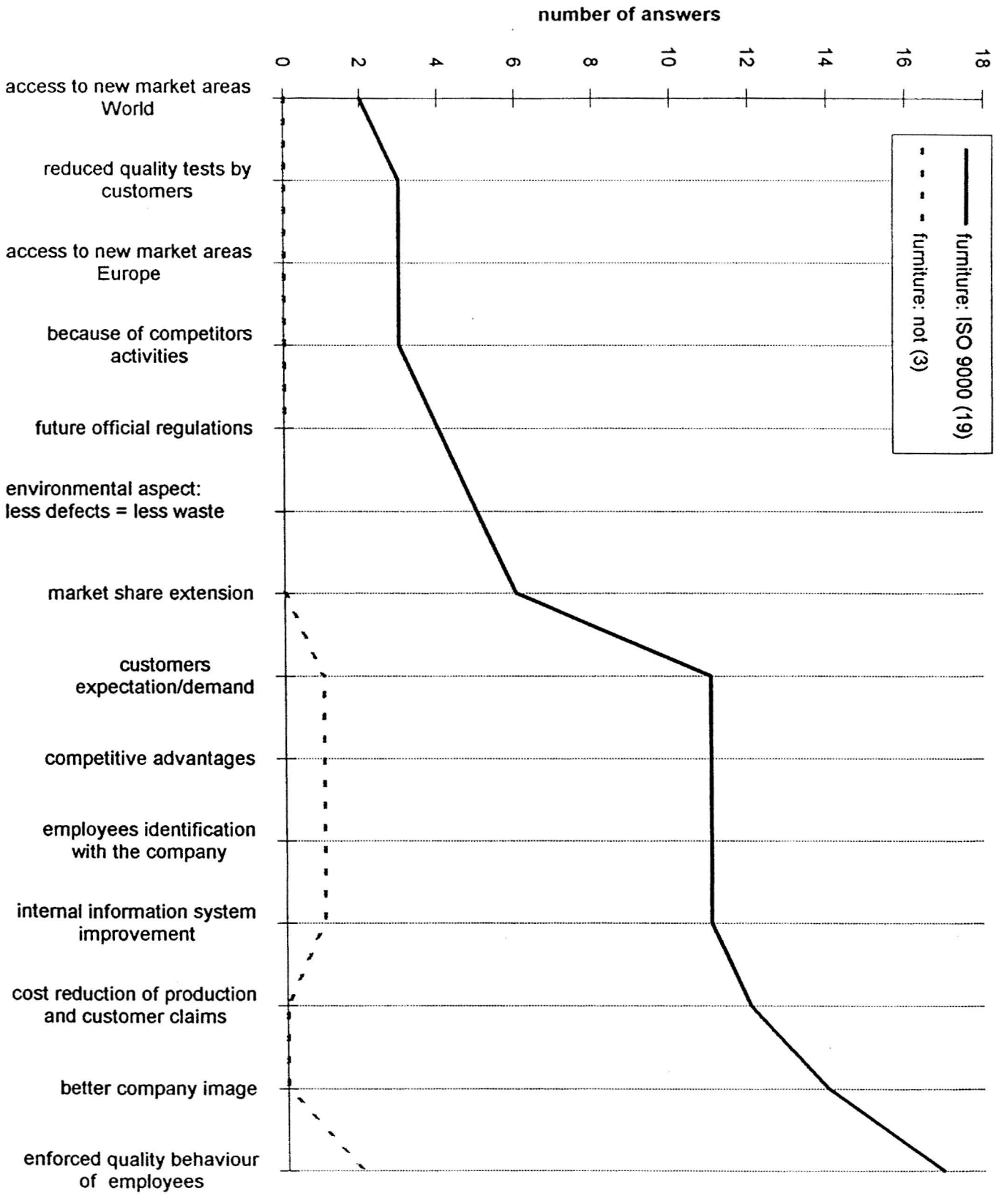
- enforced quality behavior of employees
- cost reduction of production and customer claims

Also highly rated are:

- a better company image
- customers' expectation/demand
- internal information system improvements
- employees identification with the company
- competitive advantages

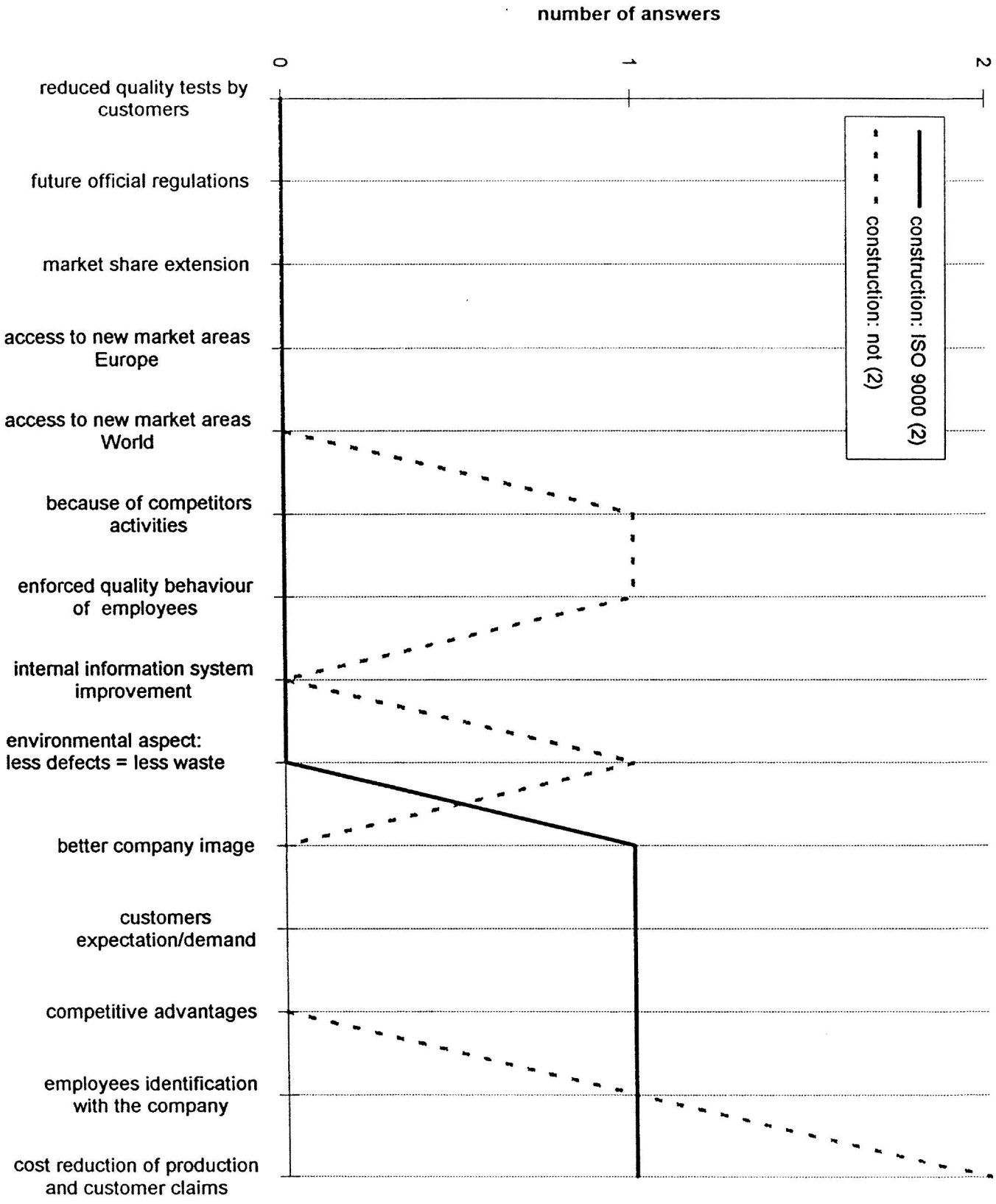
Market goals don't have a high priority.

The following charts show the evaluation of the answers of the single industry groups.

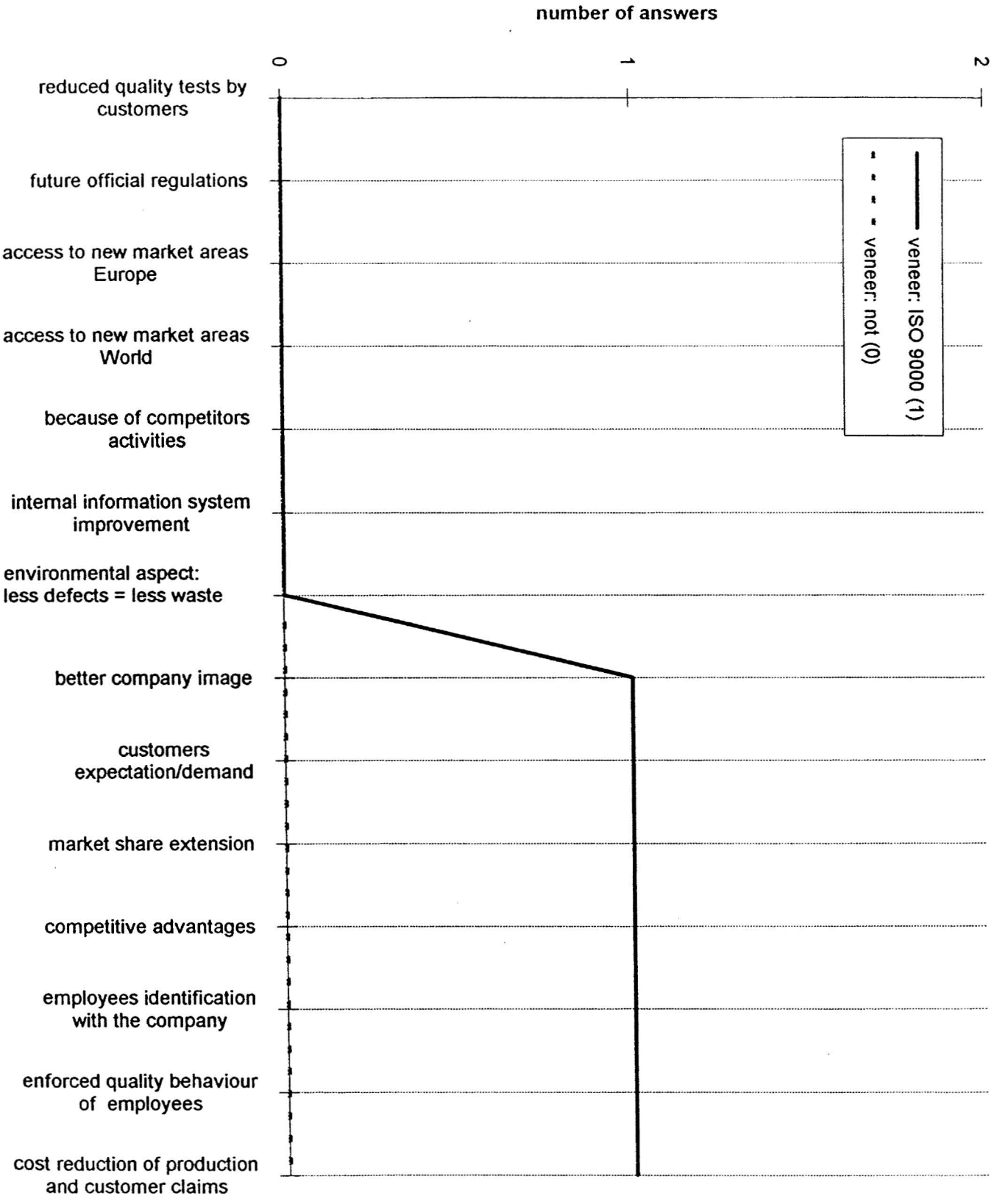

number of answers
0
2
4
6
8
10
12
14
16
18
access to new market areas World
reduced quality tests by customers
access to new market areas Europe
because of competitors activities
future official regulations
environmental aspect: less defects = less waste
market share extension
customers expectation/demand
competitive advantages
employees identification with the company
internal information system improvement
cost reduction of production and customer claims
better company image
enforced quality behaviour of employees
furniture: ISO 9000 (19)
furniture: not (3)

number of answers
0
1
2
3
4
5
6
reduced quality tests by customers
future official regulations
access to new market areas World
because of competitors activities
access to new market areas Europe
better company image
market share extension
environmental aspect: less defects = less waste
competitive advantages
employees identification with the company
customers expectation/demand
internal information system improvement
enforced quality behaviour of employees
cost reduction of production and customer claims
kitchens: ISO 9000 (5)
kitchens: not (1)

number of answers
0
1
2
3
future official regulations
access to new market areas Europe
access to new market areas World
because of competitors activities
customers expectation/demand
reduced quality tests by customers
market share extension
employees identification with the company
internal information system improvement
environmental aspect: less defects = less waste
better company image
competitive advantages
cost reduction of production and customer claims
enforced quality behaviour of employees
windows: ISO 9000 (2)
windows: not (2)

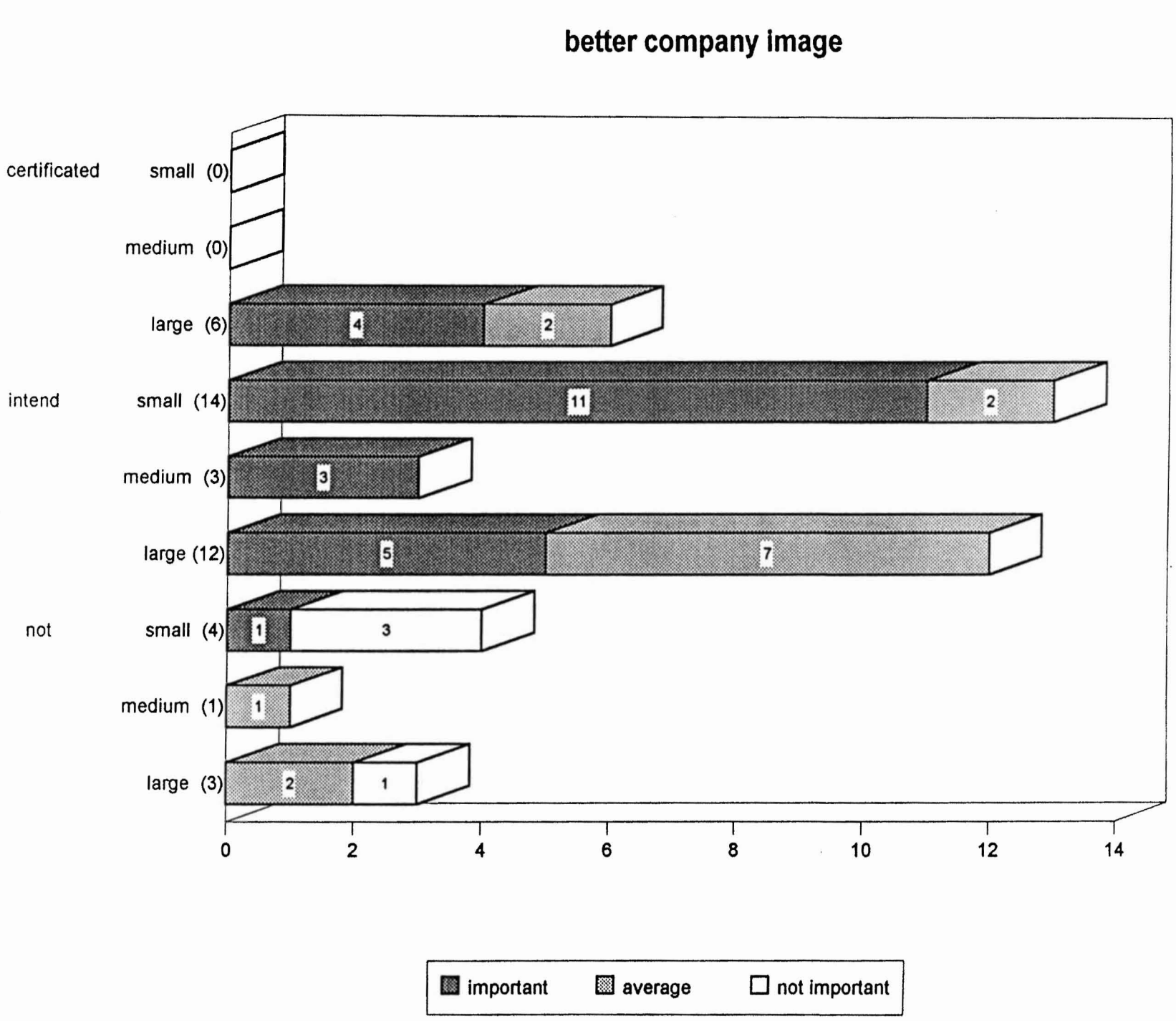

number of answers
0
1
2
reduced quality tests by customers
future official regulations
market share extension
access to new market areas Europe
access to new market areas World
because of competitors activities
enforced quality behaviour of employees
internal information system improvement
environmental aspect: less defects = less waste
better company image
customers expectation/demand
competitive advantages
employees identification with the company
cost reduction of production and customer claims
construction: ISO 9000 (2)
construction: not (2)

number of answers
0
1
2
3
better company image
reduced quality tests by customers
future official regulations
market share extension
access to new market areas Europe
access to new market areas World
competitive advantages
because of competitors activities
environmental aspect: less defects = less waste
customers expectation/demand
employees identification with the company
enforced quality behaviour of employees
internal information system improvement
cost reduction of production and customer claims
particle board: ISO 9000 (3)
particle board: not (0)


number of answers
0
1
2
reduced quality tests by customers
future official regulations
access to new market areas Europe
access to new market areas World
because of competitors activities
internal information system improvement
environmental aspect: less defects = less waste
better company image
customers expectation/demand
market share extension
competitive advantages
employees identification with the company
enforced quality behaviour of employees
cost reduction of production and customer claims
veneer: ISO 9000 (1)
veneer: not (0)

number of answers
0
1
2
3
reduced quality tests by customers
future official regulations
market share extension
access to new market areas Europe
access to new market areas World
because of competitors activities
customers expectation/demand
employees identification with the company
internal information system improvement
cost reduction of production and customer claims
environmental aspect: less defects = less waste
better company image
competitive advantages
enforced quality behaviour of employees
sawmills: ISO 9000 (3)
sawmills: not (0)

c) In the following charts the companies are sorted into sales size classes (0-50, 50-100, 100-400 million DM) and are separated into **certified, intend** to be certified, **do not intend** to be certified. In brackets are the numbers of companies which are certified, intend or not. Each chart shows one reason (headline) to be certified or not, all together 14 charts. The number of answers for each reason are shown by the columns, which are divided into three areas: important, average and not important, i.e. how important is this reason for the answering companies.


better company image
certificated
small (0)
medium (0)
large (6)
4
2
intend
small (14)
11
2
medium (3)
3
large (12)
5
7
not
small (4)
1
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large (3)
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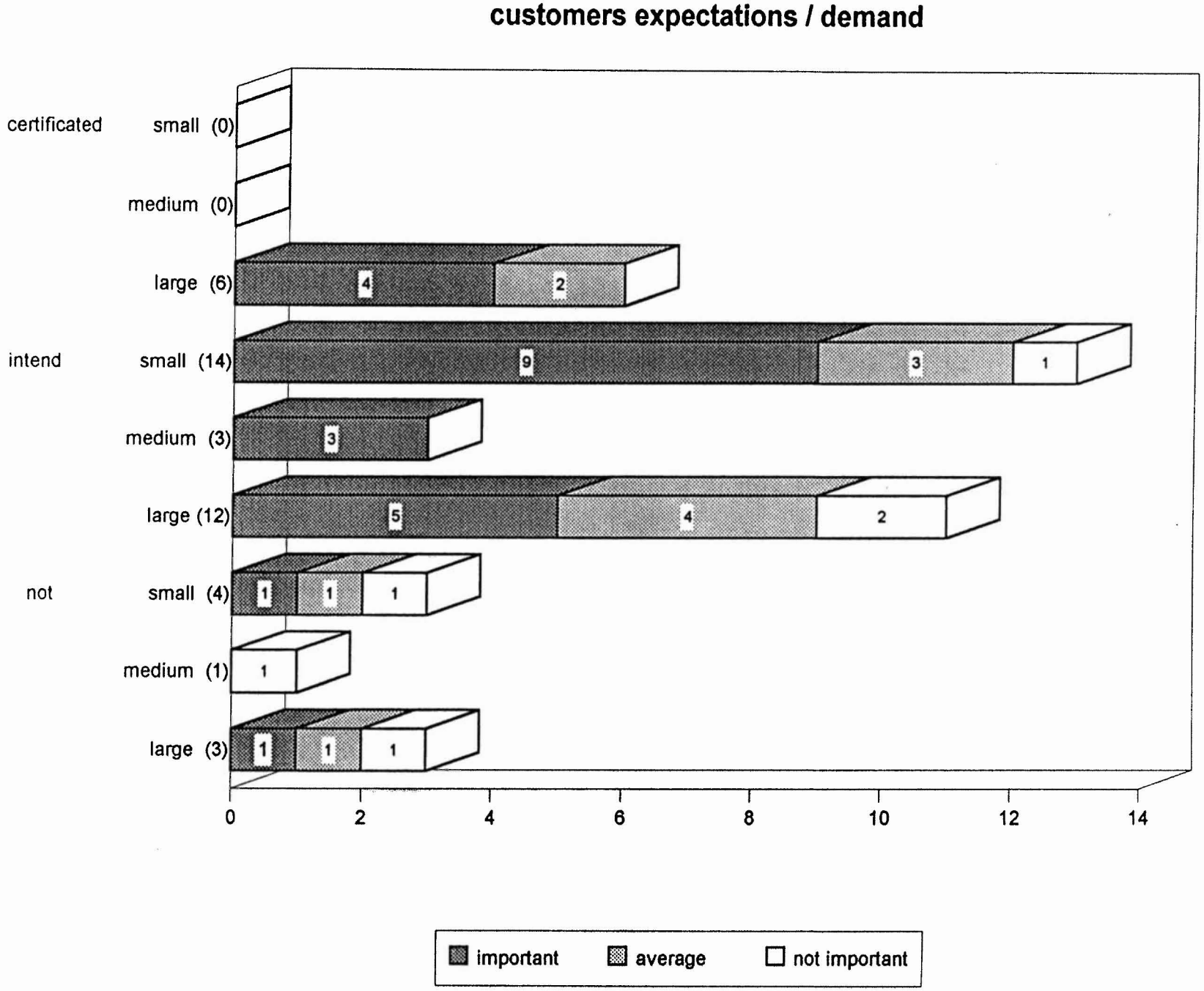
12
14
important
average
not important


customers expectations / demand
certificated
small (0)
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small (4)
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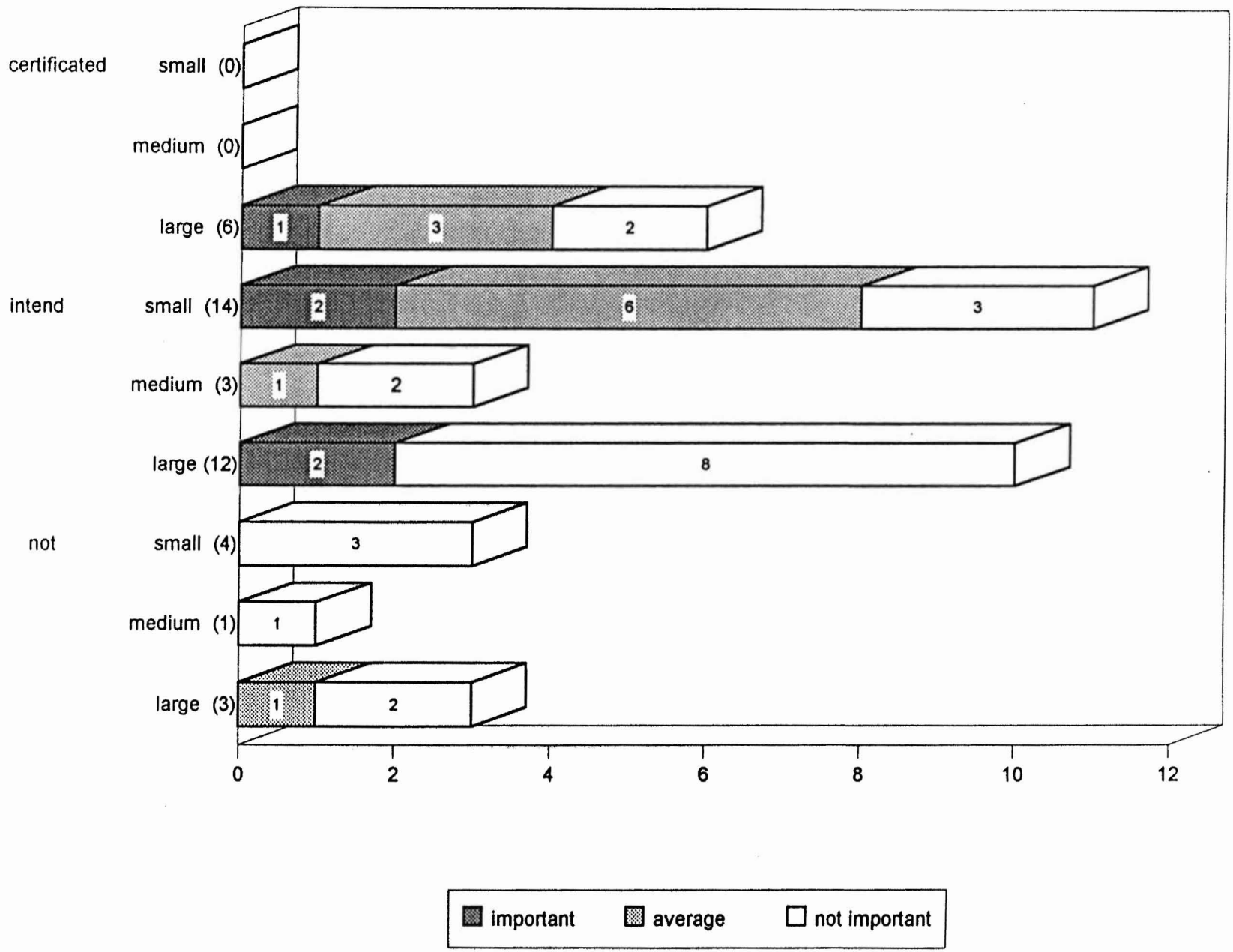
14
important
average
not important


reduced quality tests by customers
certificated
small (0)
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small (14)
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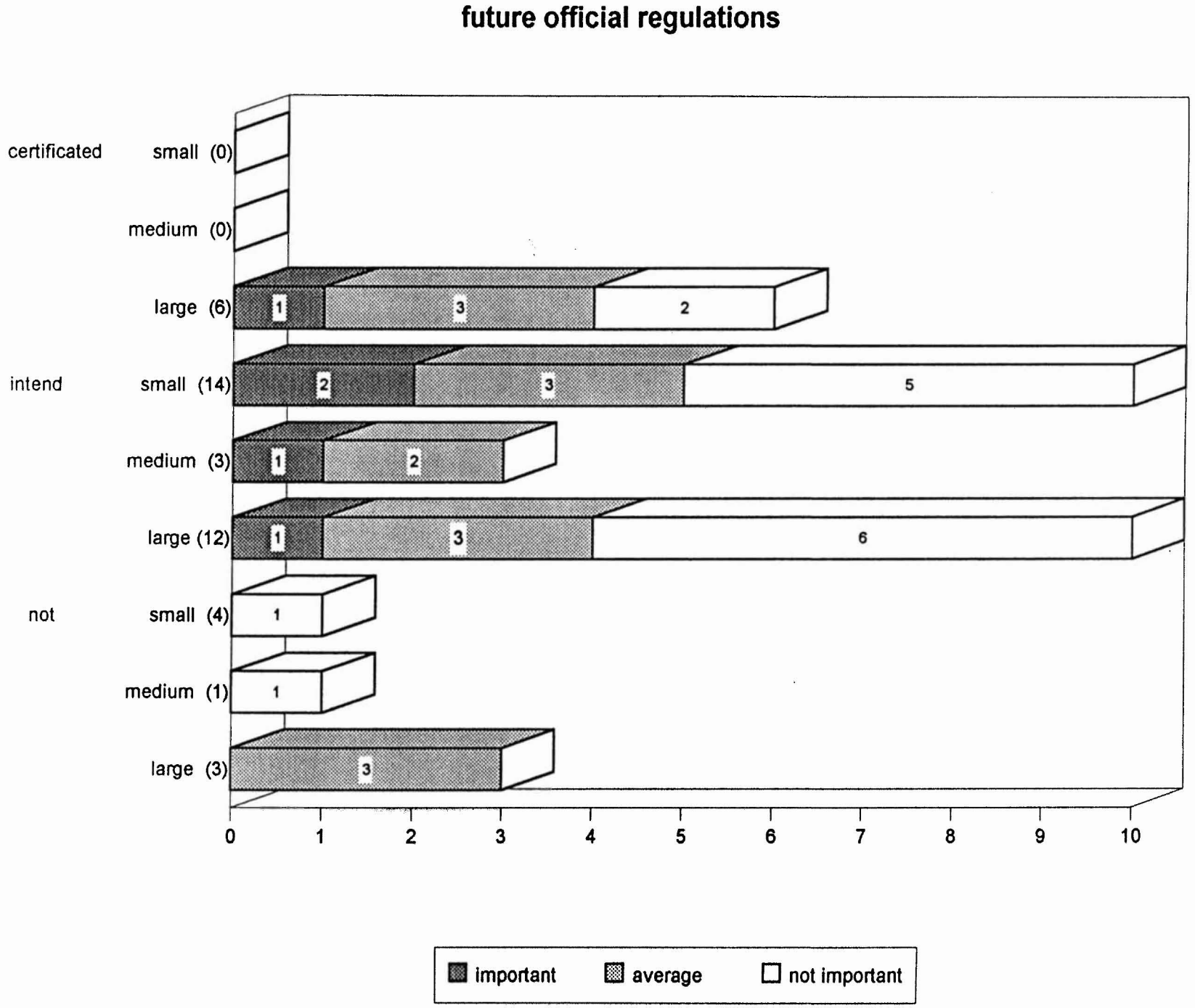
future official regulations
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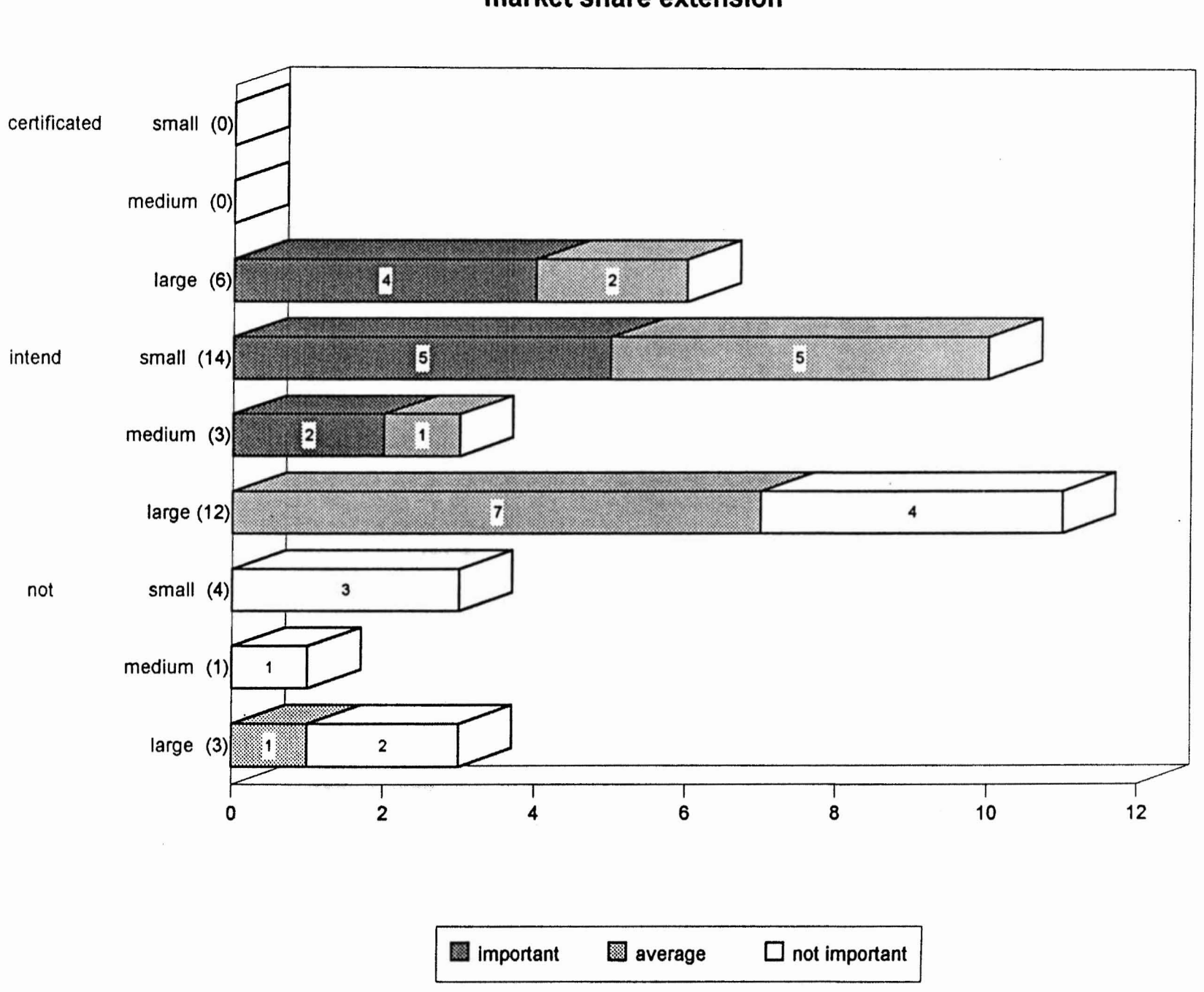
market share extension
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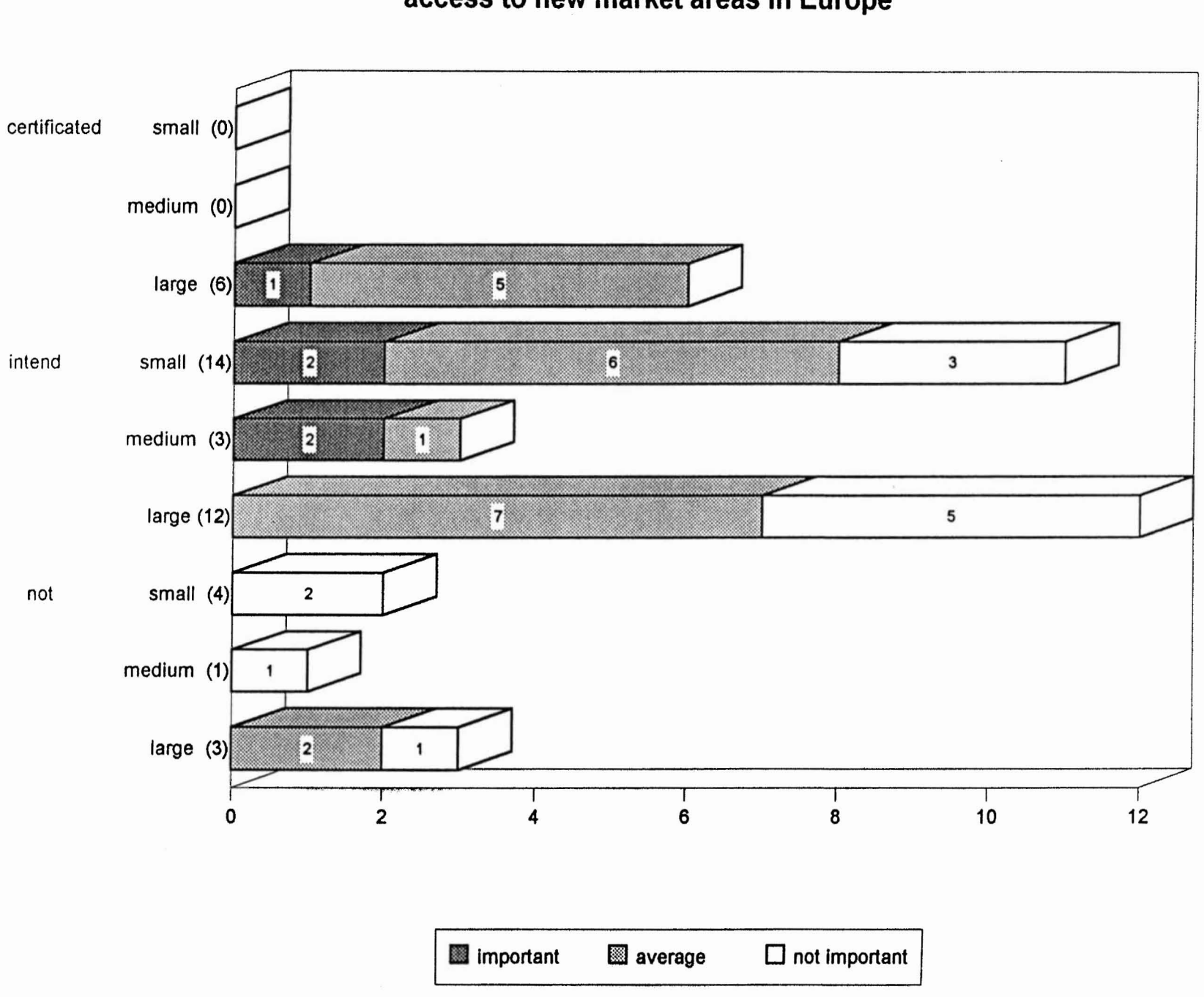
access to new market areas in Europe
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large (6)
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not
small (4)
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medium (1)
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large (3)
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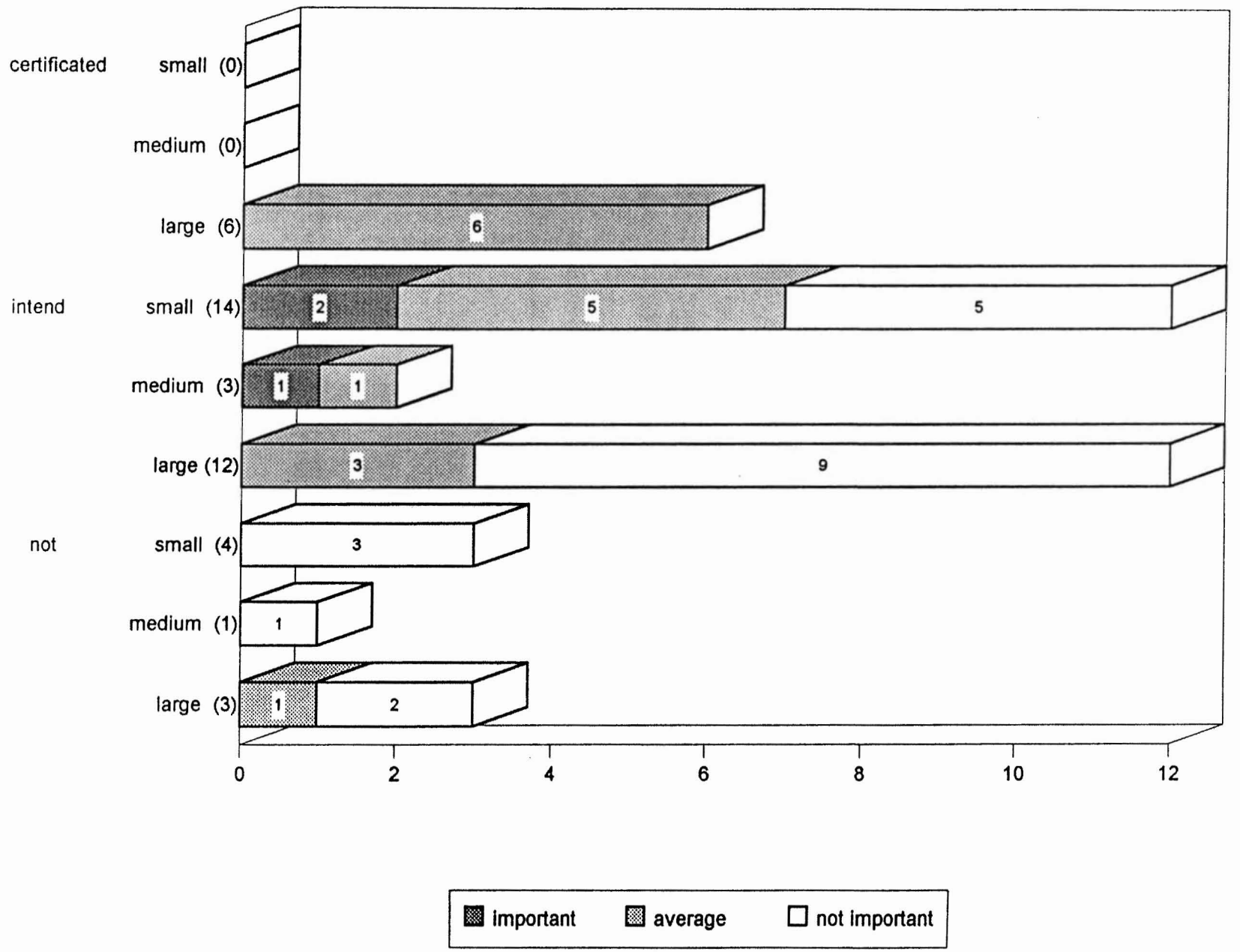
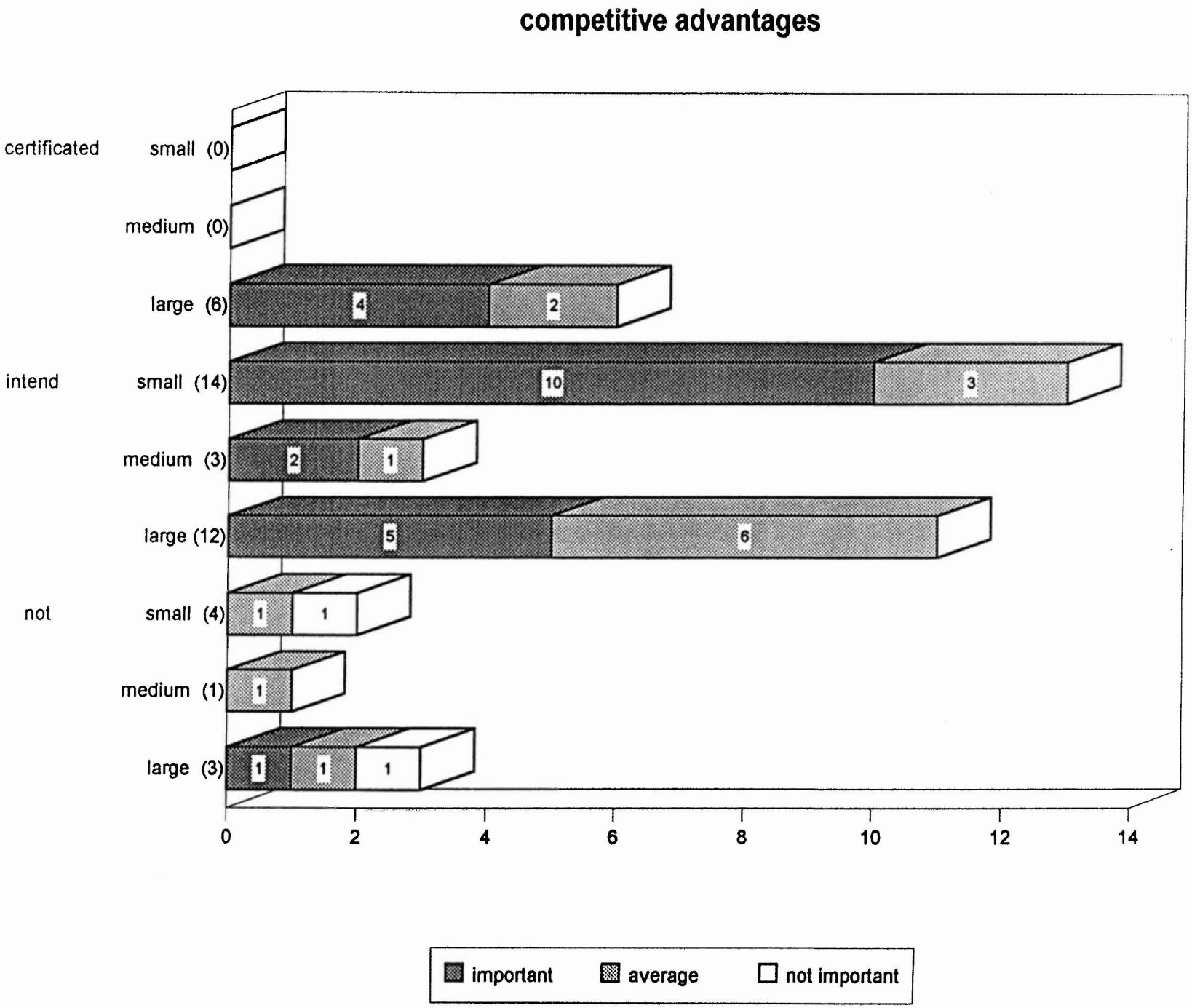
important
average
not important

access to new market areas in the world

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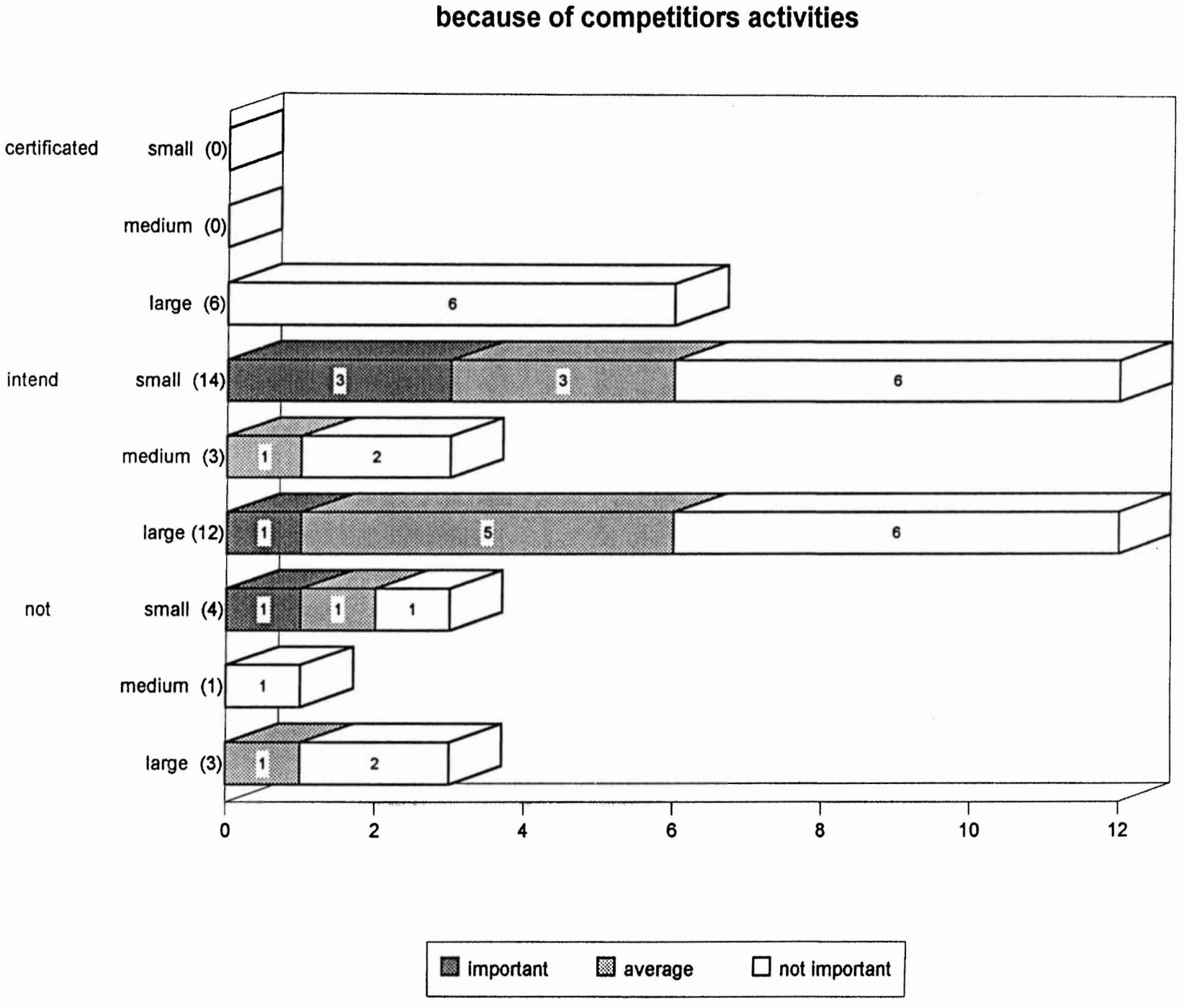
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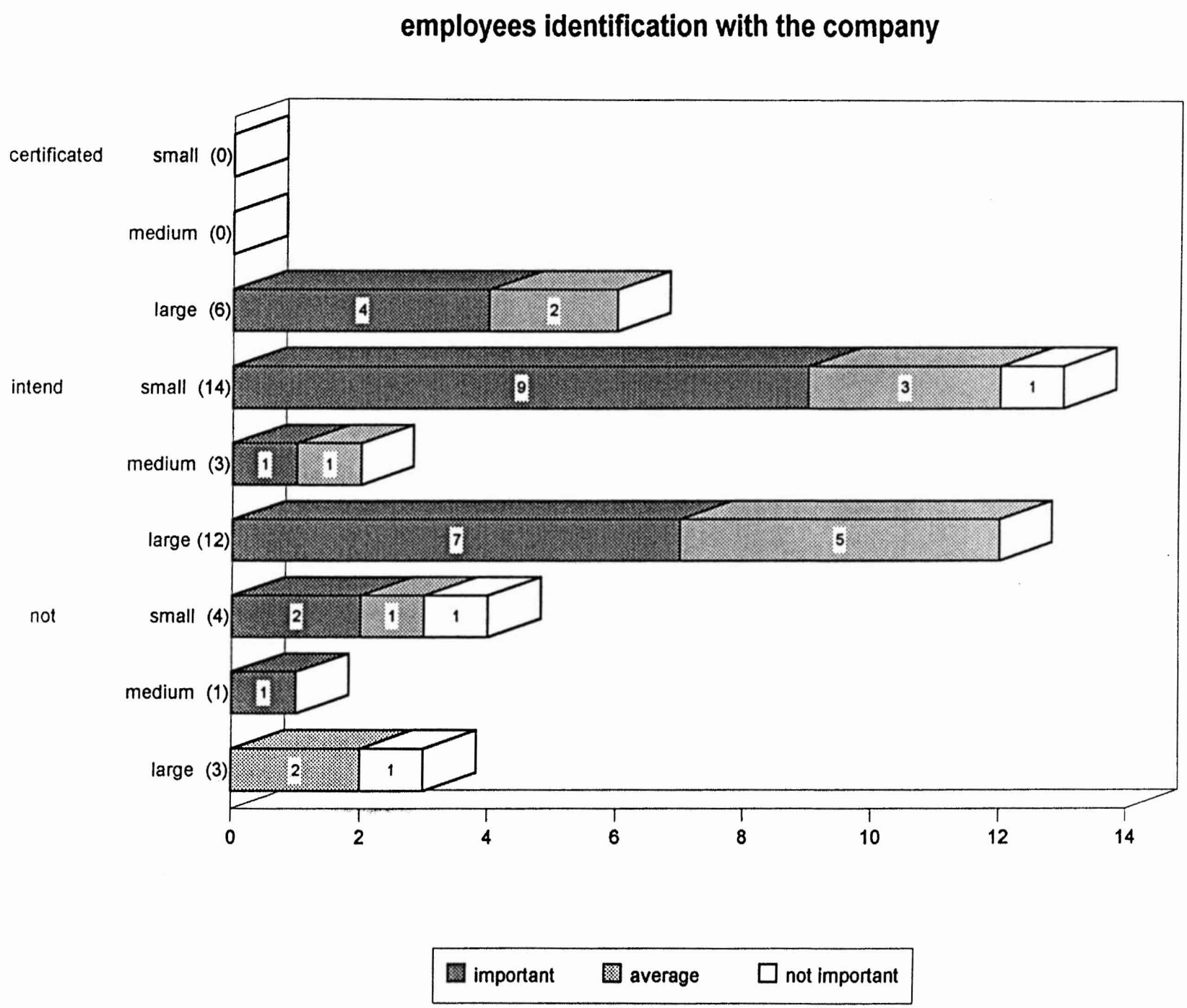
employees identification with the company
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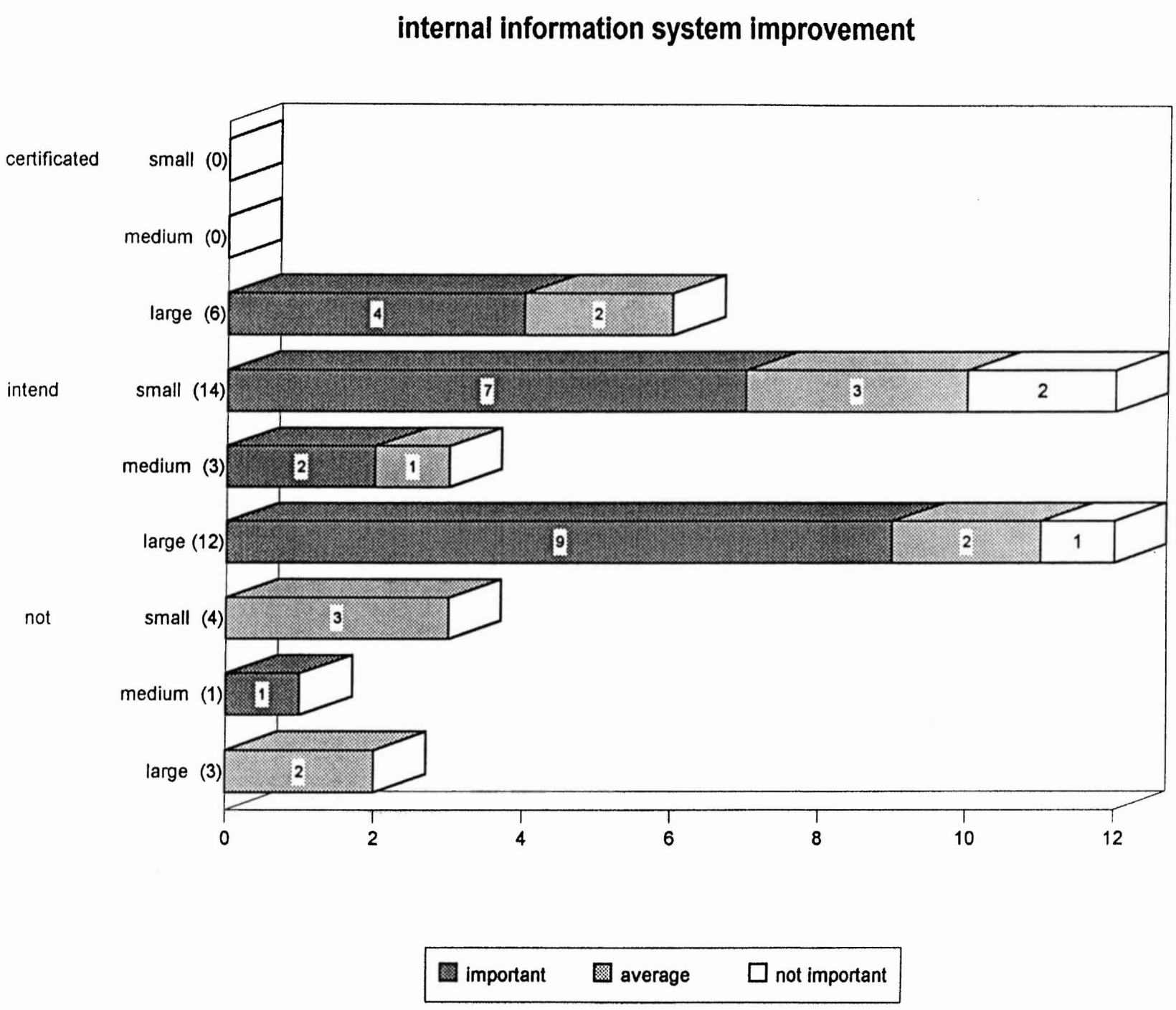
internal information system improvement
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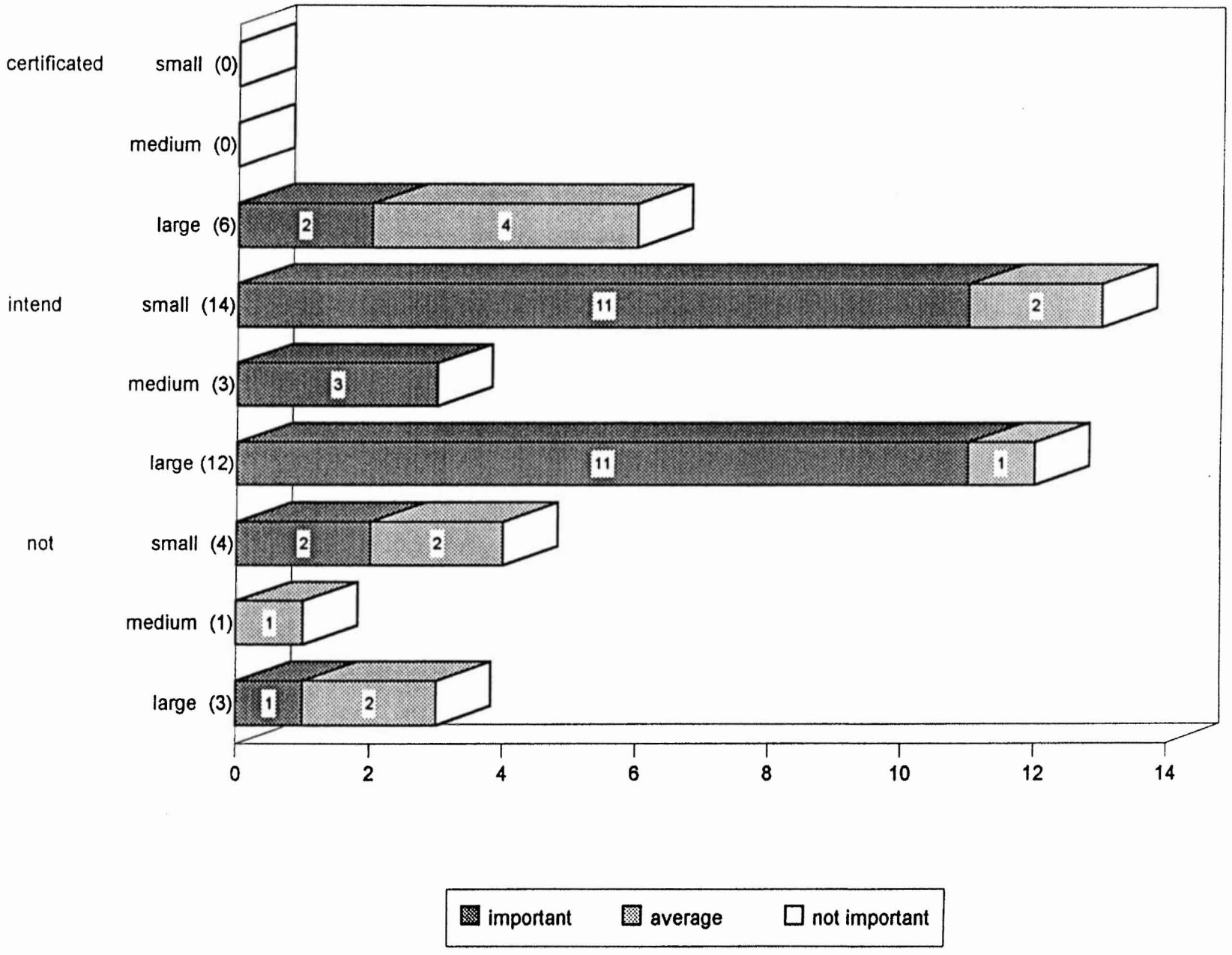
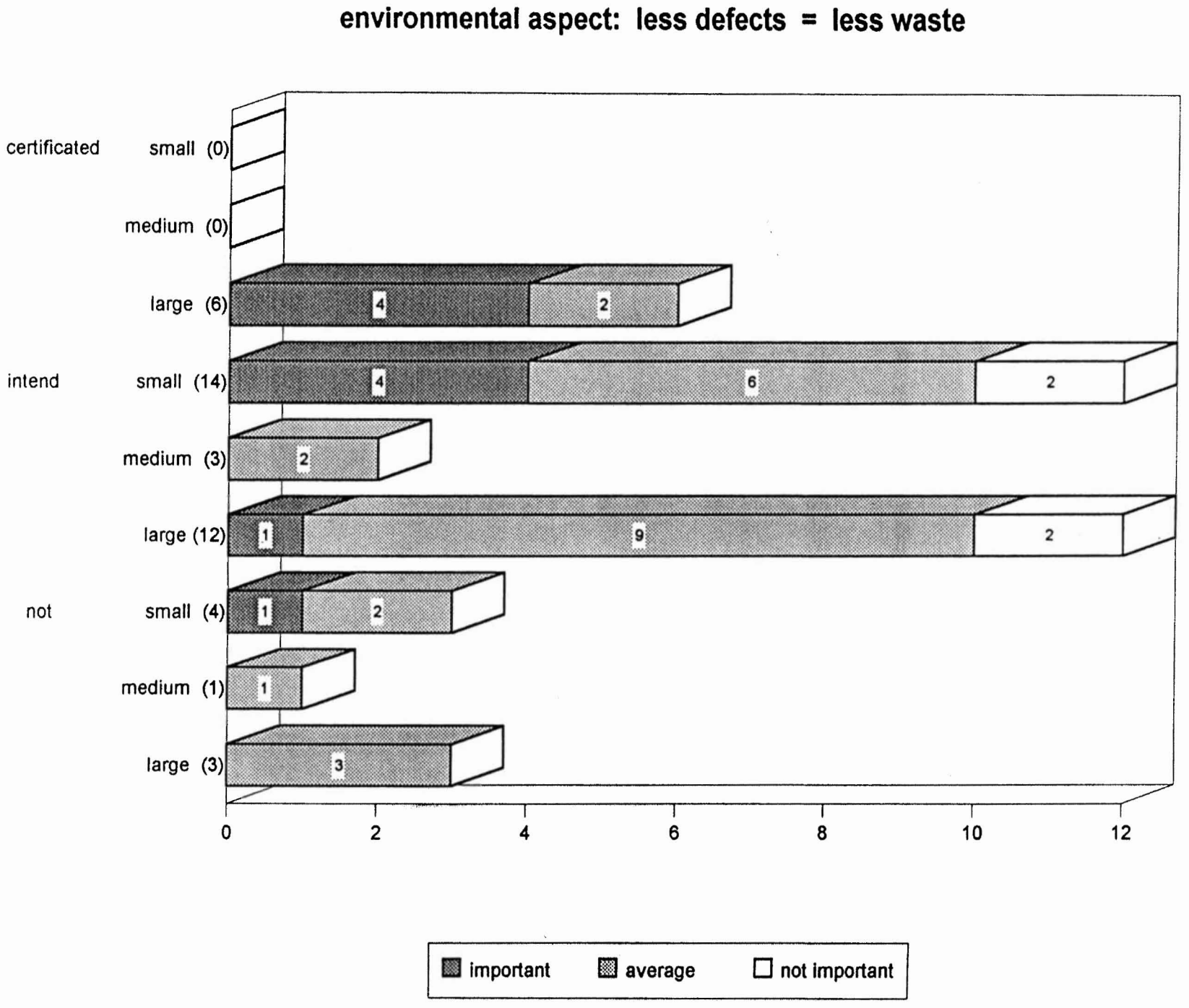
cost reduction of production and customer claims

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Remarks:

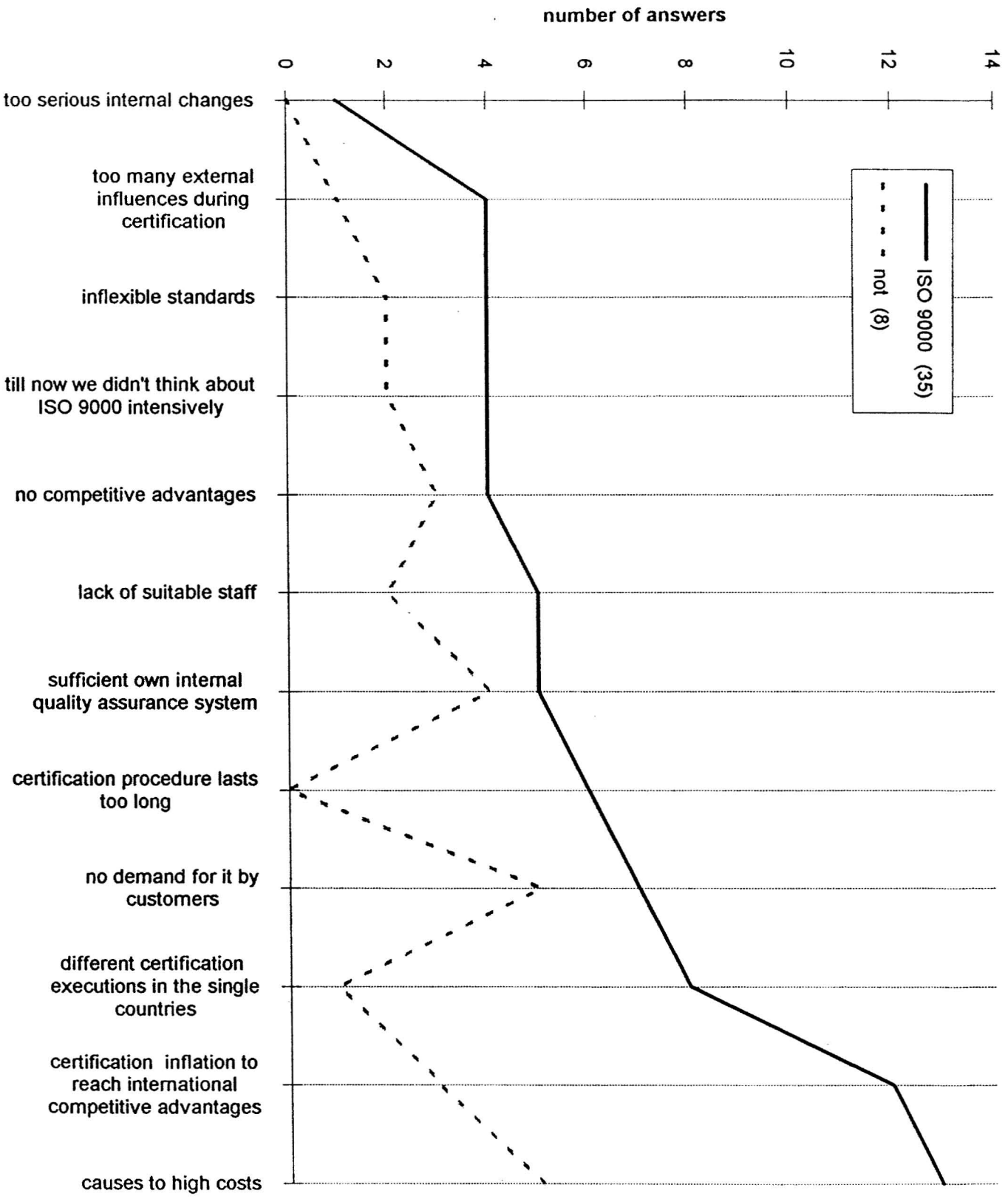
- The large certified companies are very convinced that they did the right thing by certification.

- Also notable is that the smaller intending companies have a higher benefit expectation being certified, compared to the large intending companies.

d) The following table shows the frequency of the arguments which might doubt ISO 9000.

The attached charts ranks the frequency of the answers.

arguments which might doubt ISO 9000	certificated/intend (35) don't intend (8)	overall
causes to high costs	ISO 9000 not	13 5
inflexible standards	ISO 9000 not	4 2
certification procedure lasts too long	ISO 9000 not	6 0
too many external influences during certification	ISO 9000 not	4 1
too serious internal changes	ISO 9000 not	1 0
lack of suitable staff	ISO 9000 not	5 2
till now we didn't think about ISO 9000 intensively	ISO 9000 not	4 2
sufficient own internal quality assurance system	ISO 9000 not	5 4
no demand for it by customers	ISO 9000 not	7 5
no competitive advantages	ISO 9000 not	4 3
different certification executions in the single countries	ISO 9000 not	8 1
certification inflation to reach international competitive advantages	ISO 9000 not	12 3


number of answers
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4
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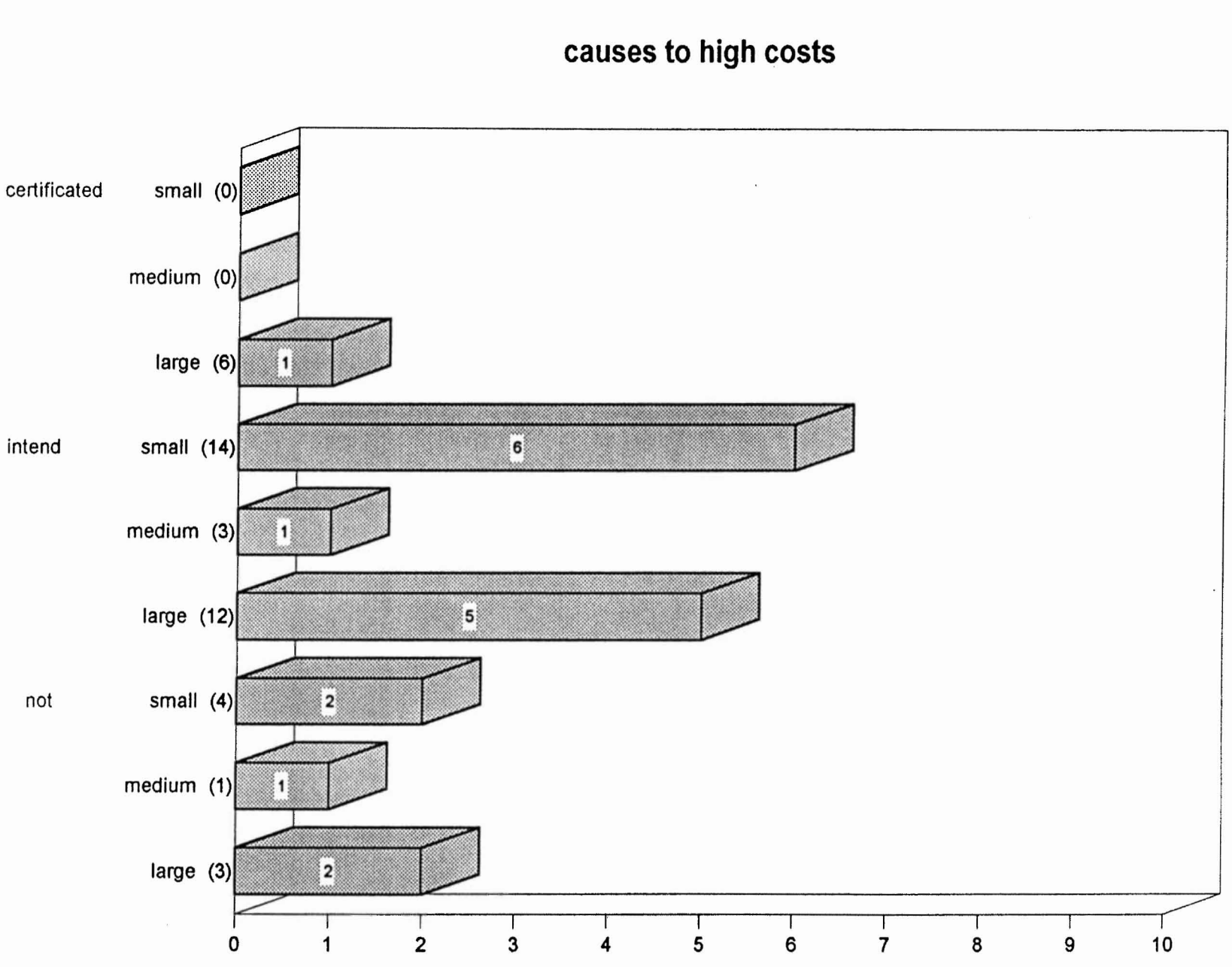
12
14
too serious internal changes
too many external influences during certification
inflexible standards
till now we didn't think about ISO 9000 intensively
no competitive advantages
lack of suitable staff
sufficient own internal quality assurance system
certification procedure lasts too long
no demand for it by customers
different certification executions in the single countries
certification inflation to reach international competitive advantages
causes to high costs
ISO 9000 (35)
not (8)
arguments which might doubt ISO 9000

In comparison to the arguments in favor of a ISO 9000 certification, the doubts on ISO 9000 are of minor importance, except for the following:

- The preparation and certification costs are high.
- About 30 % of the companies have the impression that there is a certification inflation going on to reach international competitive advantages.
- Some doubt can be also found that the certification executions in the single countries have the same level.
- The certification demand by customers is not seen in every case.
- Some are convinced to have their own sufficient own internal quality assurance system.
- Several smaller intending companies are lacking suitable staff.
- Only few companies didn't think about ISO 9000 intensively until now.

e) The following charts are showing the arguments which might doubt ISO 9000 like in d), but the companies are sorted into size classes and their certification status.


causes to high costs
certificated
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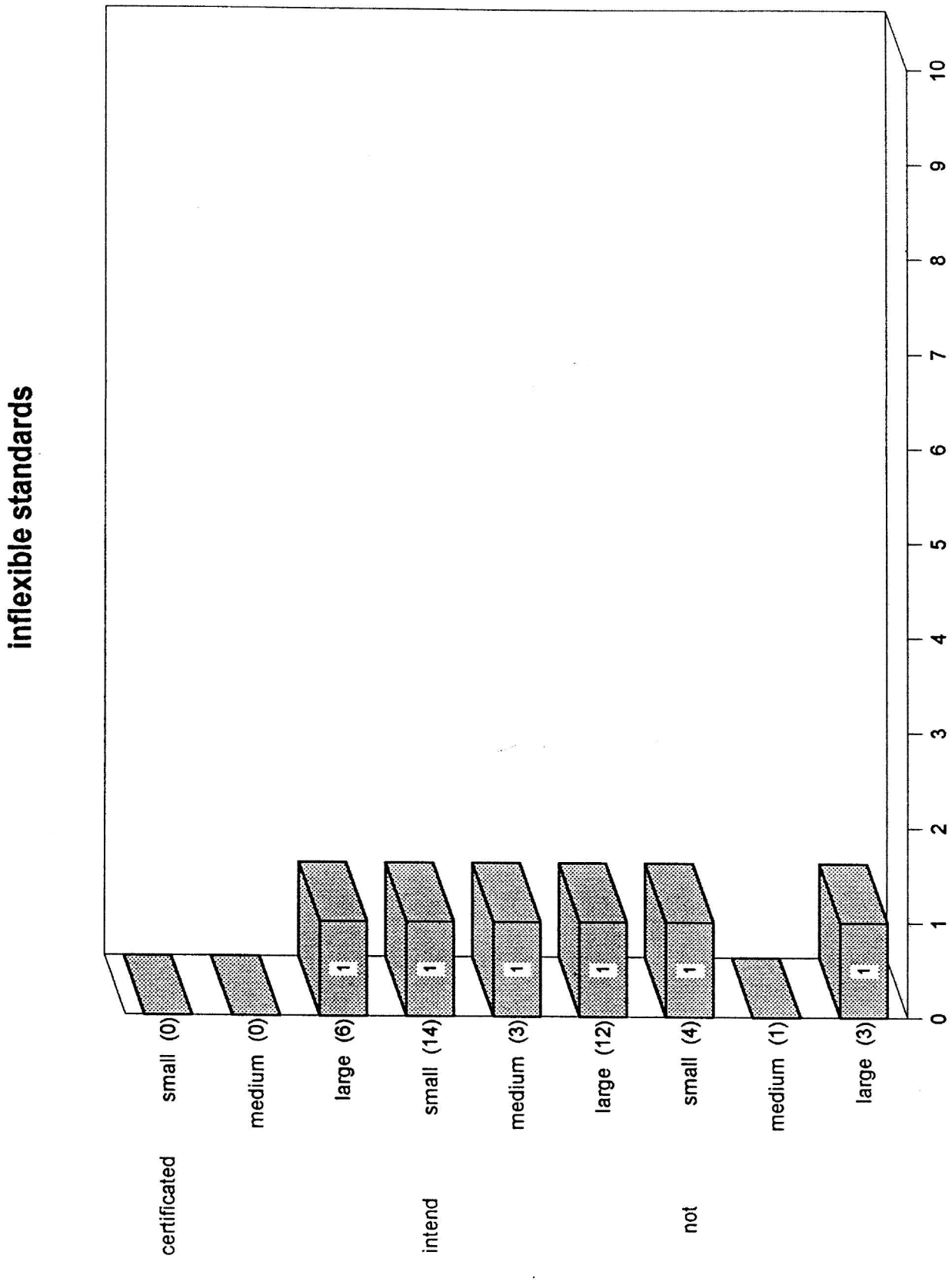
inflexible standards
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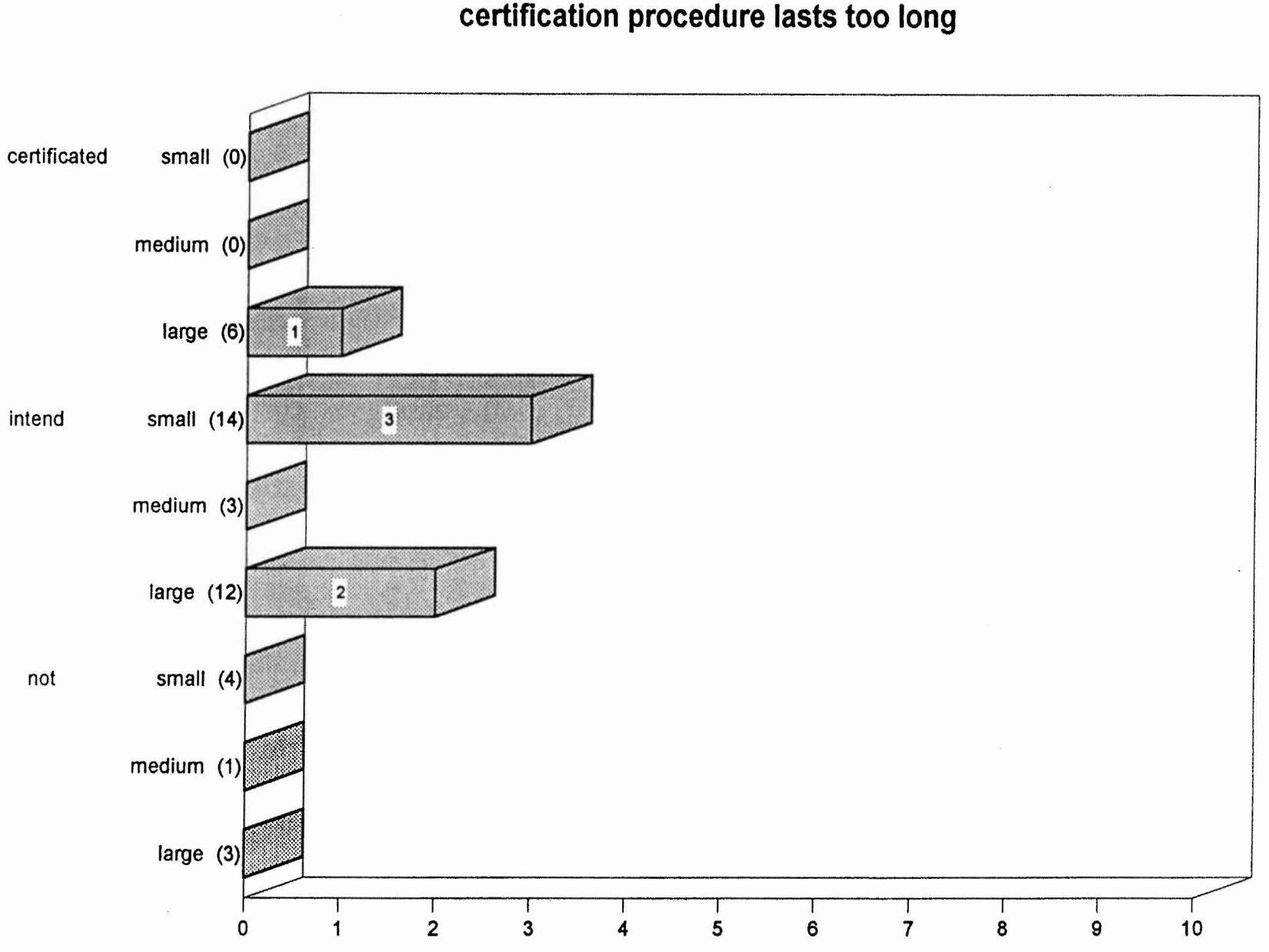
certification procedure lasts too long
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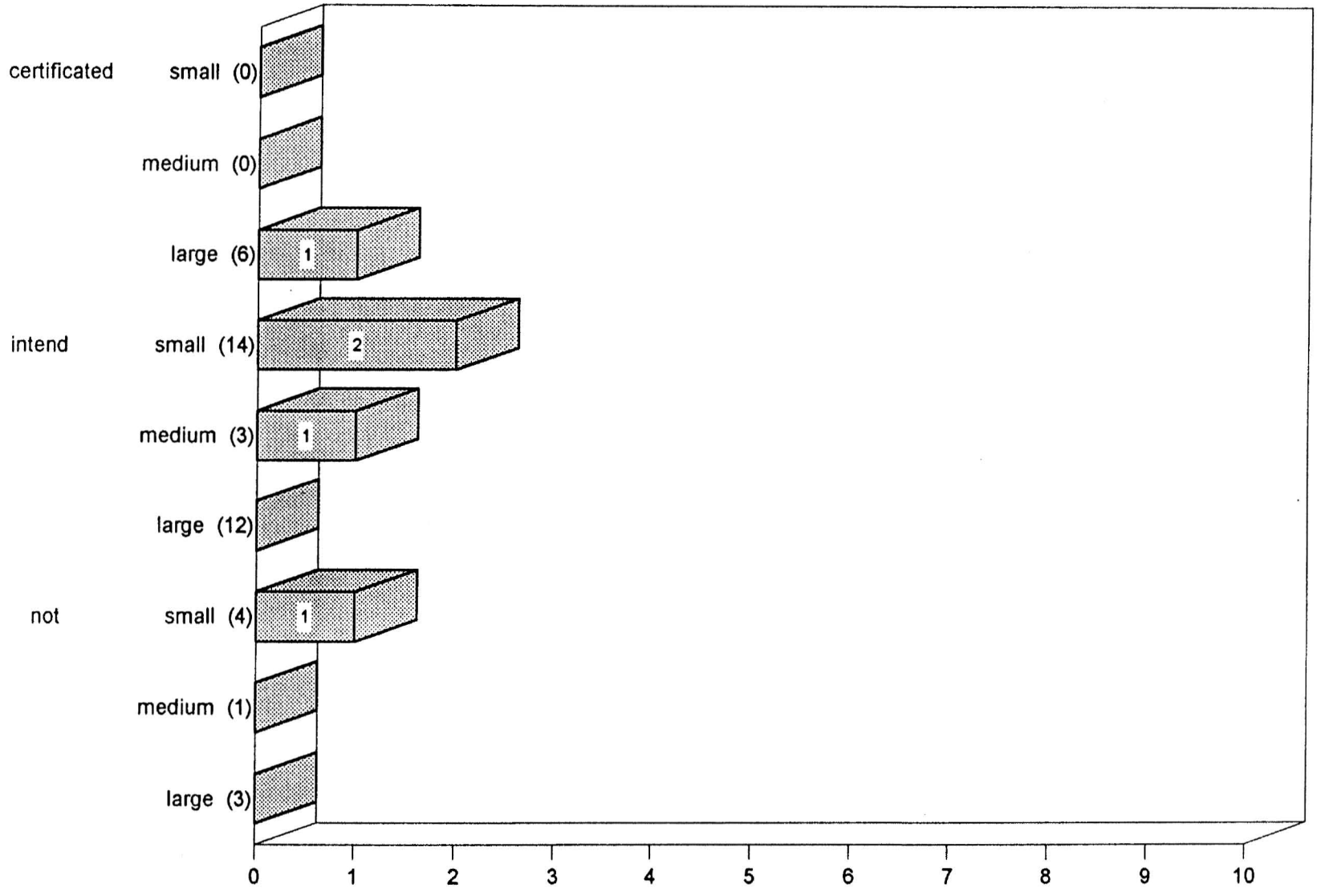
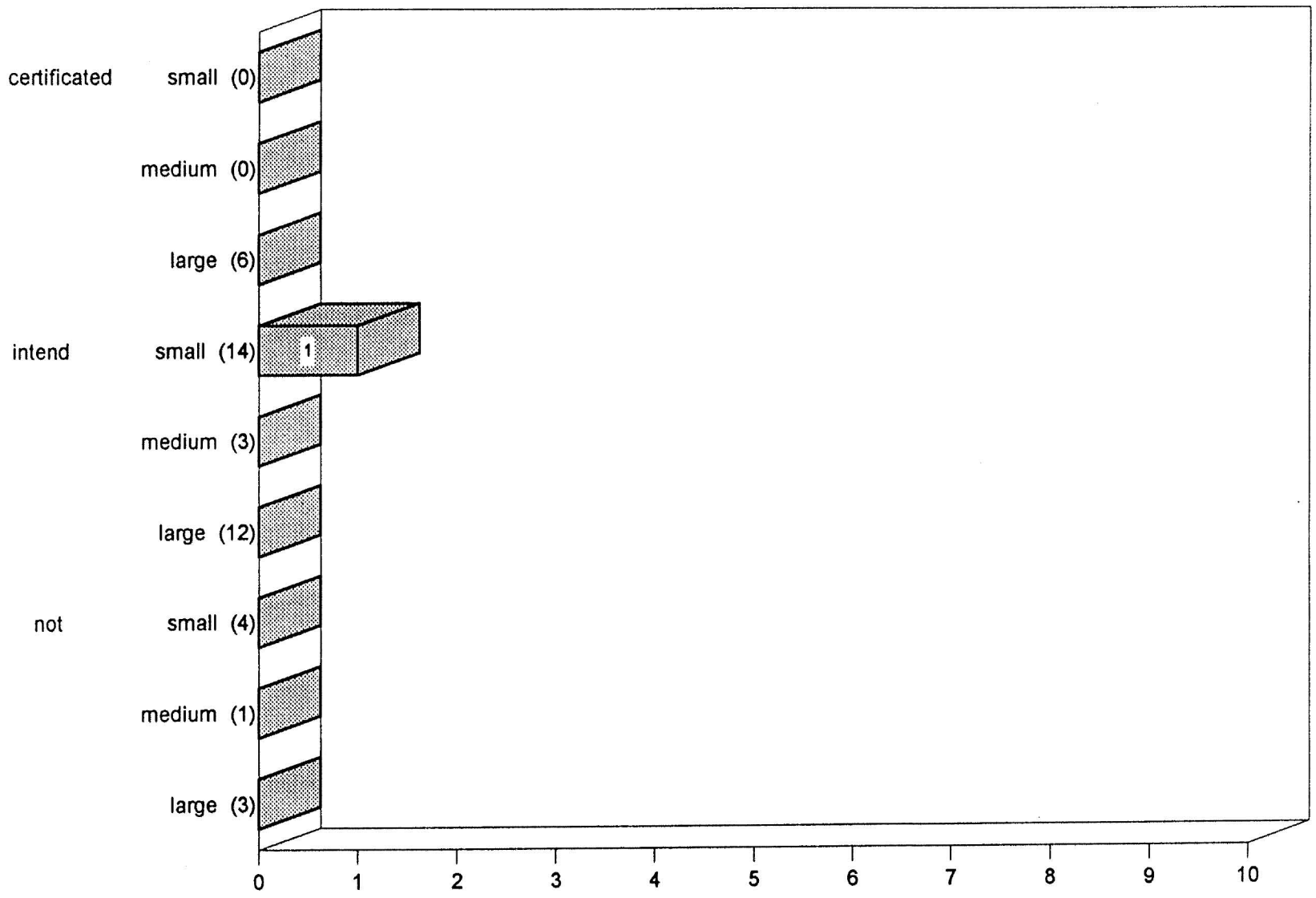
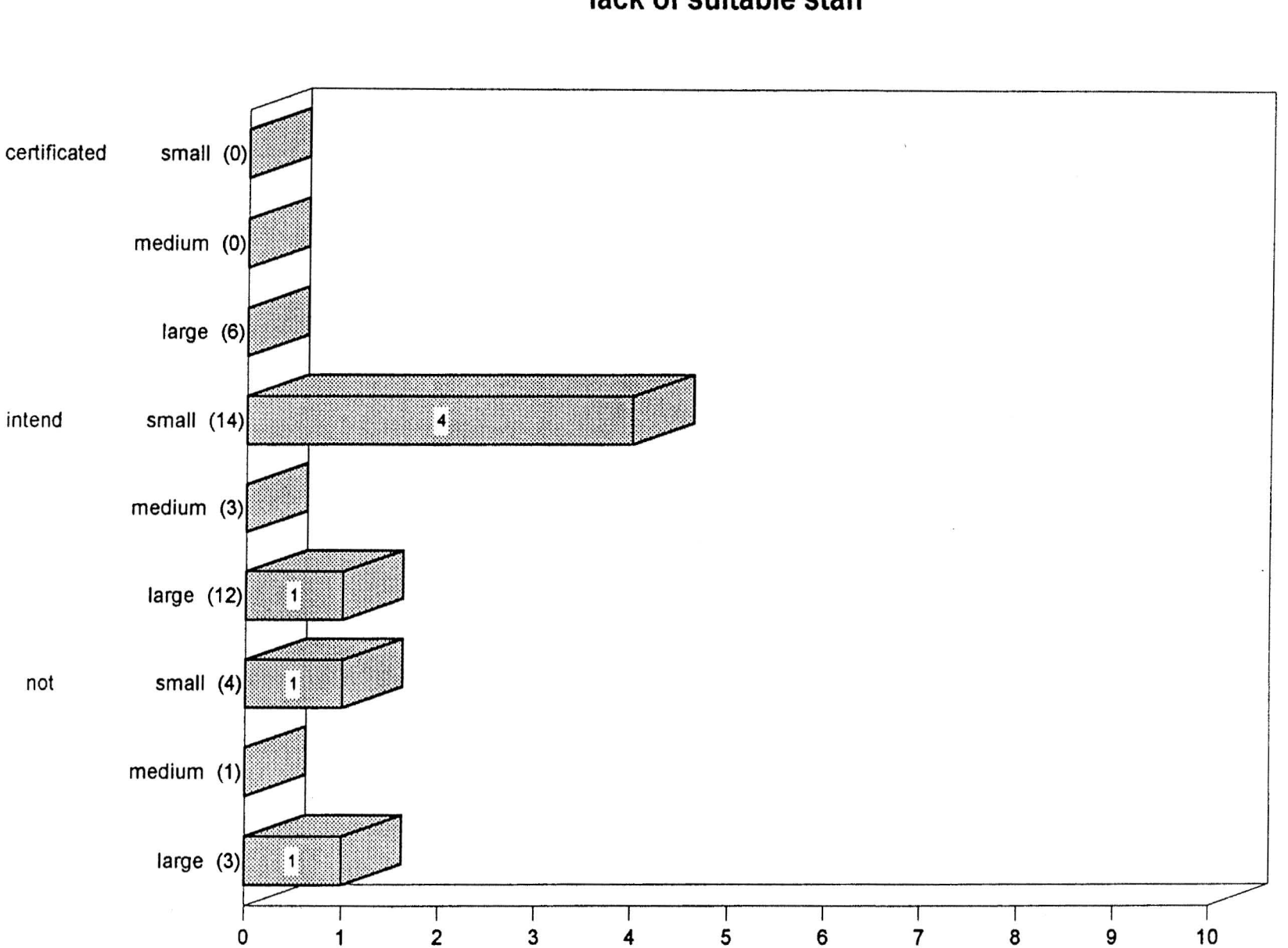
too many external influences during certification



too serious internal changes




lack of suitable staff
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small (0)
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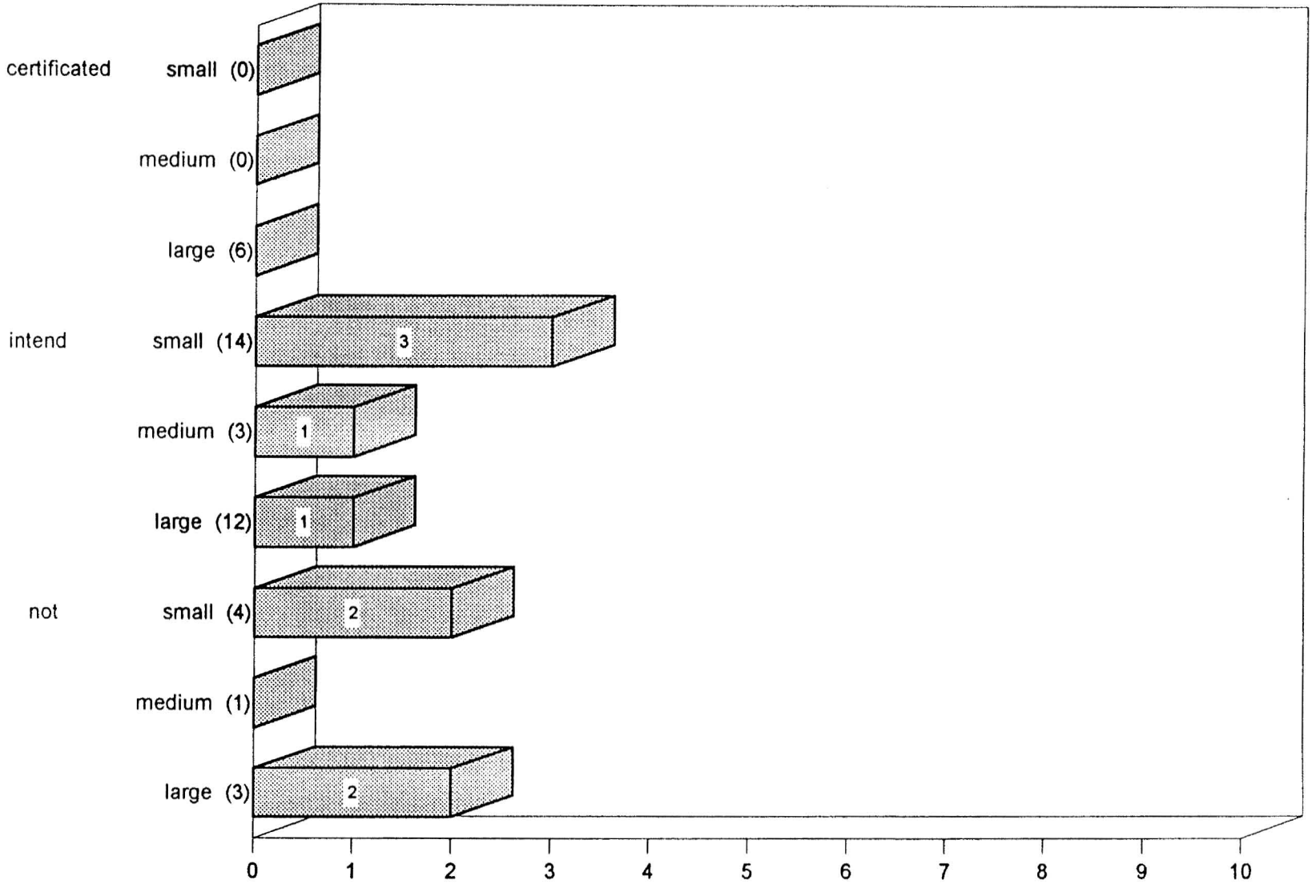
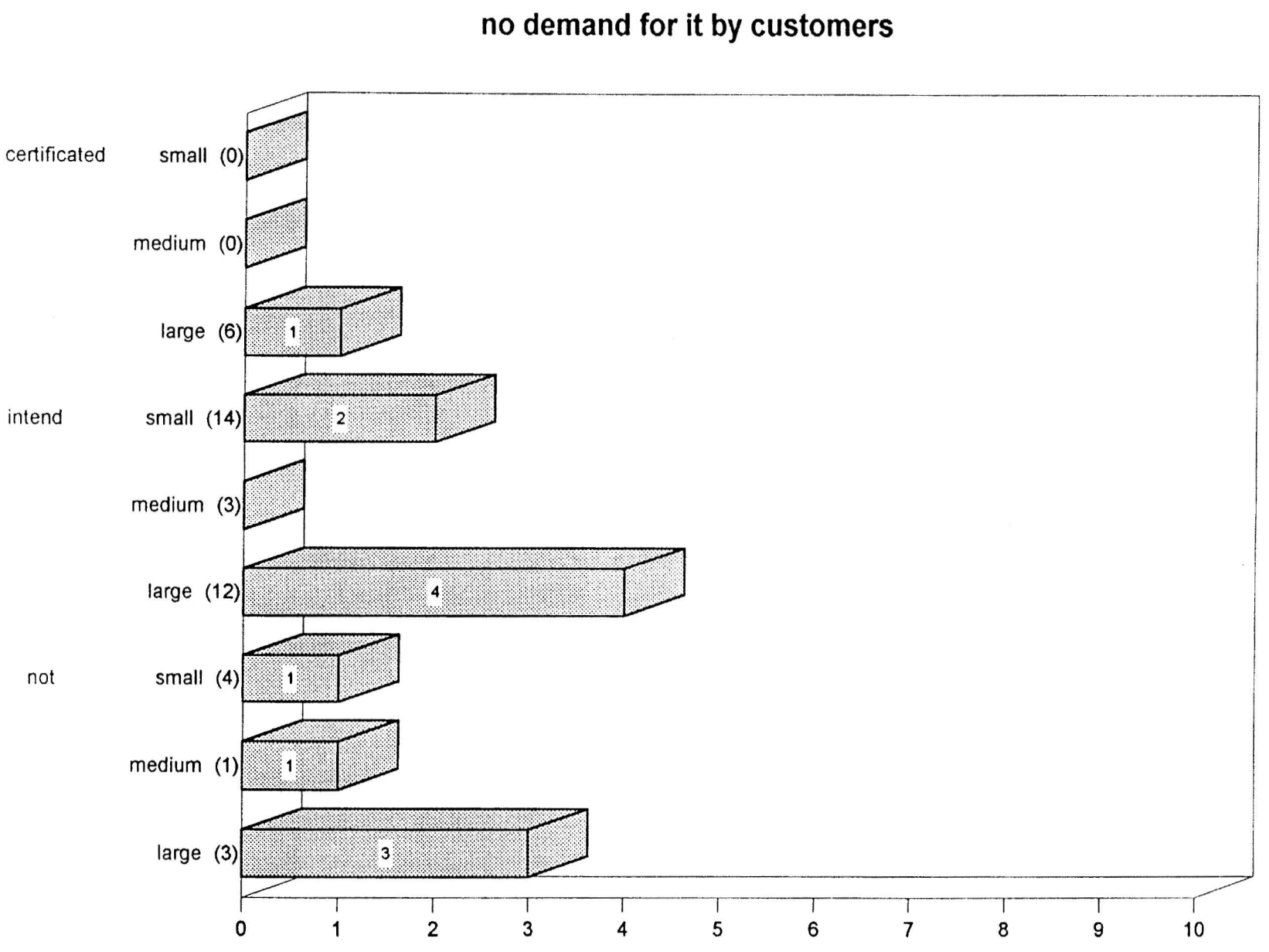
sufficient own internal quality assurance system




no demand for it by customers
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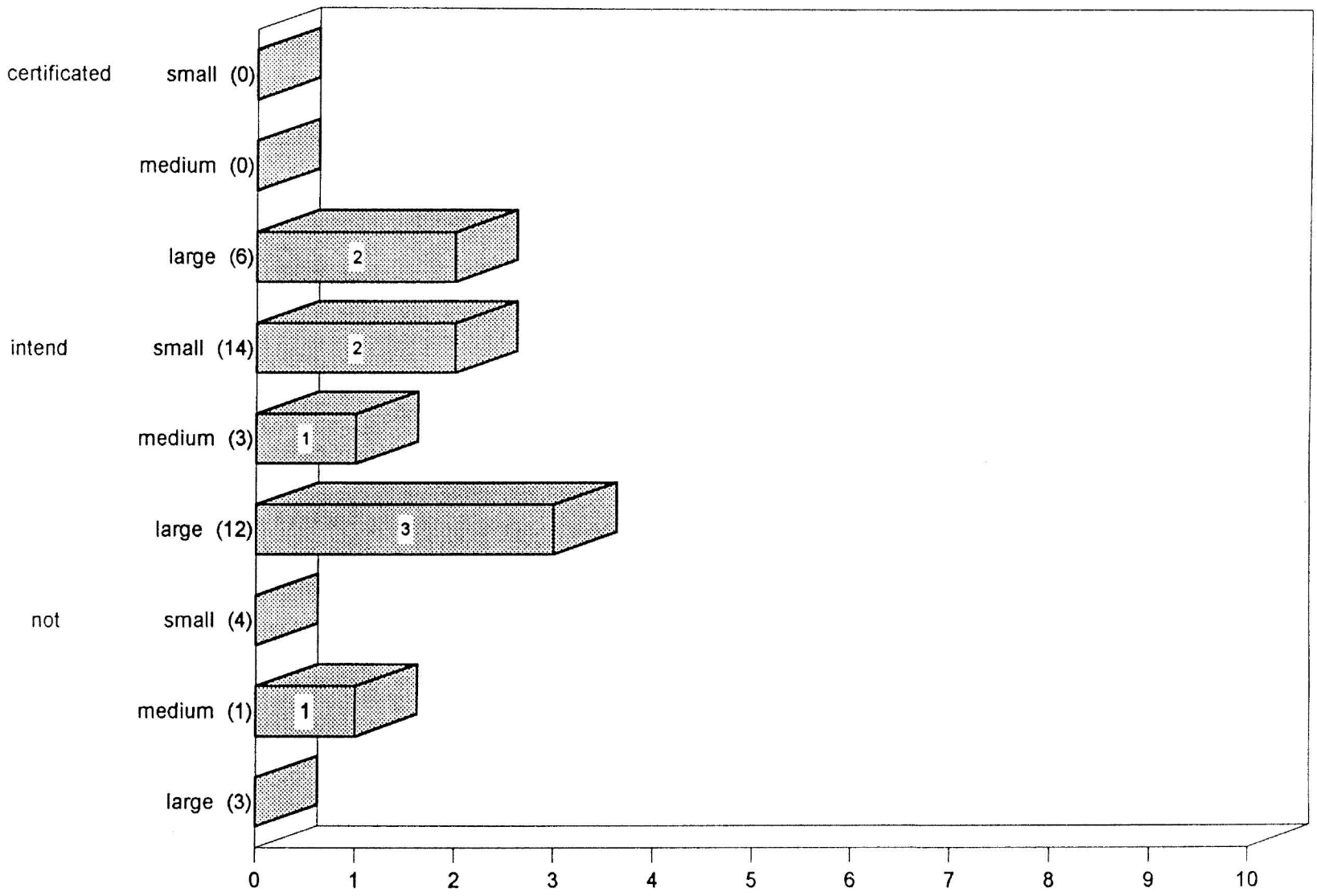
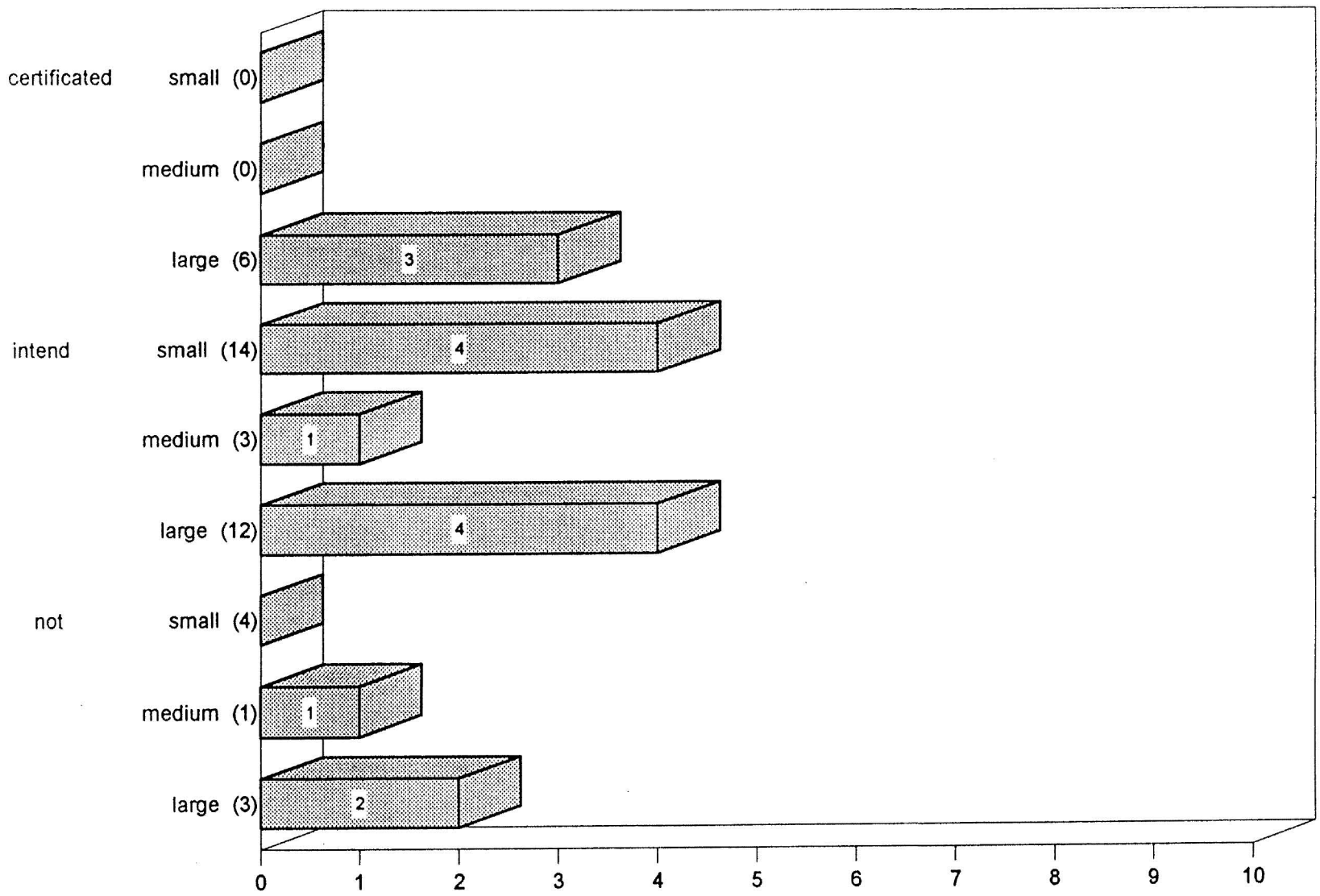
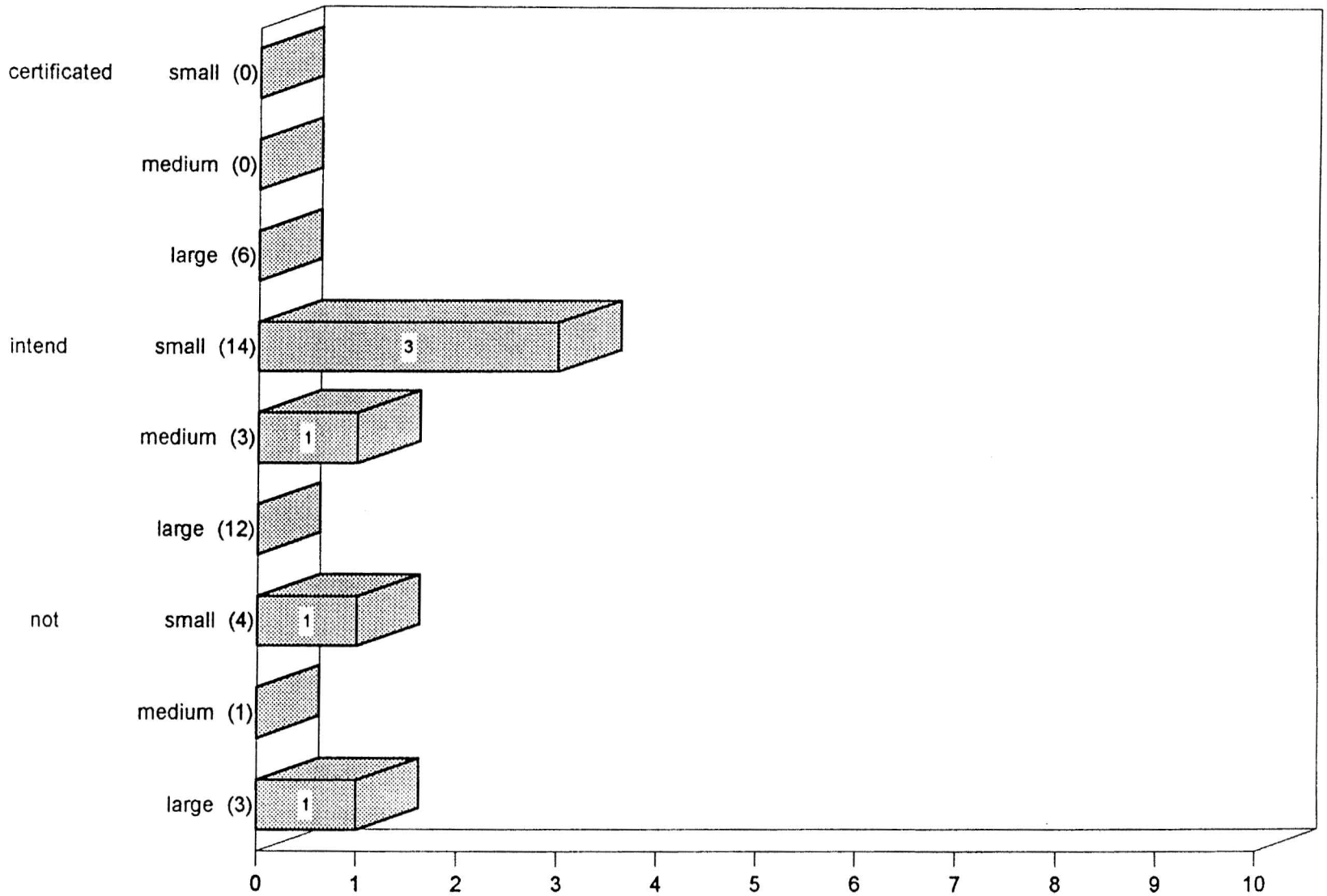
different certification executions in the single countries



certification inflation to reach international competitive advantages



till now we didn't think about ISO 9000 intensively



VI. Summary, Conclusions, Recommendations

Summary:

- The actual number of certified woodworking companies in France, Germany
- and Italy (and also in other countries) is low.
- About 30% of the companies in the study are presently in the process of
- ISO 9000 certification, nearly all for ISO 9001.
- About another 50% of the companies in the study intend to be certified in the next two to three years.
- The main incentives and expected benefits by a certification are internal improvements:
  - enforcing quality behavior of employees and increasing company identification
  - reducing costs of production and customer claims.
- External effects are also expected:
  - better company image and meeting customer expectation and demand
  - competitive advantages and market share extension.
- It was stated frequently that certified companies will look for certified suppliers to simplify their own quality problems by using supplied quality material and components in their quality production systems.
- Certified European competitors on the European supply market will have competitive advantages against uncertified overseas suppliers.

Conclusions:

The main result of the study suggests that, regardless of the export situation, it is worthwhile to improve the company internal quality system. It seems that the rising popularity of ISO 9000 is kind of a vehicle which makes companies aware of the internal improvement potentials.
Progressive companies take this opportunity to gain internal and external benefits.

Recommendation:

In every respect, it is recommended for the Canadian woodworking industry to avoid the past reluctant ISO 9000 certification behavior of the European wood industry and to keep up with the expected accelerated quality rush in Europe.

"Status of ISO-9000 Accreditation In The Wood Products and Forestry Sectors In the Scandinavian Countries"

Professor Rolf Birkeland
Oslo, Norway

INTRODUCTION

This paper was prepared according to the contract outlined by Industry Canada.

Scandinavia is, in this context, defined as Finland, Norway and Sweden.

The products to be studied are:

- Softwood lumber
- Panel products such as raw particleboard and veneer
- Manufactured wooden components for windows and doors.
- In addition, the paper is to give a short concise report on the status of eco-auditing and eco-labeling in the Scandinavian forestry sector.

The author has tried to get as up-to-date statistics as possible. Because of the economic recession of the last two-three years, many firms have been forced out of business, and many new alliances have been established. These events are so recent that the national statistics have not caught up with them. Several of the traditionally dependable sources, the trade organizations, have experienced turmoil. In the secondary wood manufacturing industries, especially, the membership may not necessarily represent the majority of the companies that are still active. Some uncertainty may thus pertain to some of the trade descriptions.

The figures and data with respect to ISO-9000 certificates in the wood industries are up-to-date. Certification may however, occur any time, and some companies may have been certified since the completion of this research. Some companies may also have been certified by a certification body resident in another country. The numbers presented for the different wood industries being certified in the respective countries were correct as of March 20, 1994.

The data collected is based on documentation, wherever possible, formal interviews and more personal discussions with relevant persons.

THE COUNTRIES, THEIR FORESTRY AND WOOD INDUSTRIES

Finland, Norway and Sweden together cover an area of 1,147,588 km^2. All three countries have considerable land areas north of the Polar Circle, and they share the western part of the boreal coniferous forests, stretching from the Atlantic Ocean continuing through Russia and Siberia. Main forestry species are:
Pine (Pinus sylvestris), Spruce (Picea abies), Birch (Betula pubescens & Betula verrucosa), and Aspen (Populus tremula).

The three countries together have a population of appx. 19,000,000.

Some key figures about the respective countries are as follows:

Population	Area km^2	Forested area km^2	Forest-ownership Private	Corporate	Comm.	Annual incr.km^2
Finland						
5,000,000	337,000	201,000	64%	8%	28%	75,000,000
Norway						
4,325,000	323,600	67,000	77%	10%	13%	14,000,000
Sweden						
8,700,000	486,700	236,000	50%	23%	27%	102,000,000

Forest mass is increasing rather rapidly in all three countries. In 1988 the estimated forest mass was 5,050,000,000 m^3 and, before the year 2000, the estimate is that it will be at least 5,700,000,000 m^3. (1)

- **Lumber industry**

Production of sawn wood in 1990 (before the recession started) was (m^3):

	Finland	**Norway**	**Sweden**	**Total**
Coniferous species:	7,400,000	2,400,000	11,785,000	21,585,000
Deciduous species:	70,000	11,000	207,000	288,000

Number of sawmills in the three countries in 1990 was as shown (1):

Capacity/year (m^3 lumber production)	Finland	Norway	Sweden	Total
< 1,000	6,000	293	2,012	8.305
1,001 - 5,000	20	45	211	276
5,001 - 10,000	19	27	60	106
10,001- 25,000	29	42	110	1811
25,001- 50,000	53	14	88	155
50,001 -100,000	27	9	40	76
> 100,001	25	2	22	49
Total	**6,175**	**432**	**2,543**	**9,150**

The home market consumption of lumber in all three countries was, up to 1990-91, about 0.5 m^3 per capita (total home market consumption thus about 10,000,000 m^3). Since then, however, the building activity in all three countries has gone down considerably. Large fluctuations have occurred in production and exports. Total production declined some in 1991, 1992 and 1993, it now seems to be on the increase, mainly due to increasing exports. Total production is still not quite up to the previous level (1990) but may exceed the 1990 figures during the year 1994.

The larger the company, the more it exports. Main export markets are Germany, Great Britain, Holland, Denmark, France, Italy, the Iberian Peninsula, and miscellaneous other countries.

There is an increasing market interest in Japan and the United States of America for lumber from the three countries The actual volume exported to these countries is still modest, however.

- Particleboard industry

The particleboard industry is important in Scandinavia. Most of the production is consumed within the countries themselves. The industry has suffered and is suffering considerably. During the present recession, several smaller plants have been closed down, and several manufacturing units have quite recently changed owners.

The 1991 statistics:

	Finland	Norway	Sweden
Number of plants:	6	4	8
Production 1000 m^3	385	324	762
Sales to retail market ,%:	44	48.6	43
Sales to industry, %:	22	10	34
Export, %:	34	41.4	23
Industrial usage - building, %:	55	70	34
Industrial usage - furniture, %:	45	30	65

- **Plywood Industry**

Plywood production may be termed a Finnish specialty with 22 manufacturing units producing 462,000 m^3 (1992). One corporation owns several of the production units and dominates the production. In 1992, the Finnish plywood export made up 375,000 m^3 or 81% of the production (2). The main export markets for the Finnish plywood industry were Germany, Sweden, Great Britain, the Netherlands and France. In 1992 the Swedish plywood industry (5 production units) produced approximately 55,000 m^3 of which 20,000 m^3 (36,4 %) was exported. The same year, Sweden imported 110,000 m^3 (3)! In Norway, plywood is produced in one small company, having an annual production of about 7,000 m^3.

- **Furniture Industry**

The furniture industry is important in all three countries. The main bulk of furniture is based on wood or wood based materials (particleboard and MDF). On an average basis the production units are larger in Finland and Sweden than in Norway. In 1990, Finland, Norway and Sweden exported about 16%, 17%, and 36% respectively.

Since then, home markets have declined, and fluctuations in production, employment, and number of companies traded or going out of business have increased.

The degree to which the companies are members of trade associations differs as well. Since most trade associations will quote only figures related to their own membership, it is rather difficult to build up up-to-date and reliable statistics. According to (1) the main figures for the furniture industry in 1990 were:

	Finland	Norway	Sweden
Production value, millions USD:	1,170	910	850
Number of enterprises	350	295	500

In 1990, the distribution of companies in Finland according to the number of employees were as follows (based on private correspondence with representative of trade association):

Number of employees	1-10	11-30	31-100	101	Total
Number of companies	300	80	40	10	430

The data from UEA (Union Europeanne de l'Ameublement) for 1992 [quoted in (4)] counting furniture industries employing more than 20 persons give the following figures:

	Finland	**Norway**	**Sweden**
Number of enterprises	92	181	55
Employment	7,000	4,981	10,100
Production (million DM)	965	1171	913
Balance of trade	+ 14	-480	+260

Since then, rather strong changes have occurred. One of the world's largest furniture retail systems is Swedish based and has many subcontractors in Sweden. This large retail system suffered setbacks in sales during 1992. As a result, more than 50 of the ~300 Swedish subcontractors were terminated during the beginning of 1993, and several companies went bankrupt. (3)

More and more the furniture trade is dominated by retail chains. These, very often, do their own design and product development, and the manufacturers are rapidly becoming subcontractors.

Apparently, production of components and glued up stock for furniture and other secondary wood manufacturing have been growing rapidly in the last years. With a few exceptions, most of the producers are either subsidiaries of sawmills or rather small companies. The Finnish and Swedish producers of components and glued up stock are fairly active on the export markets - Denmark, Germany, Norway and Great Britain being important markets. Statistically, the group is very difficult to single out and, numbers with what is regarded as 'sufficient reliability' have not become available.

Windows, Doors, Kitchen Cabinets etc.

Highly dependent on the building activity, and thus the economic conditions in a country, are the industries producing windows, doors, staircases, kitchen cabinets, and similar type of products. In Scandinavia, the decline in house construction activities has had severe effects on these industries. Many companies have gone out of business and many more have had to be refinanced; others have cut back on employment and try to weather it out. To some extent, repair work, rebuilding, and similar activities have increased, but in no way has that been a compensation for the decline in the main market. Export activities have increased, and a growing number of companies are trying to increase their export share. Based on interviews and correspondence with representatives of the producer associations and other relevant sources, the following picture has been put together.

	Finland	Norway	Sweden
Number of companies (1991)	720	399	2,000
Present in trade association	170	250	

In Finland about 400 companies are reported to have faded out since 1991.

Employment, total	3-4,000 (?)	4,400	500-8,000

In all three countries, we find a small number of fairly large companies and many very small ones. It is a growing tendency that several small and medium-sized companies join forces and organize marketing and sometimes product development units.

ISO REGISTERED COMPANIES IN SCANDINAVIA

In each of the three countries, several certification organizations are active. We also find organizations for technical accreditation of laboratories and certification organizations. We do not, however, find anyone that will keep count and keep a record of those companies being certified. To get reliable numbers, one must contact all possible certification organizations. In Sweden, a publishing house has printed a list of companies certified under ISO 9000 (5) as of September 29, 1993.

The most active certification organizations in the respective countries are:

- **Finnish Certification Organizations:**
  Lloyd's Register
  Bureau Veritas Quality International
  SFS Certified Quality System
  Det norske Veritas

- **Norwegian Certification Organizations**
  Det norske Veritas
  Norwegian Certification Systems
  Gríner Certification AS
  Dovre Certification AS
  Teknologisk Institutt Sertifisering

- **Swedish Certification Organizations:**
  Bureau Veritas Quality International
  Det norske Veritas
  SIS Certificering Kvalitetssystem
  SEMKO AB
  SFK Certifiering AB
  Lloyd's Register

Active in Norway and Sweden (at least) is also (BSI) British Standard Institution, Quality Assurance Dept.

Any company may, if it so wishes, acquire a certificate from a certification organization in any country.

Much publicity has been given ISO standardization. More and more frequently, trade magazines and trade organizations have published information about the ISO-9000 standards, and meetings and discussions have been devoted to the subject.

At present (mid-March 1994), more than 500 Swedish, more than 400 Norwegian, and more than 400 Finnish companies of all categories and branches are believed to have been certified under ISO-9000.

Wood Industries Certified Under ISO-9000

Based on the lists and the interviews I have undertaken in the three countries the following wood industries have been certified to date:

	Finland	**Norway**	**Sweden**
Sawmills	4	6	1
Particleboard		1	
Plywood	3		
Furniture	1	1	1
Windows, doors etc.	1	6	1
Parquet	1	1	
Miscellaneous			1

My information from several references in all three countries indicates that many companies are engaged in trying to develop the internal procedures and systems necessary to become certified under one of the ISO standards.

As far as I am able to judge, many of the certificates (all the ones in the sawmilling industry, the three Finnish plywood mills and two door manufacturers, one in Sweden and one in Norway, have been issued to companies being subsidiaries of larger corporations, some of which have their financial interests in the pulp and paper industries. The pulp and paper oriented corporations have most, if not all, of their pulp and paper operations already certified under one of the ISO-9000 standards.

Of the rather many window manufacturers in Norway having been certified (5), one is the largest window producer in the country and very much export oriented (main market is Great Britain), while three other, smaller ones, formed a cooperative export oriented group.

Reasons for ISO Accreditation

Many of those companies take part in discussions, working groups, and study groups which are focused on how to introduce and develop ISO-9000 quality assurance systems in the organization. (In Norway, we have at present at least one hundred companies in the wood industries engaged in such activities, the numbers are rather high and increasing both in Finland and in Sweden). They see a certificate as a way to promote the company and their products. In other words, the idea of increased market shares is part of the motivation.

It has, however, been stressed many times, both by the propagators of the ISO-9000 benefits and those having been certified, that the main benefits are better motivation throughout the workforce, increased quality, less waste, better company image, and less complaints by customers.

Even if the idea of an increased market share is present, hopes and wishes for the benefits just mentioned seem to be prevailing.

Most of the written material issued in Scandinavia, and most of the presentations being given by representatives of companies having been certified, stress the benefits mentioned above (6).

All those I have been in contact with, whether they represent companies already having been certified or companies working to get there have, upon my asking, stated that they would do it again, if they were presented with the possibility.

Reasons for Not Becoming ISO Accredited

In the interviews and discussions I have been through in the last few months, I have not met any producer clearly stating that they are not interested in ISO accreditation. Those I have been in contact with have, on the contrary, been curious about how to get started, what certification organization to approach, how much work it will be, etc.

This does not, however, mean that ISO-9000 is in favour with all those involved in quality management development in Scandinavia. Several publications and articles in various magazines questioning the benefits of ISO-9000 have been published. Some of the teachers at various universities and some experts from quality management promoting consulting agencies have expressed doubts and warnings (7, 8, 9).

It seems, however, that the main reason for the, so far rather slow, propagation of ISO-9000 in the Scandinavian wood industries is that all changes of attitudes will take time. As already stated, many companies are at some stage of developing quality management systems, and as an ideological foundation, they use the ISO-9000 concepts.

STATUS REPORT ON ECO-AUDITS IN THE FORESTRY SECTOR IN SCANDINAVIA

The demand for ECO-auditing is rapidly getting recognized in the forestry sector. At the political level in all three countries (Department of Forestry, Department of Industry, Department of Foreign Affairs, Department of Trade, and Department of Environment), one is closely watching the development with regard to the demand for the forestry and forest industry sector to be able to document that the raw material is taken from a sustainable and ecologically well-maintained forest, and that production is performed without harming the environment, using excessive energy, or tapping resources that should remain untapped.

Rather large information campaigns are under way. The information is directed towards the producers in forestry and forest industries as well as towards the customers and the public (10, 11, 12).

Towards the end of 1993, the forest and forest industry enterprise Domestic Market, owned by the Swedish government until the end of last year, published the result of what they claimed to be the first ecological auditing of a forest enterprise in the world. A successful ECO-auditing survey was reported having taken place at 200 different logging areas in the Stockholm area (13).

The forests of Scandinavia have been logged for centuries. The main part of the forests must be characterized as managed forests, although they are not by any

means plantations. In this century, we have seen a massive forestation and reforestation over most of the area in question. After World War II, use of land changed. Grazing of livestock diminished and because of electrification, the use of firewood also reduced. This has helped because in areas where livestock and gathering of firewood kept the undergrowth down, the young plants now grow untouched.

Changing land use and planned reforestation have given the Scandinavian countries a forest growth probably greater than in any earlier period. Apart from what may be caused by air-carried pollutants coming from further south or east in Europe, the forests are healthy. The annual cut is far below the annual growth. The question of whether the wood material is coming from a sustainable resource is, therefore, easy to answer positively.

As of yet, the issue has been raised only in a few cases when logging of certain areas has been questioned by the "save the environment" movement. Mass media and the general public have not been aroused. The larger exporters are, however, aware of the discussions that may emerge and try to meet the idea positively and with as much objective information as possible.

SUMMARY AND CONCLUSIONS

The main attitude throughout the wood industries in Finland, Norway and Sweden is largely positive. The idea of improving quality management, be it through certification under ISO- 9000 or in any other way, has steadily grown in the last two-three years. The number of certified wood industries is still low, but there are many toiling with the preparations necessary to be accredited. It is interesting to note that several of the larger corporations with their main emphasis on pulp and paper production, after having had those parts certified, push on to have also the wood industry subsidiaries certified under ISO-9000.

All those I have been in contact with, having started the preparations or having been certified, state that they would have done it again, and they recommend others to do it because of the internal benefits. On this basis, I will advice Canadian wood products manufacturers to look closely at ISO-9000 and see it as one way in which they can structure their quality management ability - whether they go all the way to being certified or they stop at some stage where they find that they have achieved something - better internal communication, better self-esteem, clearer responsibilities, or less waste, to mention some.

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"Status of ISO 9000 In The Wood Products and Forestry Sectors In The United Kingdom"

Robert Foster, Chief Assessor
TRADA Certification Ltd.
Buckinghamshire, United Kingdom

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1. SUMMARY OF MAIN FINDINGS

- The UK has the highest number of companies registered to ISO 9000 of any country, both in pure numbers and as a percentage of industry.

- The timber industries are well-represented across all sectors of manufacturing, although forestry and timber agents have yet to show significant involvement.

- Registration is clearly applicable to all company sizes from one to 500+ employees.

- Customer demands and increased quality awareness represent the major reason for companies seeking registration, while external influences are achieving preferred supplier status and having a higher perceived quality.

- Manufacturers' internal influences for seeking registration are broader concepts of quality management, i.e. general awareness and improved management control, whereas reduced wastage and reduced costs are not listed as primary concerns.

- Only one out of 153 registered companies that responded would not advise others to get registered.

- Companies' reasons for not seeking registration are varied but generally reflect the attitude "I haven't tried it, but I know I'm not going to like it."

- Other management systems concerning environmental and ecological aspects are already gaining awareness.

2. INTRODUCTION

The Timber Research and Development Association, or TRADA as it is widely known, is a membership based organization and has carried out tests and issued certificates for wood and wood products for many years. In 1977, it started its involvement in quality assurance by starting a scheme for the visual stress grading of timber which was soon followed by product certification schemes.

After discussions with the government TRADA was advised to set up a company to operate quality assurance schemes, and this was formed in 1987. This company is now known as TRADA Certification and operates all of the quality assurance schemes formerly run by TRADA, as well as, a number of new schemes, in particular the certification of companies whose quality systems satisfy ISO 9000.

The certification of quality systems has been operating in the UK, for many years, from the earlier 1979 version of BS 5750 and the UK Ministry of Defence approval for their suppliers, to the present when BS 5750/ISO 9000 is operated in most industries, including the timber industry.

There are now over 33,000 BS 5750/ISO 9000 registrations in the UK, which represents around 3% of UK industry in total.

The interest in quality systems and certification has been fostered by the UK government by giving financial assistance to companies who develop quality systems and by encouraging specifiers and purchasers, especially government departments, to require their suppliers to be certificated.

3. ISO 9000 REGISTRATIONS IN THE UK

As already mentioned, there are over 33,000 registrations in the UK, which has doubled every two years since 1987 when there were only 3,800 companies registered.

In the UK, the majority of registrations are to ISO 9002 with only a comparatively small number of registrations to ISO 9001. It is known that this difference between he issue of ISO 9001 and ISO 9002 certificates is not the case in Germany and Switzerland, where they have issued many more ISO 9001 than ISO 9002 certificates.

4. BASIS OF SURVEY

In order to carry out the survey in the UK, it was decided to send a questionnaire to all TRADA ordinary members together with timber companies that were already registered with TRADA Certification.

The same questionnaire was sent to all companies and they were asked to complete the relevant sections, which included indicating the various reasons for their views. A copy of the questionnaire is shown in Appendix I and it can be seen that space was available for any comments which did not suit the standard range of answers.

In addition to seeking feedback on ISO 9000, the questionnaire sought to obtain information about the level of interest and knowledge in the UK about developments on environmental matters, as it may effect the UK timber industry.

A total of 200 replies was received, which included a mixture of both companies who were certificated and those who were not and had no intention to do so.

5. SURVEY RESULTS

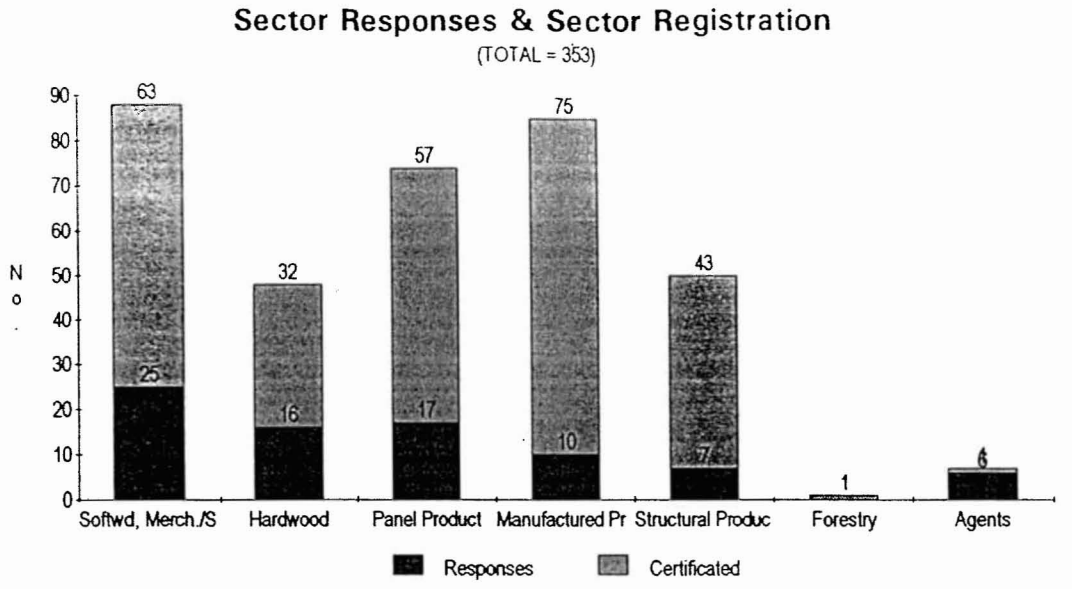
In all instances of the analysis, companies who said that they were preparing to obtain registration have been included as "registered" companies.

5.1 Market Sectors

For the purpose of the survey, companies were asked to indicate their principal business areas, which were then analysed into the sectors with many companies being involved in a number of sectors.

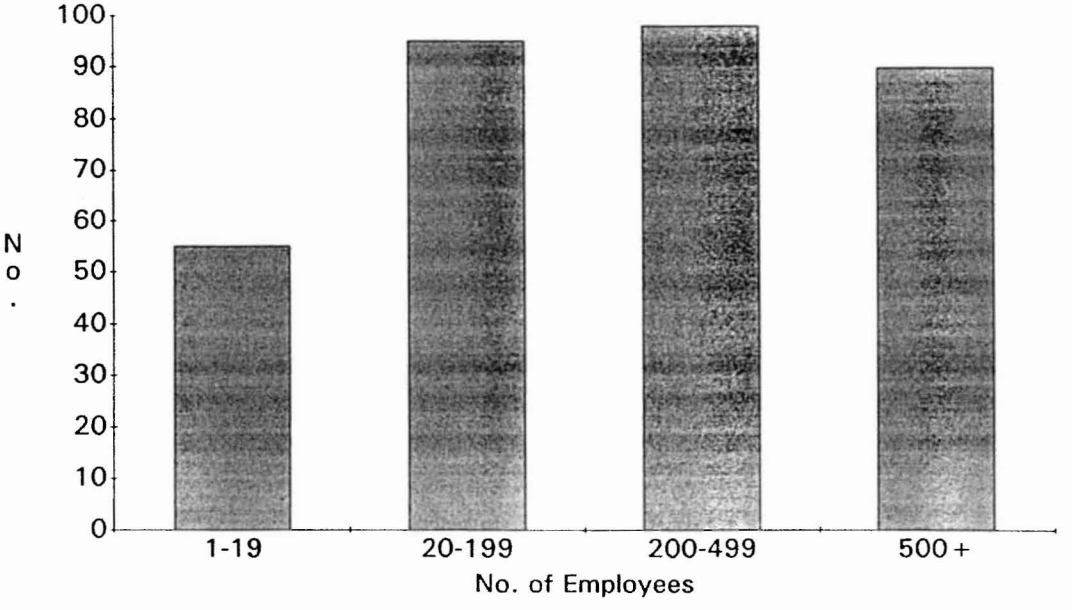
The sector of panel products mainly refers to stockists of panel products with only a few companies involved in their manufacture.

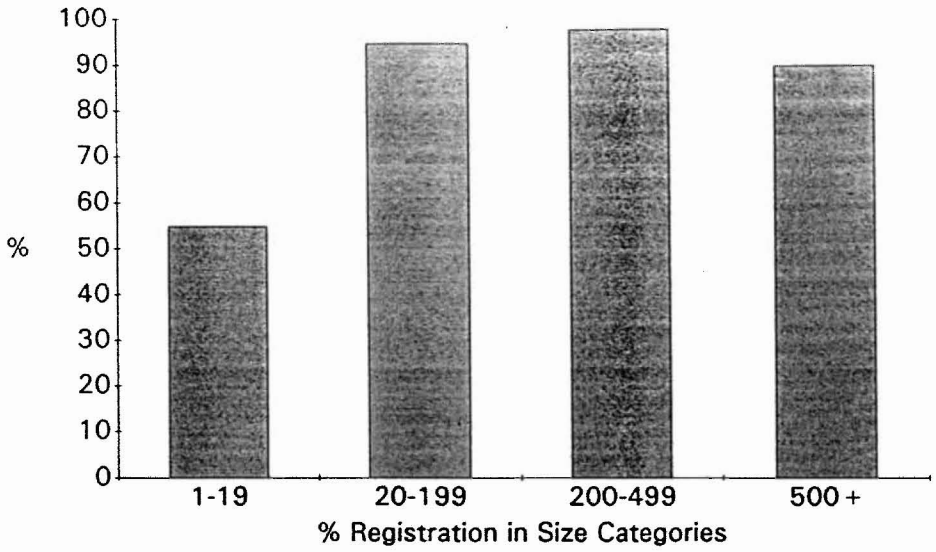
When the responses were analyzed, it was decided to create a separate sector for "agents" to refer to companies who specifically indicated that this was their sector of operation. For this reason, they did not consider it appropriate for them to obtain registration to ISO 9000.



5.2 Company Size

This was analyzed by the number of employees according to the groupings currently in use.





5.3 Registration Status

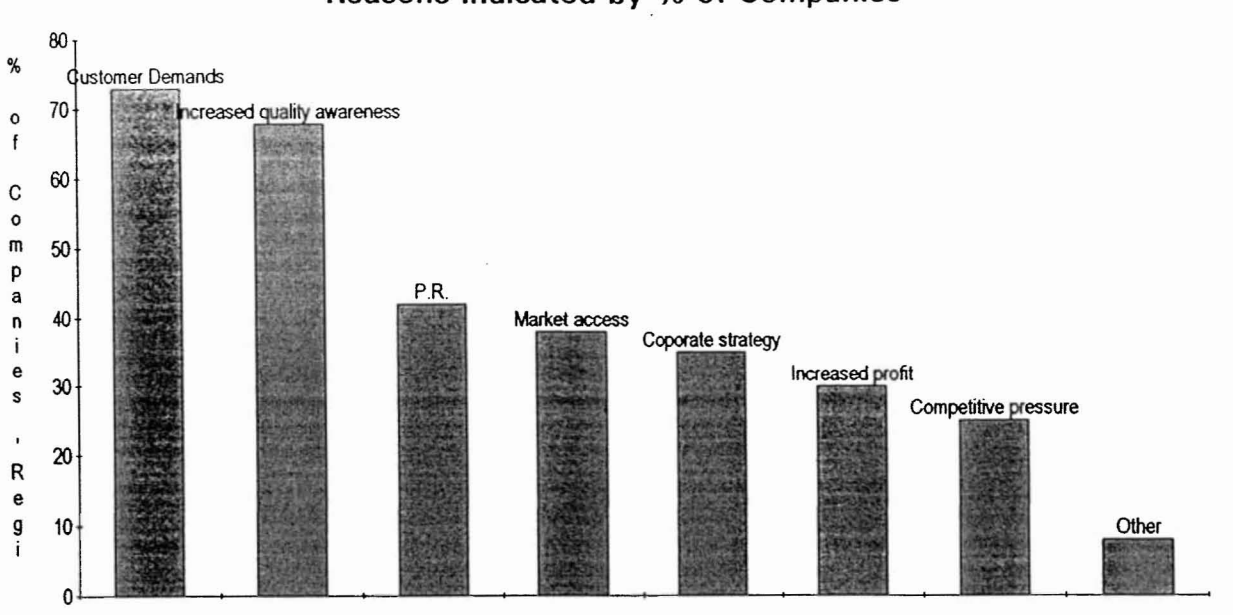
Of the 200 replies, 110 were from companies that were already registered to ISO 9000 while a further 43 were in the process of seeking registration. Only 47, i.e. 24%, were not seeking registration or had decided they were not going to be registered, and of these, 29 were companies with less than 20 employees.

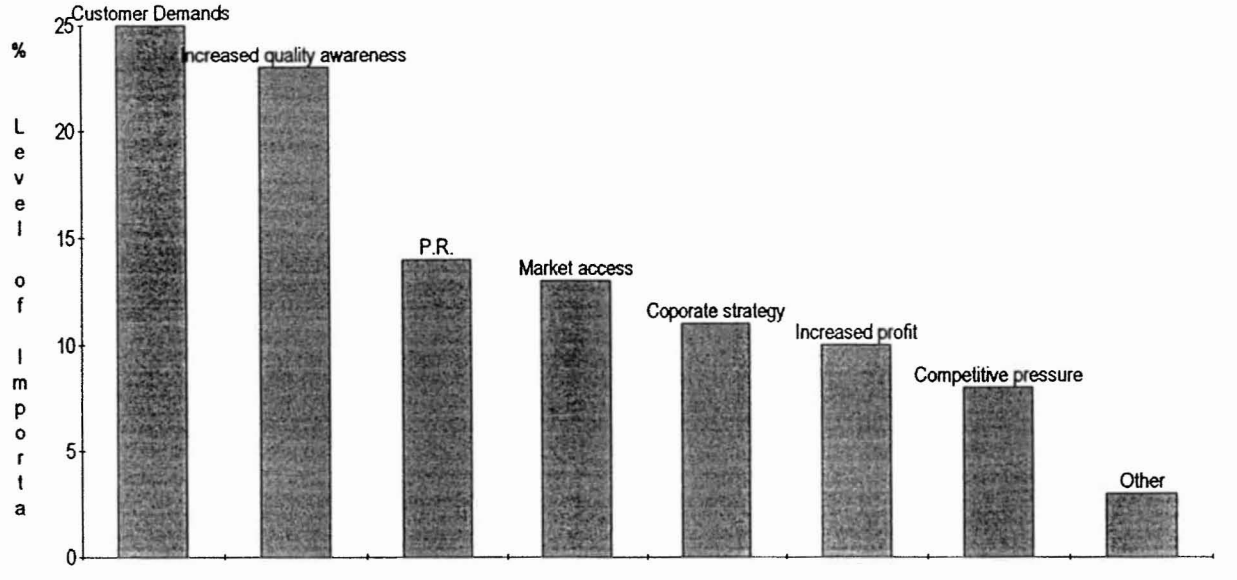
5.4 Reasons for Seeking ISO 9000 Registration

In total, 452 responses were made in this category with the main two reasons given:

Customer demands
Increased quality awareness.

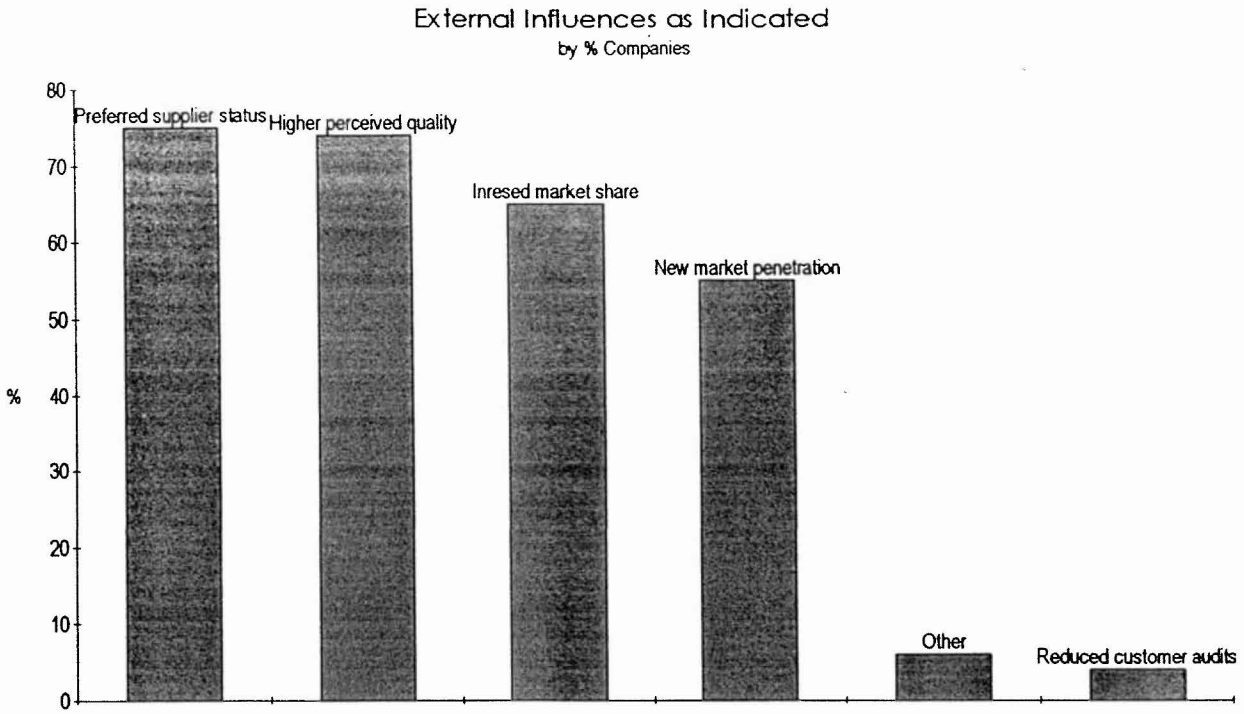
Together these two items accounted for 48% of the responses, and 73% of the companies who gave reasons indicated that customer demands was one of the reasons for their seeking registration.

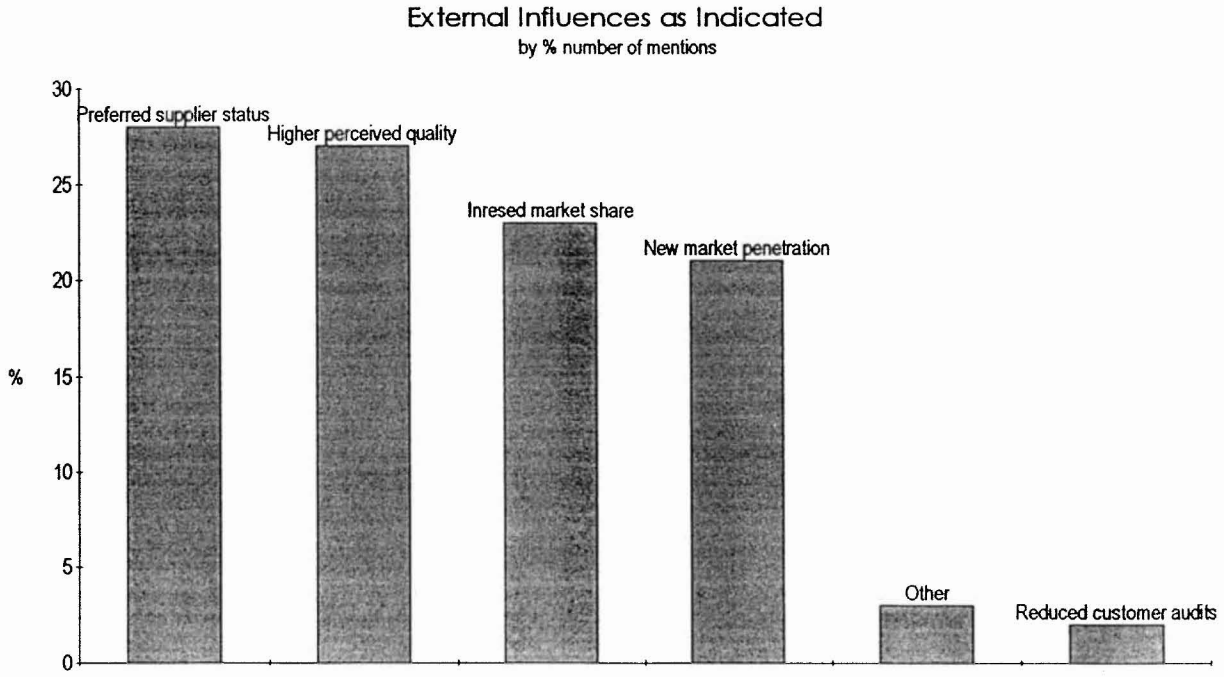




5.5 External Influences

The main external influence towards seeking registration was to obtain preferred supplier status, which reflects the main reason given in the previous element of the survey for seeking registration. However, this was only slightly more important than giving a higher perceived quality to the product.

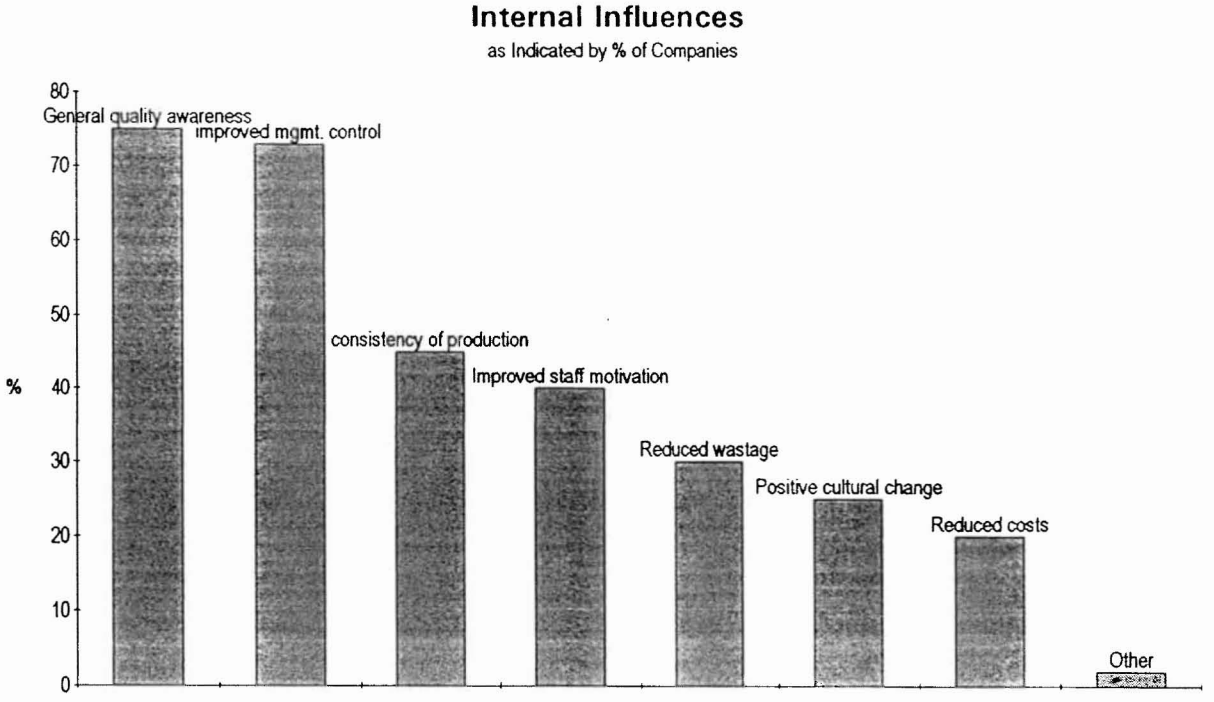


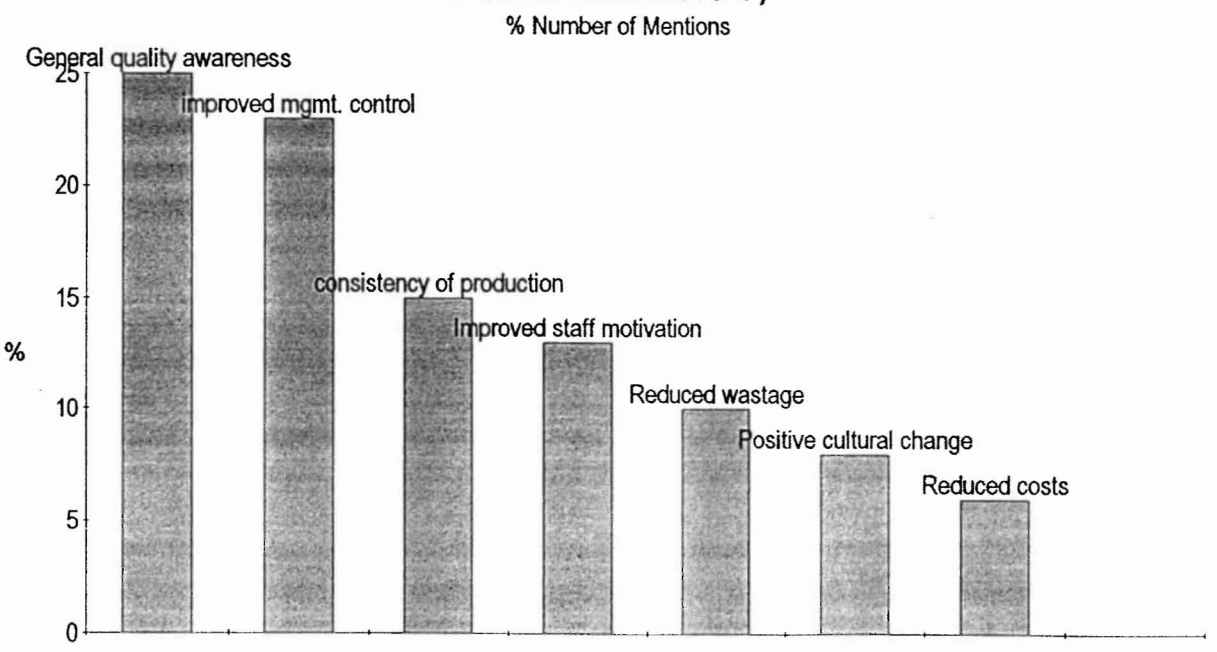


5.6 Internal Influences

The main two internal influences towards seeking registration that were reported were general quality awareness and improved management control. Only 20% of the companies indicated that likely

reduced costs influenced their decision while 39% were seeking improved staff motivation or communication.

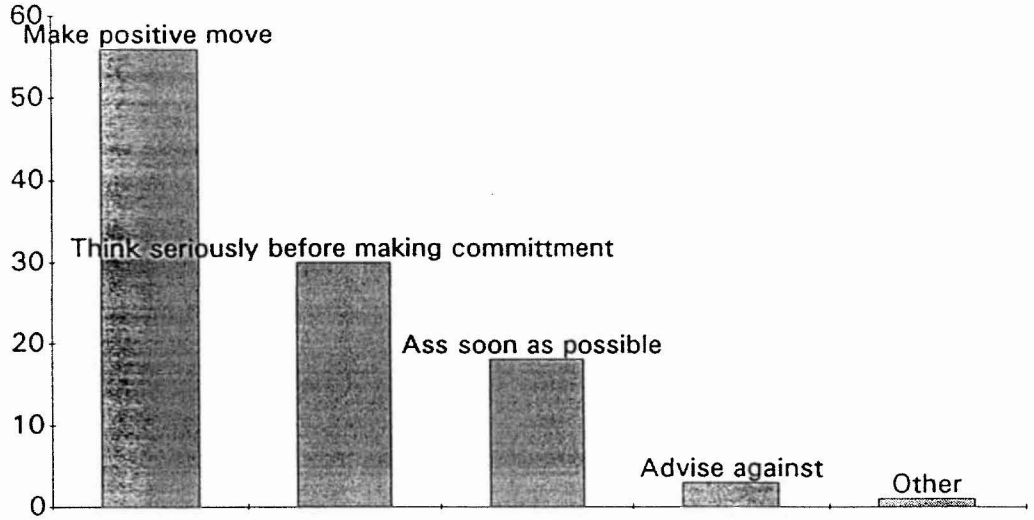




5.7 Recommendations by 'Registered' Companies

Of the 153 registered companies that responded to the questionnaire only one advised against registration and 105 advised either immediate or positive moves towards registration.

Recommendation on Registration

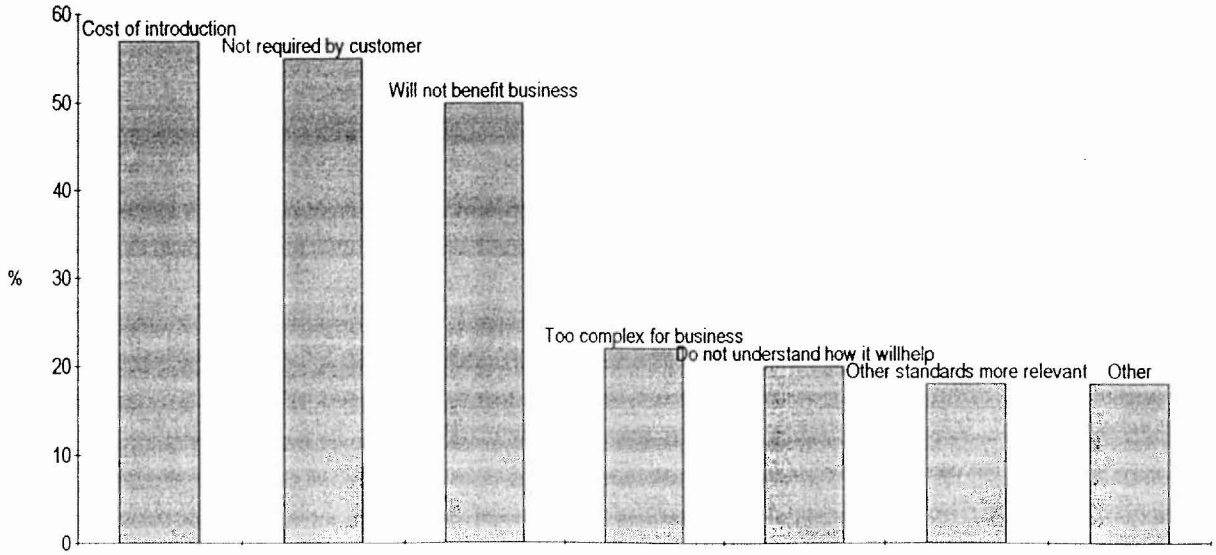


5.8 Reasons for not introducing BS 5750

In total, replies on this question were received from 47 companies and the main two reasons given were the cost of introducing it and because their customers did not require it.

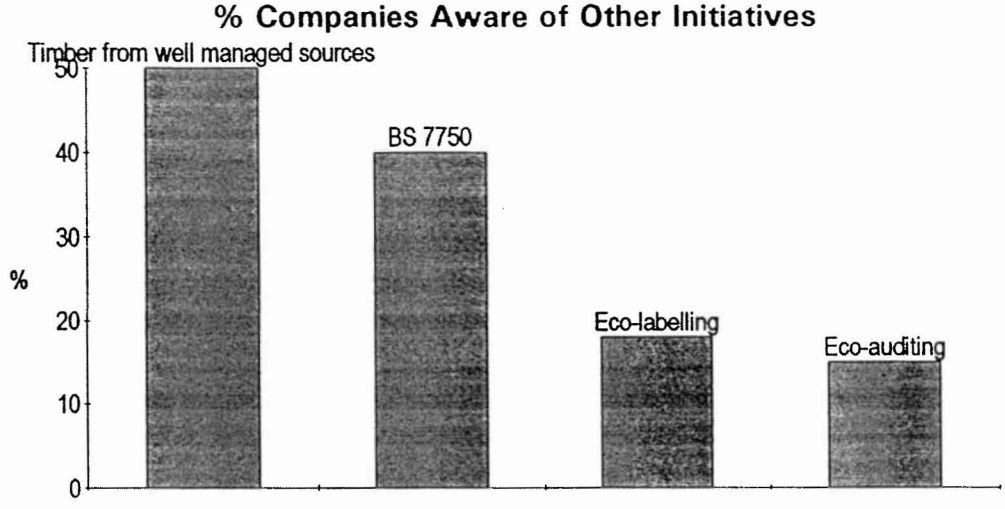
Reasons indicated by % companies in

this category for not introducing BS575



5.9 Awareness of Other Initiatives

Of the initiatives listed, 52% of the companies were aware of the likely affects on timber from well-managed/sustainable sources and 39% were aware of BS 7750, the standard for environmental management systems.



6. OTHER INITIATIVES IN THE UK

In addition to the certification of quality systems, there are two other areas where attention is being directed which are associated with environmental concerns. These are environmental management systems to BS 7750 and the certification of the supply of timber from well-managed/ sustainable sources.

The current position on each is summarized below, together with a few words on the other items mentioned in the survey.

6.1 BS 7750 : Environmental Management Systems

A British standard on this topic was first published in March 1992 and a new revision has just been published.

Following the issue of the standard in 1992, the British Standards Institution (BSI) formed a number of sector groups to consider the first issue of the standard and to advise on changes and whether separate sector application guides were needed. The groups were made up of various environmental experts, trade association representatives, and companies who intended to introduce the system into their operations.

One group was formed for wood products and furniture and TRADA was a member together with six interested companies. The groups made their recommendations to BSI and were formally disbanded.

However, the group for wood products and furniture decided to continue to meet outside the role of BSI and to create a Sector Application Guide for its industry. This document is in its final draft stage and will be available later in 1994.

Most certification bodies decided not to certificate companies for BS 7750 until the revision was published, so there are very few registrations in the UK industry as a whole and none in the wood products area.

Other reasons for certification bodies delaying the issue of BS 7750 certificates were the lack of a mechanism for accreditation of the service and waiting for the views of Europe on environmental certification.

Concerning UK accreditation, the National Accreditation Council for Certification Bodies (NACCB) has recently announced that it will start to consider the accreditation of BS 7750 certification in June of this year.

The current position with BS 7750 is that TRADA Certification has just announced a scheme for certification in this area, making use of the Sector Application Guide, which is being created, and there are a number of companies in the sector which are introducing the system into their operations.

6.2 ECO-AUDITS and ECO-LABELLING

The term Eco-audit is used to refer to the requirements that will be introduced in Europe relating to environmental systems and sites, as opposed to products, where Eco-labelling is used.

A European standard for environmental systems is being discussed, but its creation is likely to take some time. However, countries in Europe are looking at how BS 7750 addresses the various elements.

The European Commission has recently issued a Directive which requires all member countries to introduce a voluntary certification scheme which approves the management system and technical

requirements for individual sites. The date given for this introduction is spring 1995, and the UK government intends the NACCB to act as the approving authority. There have been considerable problems in trying to introduce eco-labelling for selected products, and the only area which could relate to wood products is work on "Building Products" which is being led by Italy. However, eco-labelling could be confused with the issue of the supply of timber from well-managed or sustainable sources which is different and is dealt with in the next section.

6.3 Timber from Well-Managed, Sustainable Sources

There is considerable interest in the UK in this area, although there are various views on the suitability of certification schemes and how they should operate. In addition to TRADA Certification, there are at least two other UK bodies who intend to issue certification in this area to cover the various stages of the supply chain from growing to manufacture.

The schemes being considered by the three bodies are based on general principles and criteria proposed by the Forest Stewardship Council but with different standards being produced for different forest areas and types.

Several large outlets for wood products is bringing pressure to bear on their suppliers to work towards certification of this type. Interest in this form of certification has been shown by companies dealing with the UK softwood plantations, as well as, the more well publicized interest in tropical timbers. It is likely that interest in this area will continue to grow with certification of some sources later in 1994.

TRADA

CERTIFICATION

QUESTIONNAIRE

BS 5750/ISO 9000 AND THE WOOD PRODUCTS AND FORESTRY SECTOR IN THE UK

1. Indicate principal business area/s

- ☐ Softwoods, merchant/sawmiller
- ☐ Hardwood
- ☐ Panel Products
- ☐ Manufactured timber products, windows, doors, etc.
- ☐ Structural timber products
- ☐ Forestry

2. Indicate company size by employees

- ☐ Small 1 - 19
- ☐ Medium 20 - 199
- ☐ Large 200 - 499
- ☐ 500 or more

3. Indicate Quality System Registration status BS 5750-ISO 9000

- ☐ Registered - Certification Body .....
- ☐ Preparing to obtain registration

If either of the above is applicable please continue omitting question no. 8

- ☐ Not yet seeking registration
- ☐ Not going to be registered

If either of the above is applicable please complete questions nos. 8 to 10

4. Indicate 3 reasons for obtaining registration for your company

- ☐ Customer demands and expectations
- ☐ Increased profit potential
- ☐ Market access
- ☐ Corporate strategy
- ☐ Competitive pressure
- ☐ Increased quality awareness
- ☐ Other.....

5. Indicate 3 external influences which contributed to the decision to become registered

- ☐ Increased market share
- ☐ New market penetration
- ☐ Higher perceived quality
- ☐ Reduced customer audits
- ☐ Obtaining preferred supplier status
- ☐ Other.....

6. Indicate 3 internal influences which contributed to the decision to become registered

- ☐ Positive 'cultural' change
- ☐ Improved management control/planning
- ☐ Reduced wastage
- ☐ Reduced costs
- ☐ Consistency of production
- ☐ Improved staff motivation/communication
- ☐ General quality awareness
- ☐ Other.....

7. Indicate what recommendation you would give to a company considering registration

- ☐ Obtain registration as soon as possible
- ☐ Make positive moves towards registration
- ☐ Think seriously before making a commitment
- ☐ Advise against registration
- ☐ Other

8. Indicate 3 reasons shy you do not intend to introduce BS 5750/ISO 9000 in your company

- ☐ My customers do not ask if I am registered
- ☐ I do not think it will benefit my business
- ☐ I can not justify the cost
- ☐ It is too complex for my business
- ☐ Other standards are more relevant to my business
- ☐ I do not understand how registration will help my business
- ☐ Other.....

9. Any other comments regarding quality systems

.....
.....
.....

10. Are you aware of how any of the following will affect your company

- ☐ BS 7750
- ☐ ECO - Auditing
- ☐ ECO - Labelling
- ☐ Timber from well managed/sustainable sources

Name .....

Position .....

Company .....

Address .....

.....

.....

.....

Thank you for taking the time to complete the questionnaire.

All information will be treated in confidence.

Please return to:

R.J. Foster
Chief Assessor
TRADA Certification Ltd.
Stocking Lane
Hughenden Valley
High Wycombe
Bucks HP14 4NR

by March 1994.