TEXTILE INDUSTRY
SUSTAINABILITY FORUM
Implementing Labour Standards in Punjab

Calculating the Return on Prevention for Companies

Costs and Benefits of Investments in Occupational Safety and Health in Pakistan's Textile and Garment Sector

Calculating the Return on Prevention for Companies: Costs and Benefits of Investments in Occupational Safety and Health in Pakistan's Textile and Garment Sector

Final report

A project of the Labour and Human Resource Department, Government of Punjab, HomeNet Pakistan and Bavarian Employers' Association (Bfz)/ESPIRE project, German Social Accident Insurance Institution for the Energy, Textile, Electrical and Media Products Sector (BG ETEM), German Social Accident Insurance (DGUV) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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I. Introduction

Investments in occupational safety and health pay off.

It is obvious that a reduced number of accidents at the workplace and occupational diseases benefit the worker, and every measure taken to prevent them is appropriate to avoid loss in quality of life. The right to life and physical integrity cannot be compromised. For institutions dealing with compensation and rehabilitation, the economic benefits of investments in occupational safety and health are obvious too, and they justify campaigns and the development of occupational safety and health standards and management systems to prevent accidents at the workplace. Calculating the Return on Prevention (ROP) for companies, however, sheds light on the economic benefits for entrepreneurs and looks into the question if there are also economic incentives for them.

Occupational safety and health has been discussed in various contexts – good governance, international trade, and human rights. Since 2014, Pakistan has been granted enhanced access to the European market under the Generalised System of Preferences Plus (GSP+), a preferential trade scheme of the European Union, which offers full removal of tariffs to countries exporting goods to the European Union. For maintaining GSP+ status, the country has to enhance its implementation of labour standards. Although occupational safety and health is not part of the 27 international conventions and agreements that Pakistan has to report on, the country's GSP+ status is jeopardised if a major incident occurs. Labour standards have to be addressed in an integrated approach.

It is also for ethical and social reasons that prevention must effectively reduce the number and severity of those accidents and occupational diseases at the workplace. Poor working conditions put Pakistan's textile and garment industry at risk when competing in the international market. This is especially true when entering European and North American markets, where although margins for producers are higher, buyers consider occupational safety and health and high labour standards as a prerequisite for placing their orders. But there are more reasons to look at occupational safety and health from a microeconomic perspective, also when producing for local or international markets. To illustrate potential economic benefits, the Return on Prevention Study for Pakistan comes into play since it evaluates the impact of occupational safety and health on key performance indicators in a representative number of companies.

The guiding question is whether workplace prevention has a microeconomic effect that benefits a company's bottom line. To study this question, the International Social Security Association (ISSA), the German Social Accident Insurance (DGUV) and the German Social Accident Insurance Institution for the Energy, Textile, Electrical

and Media Products Sectors (BG ETEM) launched a research project in early 2010 called "Calculating the International Return on Prevention for Companies: Costs and Benefits of Investments in Occupational Safety and Health".[1] The study was conducted in 19 countries and 337 participating companies and serves as a methodological basis for the present study in this country.

The main objective of this study is to apply the concept of the initial ROP survey to Pakistan's textile and garment sector by using the same methodologies and techniques. With 57% share of the country's export and more than 8% of its GDP, the textile and garment sector is Pakistan's biggest industry providing employment to 15 million people, almost 40% of the nation's workforce.[2] The significance of the sector justifies an initial follow-on study taking an exclusive look at it. However, the compiled data is directly comparable with the findings at the international level. The study furthermore attempts to look at the informal economy, asking if investments in occupational safety and health pay off for businesses in the informal sector too. As a special very short outlook, the new ISO 45001 standard and its vision for occupational safety and health management systems are presented. Headed by the Labour and Human Resource Department of the Government of Punjab, non-governmental organisations HomeNet Pakistan, and the ESPIRE project funded by the Bavarian Employers' Association (Bfz) gGmbH conducted the survey with the assistance of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The data based on individual assumptions was empirically collected and then statistically evaluated. The resulting values are used to provide basic insights and to compare general trends.

To understand the calculation of potential economic return on occupational safety and health investments, it is necessary to take a peek at the theory of prevention accounting and its quantitative and qualitative dimensions.

[1] Accessible under: http://publikationen.dguv.de/dguv/pdf/10002/23_05_report_2013-en--web-doppelseite.pdf

[2] Most recent data taken from the official website of the Ministry of Textile under: www.textile.gov.pk/

II. Concept

1. Basis

Prevention accounting is used to determine the microeconomic effects of occupational safety and health which have proven to be quite complex. It compares the company's costs and benefits of occupational safety and health and shares as such a certain similarity with a cost-benefit analysis.

A differentiation can be made between direct effects of workplace prevention (e.g. reduction in workplace accidents and occupational illnesses) and indirect ones (e.g. improvements in company image and productivity). They have a qualitative dimension (e.g. rating of the importance of occupational safety and health in a company) and a quantitative one (e.g. reduction in operational disruptions following an accident). Although the costs of workplace prevention are short-term, the benefits often appear over the long-term but are sustainable. As a rule, direct measurement is not possible.

2. Approach and method

Prevention accounting is represented through an economic model. The success of prevention can be defined both qualitatively and quantitatively. The indicator "Return on Prevention" focuses in a quantitatively limited sense on the ratio between the monetary benefits of prevention and the costs of prevention. Thus, it illustrates the potential economic success of workplace prevention. Whether that potential can actually be achieved depends, to a large degree, on market conditions and competitiveness. The Return on Prevention expresses the direction and strength of occupational safety and health effects on helping to achieve company goals. It is a concise indicator of whether, and to what extent, prevention pays off for a company.

The microeconomic effects of occupational safety and health can be measured only indirectly. In empirical social research, the use of standardised interviews is a tried and tested measurement method that is methodologically well-suited to prevention accounting. Companies are asked to (subjectively) rate the qualitative and quantitative effects (including the costs and monetary benefits) of occupational safety and health. As such, only those companies and employees with experience in occupational safety and health (e.g. company owner, controller, safety officer, and work council member) are asked to participate. This positive selection of companies may potentially lead to overestimating the positive effects of occupational safety and health. However, companies and employees that have little experience with workplace prevention are not in a position to make reliable statements regarding the benefits of prevention. In fact, considering the unrealised benefit potential, their ratings of occupational safety and

health benefits would most likely be even higher. As such, the positive selection tends to provide a more conservative estimate.

The questionnaire used (see Appendix) includes both qualitative (Nos. 1 to 5) and quantitative (Nos. 6 to 8) questions. Usually, there are no problems for companies to answer the qualitative questions - estimate costs (Question 6) and name relevant benefit types (Question 8). For Question 7 (estimation of the benefit-cost ratio of occupational safety and health), the interviewer helped by providing further explanation using example proportions.

The monetary value of occupational safety and health costs per employee is directly available for different types of costs; however, the corresponding monetary value for benefits can only be calculated indirectly. This requires two steps. First, the monetary value of total benefits is determined as a product of total costs (sum of costs as per Question 6) and of Return on Prevention (average value as per Question 7). Second, the total benefits are distributed proportionally to each individual benefit type according to their significance (as per Question 8). It would be more accurate to calculate this for each individual company but the general problem of proportional distribution of total benefits would remain. Additionally, missing values would in certain cases prohibit making this type of calculation. Furthermore, prevention accounting is actually a "structural analysis". The exact monetary values are not the key point but rather their magnitudes and relationships to one another.

The data collected from the companies was analysed statistically. The consolidated prevention accounts of the participating countries comprises the mean values of each answer (the top and bottom 5 per cent of cardinal values were excluded). The use of truncated means with cardinal values offers advantages because misleading outliers are not included in calculating the mean.

3. Practical realisation

The interviews were conducted in 2016 in English using the questionnaires of the international study (see Appendix). The interviewers conducted the interviews on-site and attended a workshop beforehand. All the companies participated voluntarily in the project and only if they showed an interest in the subject of occupational safety and health. This proved to be a necessary prerequisite for the interview as it ensured that enough time was allocated for questioning and that the questions were answered seriously. The questionnaires were provided to the companies in advance. The filled-in questionnaires underwent a plausibility check. Any discrepancies were promptly clarified within the project team.

III. Results

On the following pages the qualitative and quantitative results of questioning (prevention accounting in the broader sense) are presented. Each question is followed by a figure showing the results of the question. For comprehension, there is a brief explanation and summary beneath the figure. The monetary prevention balance sheet (prevention accounting in its narrower sense) was calculated, as explained in Chapter II.2., based on the data collected in Questions 6, 7 and 8. The structural data listed below illustrates the scope of the study and select characteristics of the companies interviewed.

Structural data

Number of companies interviewed/datasets: 58

Company Size	Quantity
< 50 employees	7
50-249 employees	13
250-999 employees	20
> 999 employees	14
Not stated	4
Total	58

Sectors	Quantity
Mining	0
Construction	0
Trade	2
Manufacturing	51
Other	5
Not stated	0

Question 1:

How do you rate the relative importance of occupational safety and health within your company?

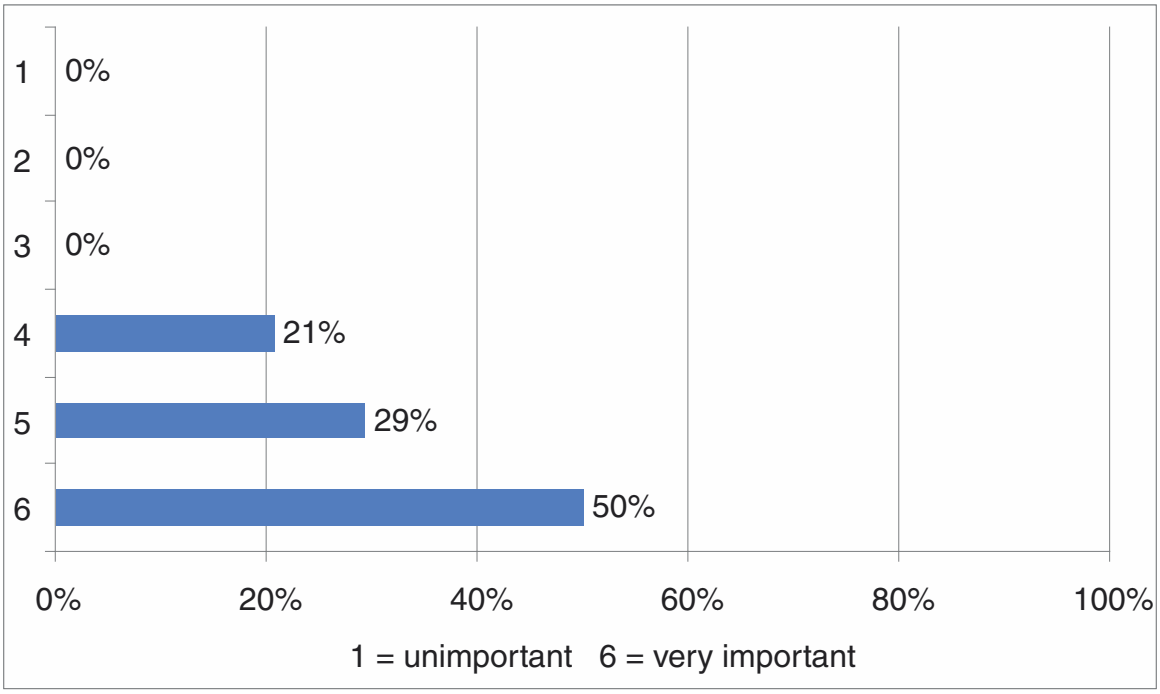

Figure 1:

Relative importance of occupational safety and health within the company

Notes:

- Total answers (n): 58
- Ratings were based on a scale of 1 - "Occupational safety and health is unimportant within the company" to 6 - "Occupational safety and health is very important within the company".

Results:

Occupational safety and health is perceived by all of the interviewed companies as an important issue. Most of them even rated it as very important. The result proves that the companies were positively selected.

Question 2:

How do you rate the impact of occupational safety and health within the following areas of your company?

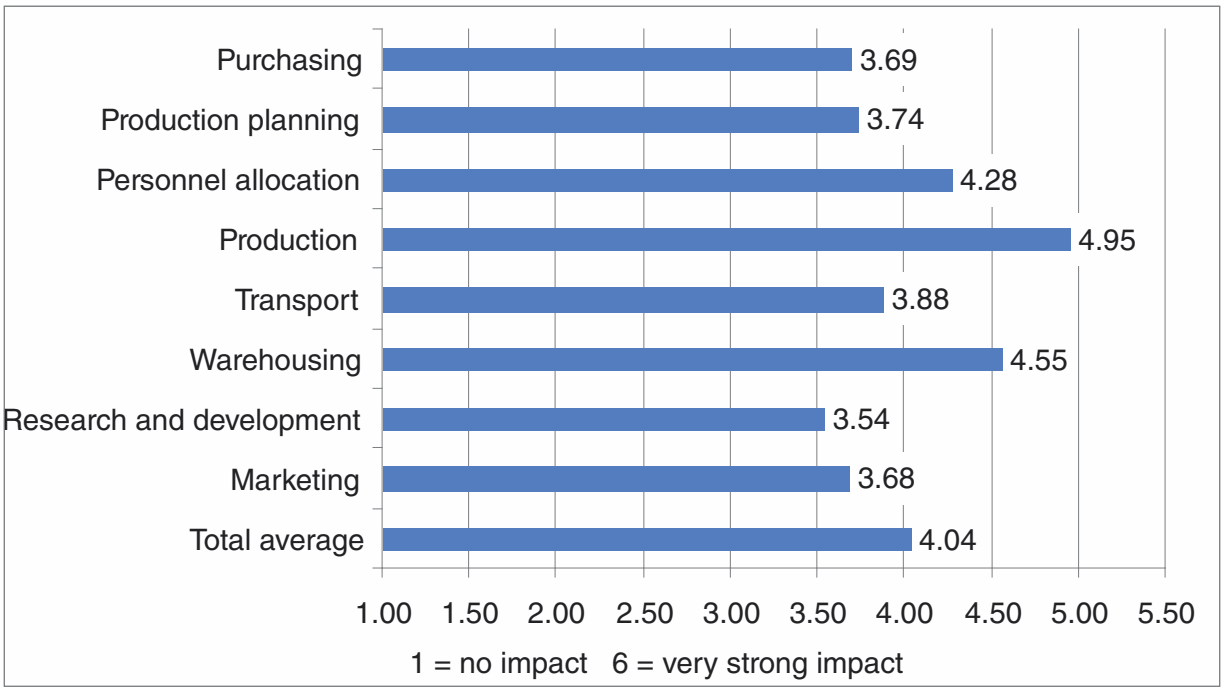

Figure 2:

Impact of occupational safety and health in different company areas

Notes:

- Total answers (n): purchasing (58), production planning (57), personnel allocation (58), production (58), transport (58), warehousing (58), research and development (57), and marketing (56)
- Ratings were based on a scale of 1 - "There is no impact" to 6 - "The impact is very strong".

Results:

Occupational safety and health was rated as having the strongest impact on the following company areas (in order of decreasing impact): production, warehousing, personnel allocation, and transport.

Question 3:

How do you rate the effects of occupational safety and health within your company?

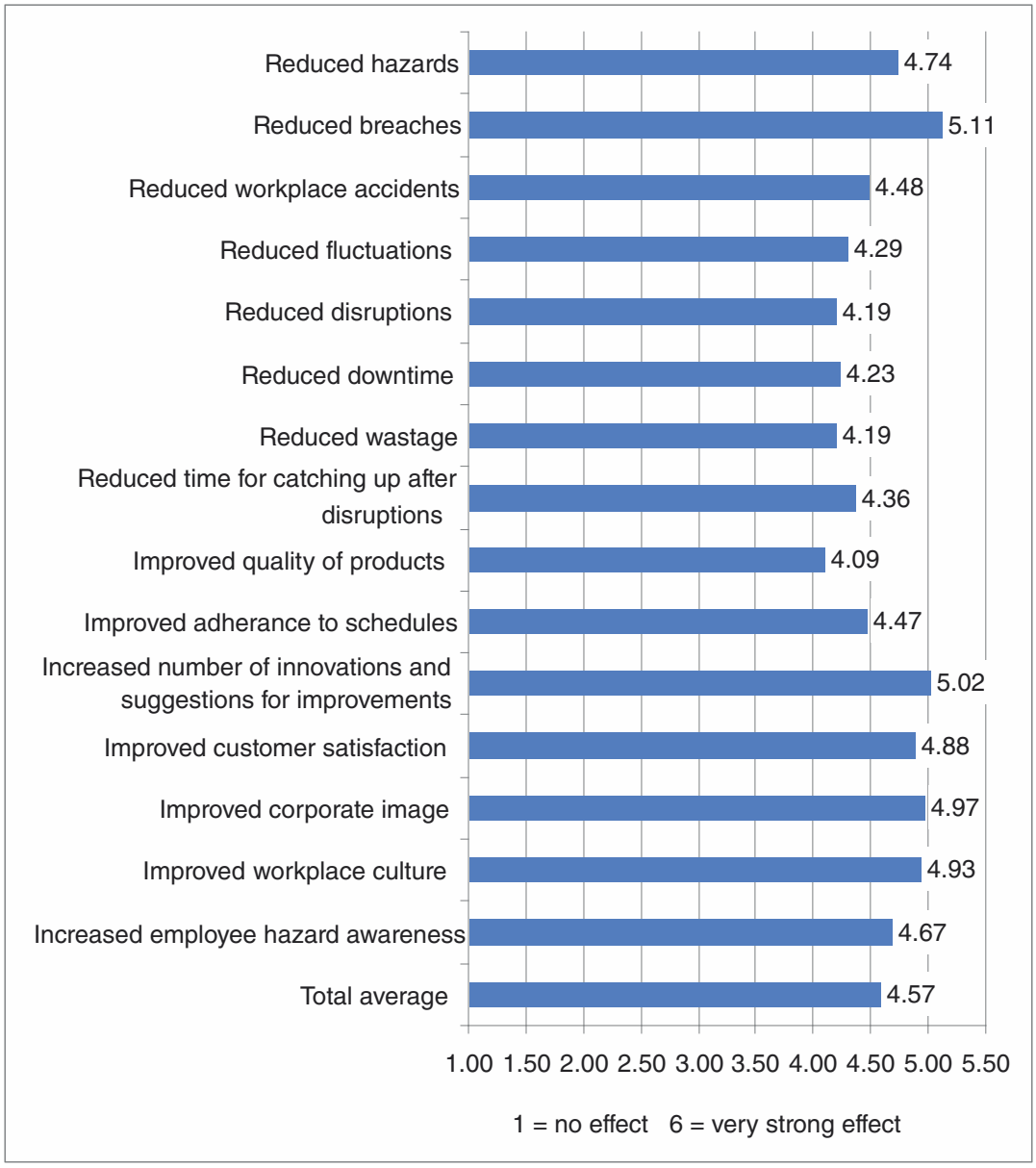

Figure 3:

Effects of occupational safety and health within the company

Notes:

- Total answers (n): reduced hazards (57), reduced breaches (57), reduced workplace accidents (56), reduced fluctuations (58), reduced disruptions (58), reduced downtime (58), reduced wastage (57), reduced time for catching up after disruptions (58), improved quality of products (58), improved adherence to schedules (56), increased number of innovations and suggestions for improvements (58), improved customer satisfaction (58), improved corporate image (58), improved workplace culture (58), and increased employee hazard awareness (58)
- Ratings were based on a scale of 1 - "There is no effect" to 6 - "The effect is very strong".

Results:

Occupational safety and health was rated as having the strongest effect on the following categories (in order of decreasing effect): reduced breaches, increased number of innovations and suggestions for improvements, improved corporate image, improved workplace culture and improved customer satisfaction, reduced hazards as well as increased employee hazard awareness.

Question 4:

How do you rate the current occupational safety and health measures within your company?

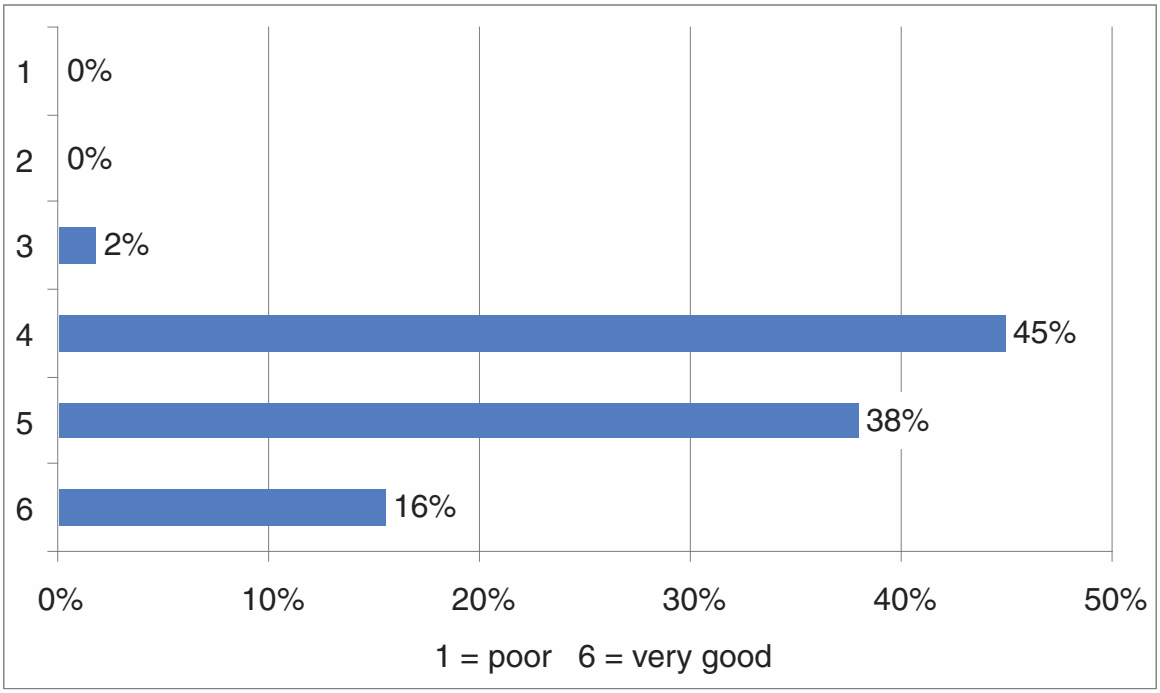

Figure 4:

Rating of current occupational safety and health measures within the company

Notes:

- Total answers (n): 58
- Ratings were based on a scale of 1 - "The current occupational safety and health measures are poor within the company" to 6 - "The current occupational safety and health measures are very good within the company".

Results:

Comparable to Question 1, the majority of interviewees positively rated occupational safety and health measures within their own company. Still, the own measures are assessed less positive as can be seen from the high ranking of category 4. This tendency might indicate a general potential for optimisation of occupational safety and health measures.

Question 5:

In your opinion, how would additional investments in prevention work affect company costs in the long-term?

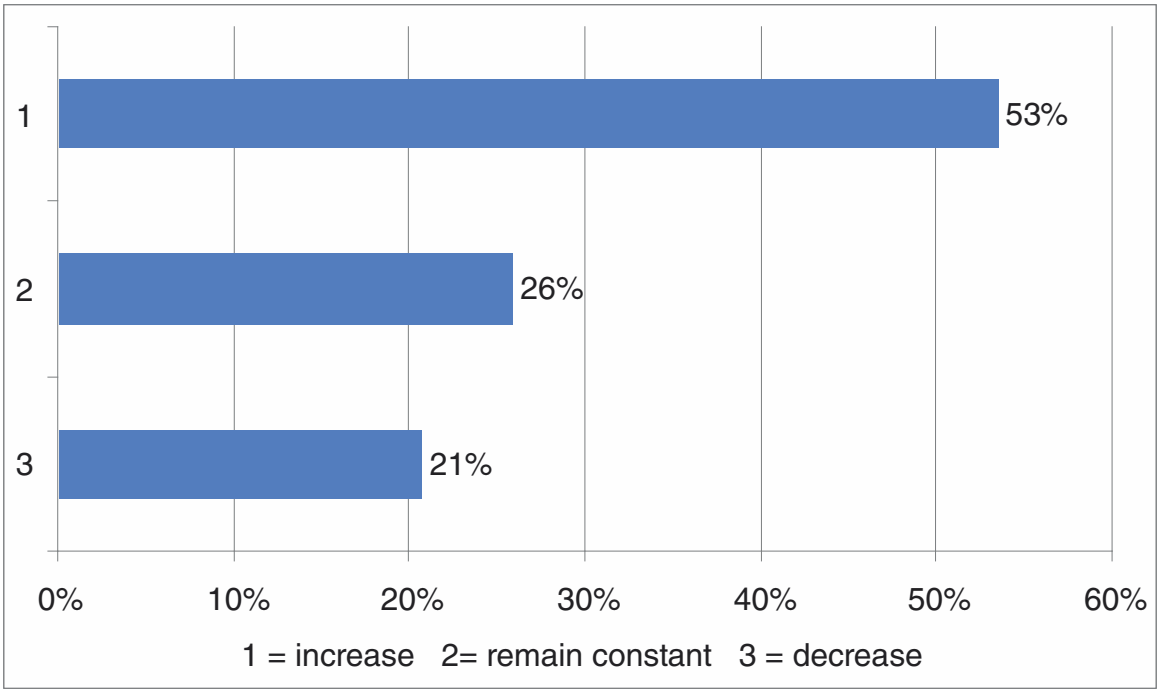

Figure 5:

Long-term effects on company costs from additional investments in occupational safety and health.

Note:

Total answers (n): 58

Results:

Most of the companies estimate that additional investments in occupational safety and health would result in increased company costs over the long-term. This shows an opposite trend compared with the international ROP study.

Question 5.1:

In your opinion, to what extent would company costs change?

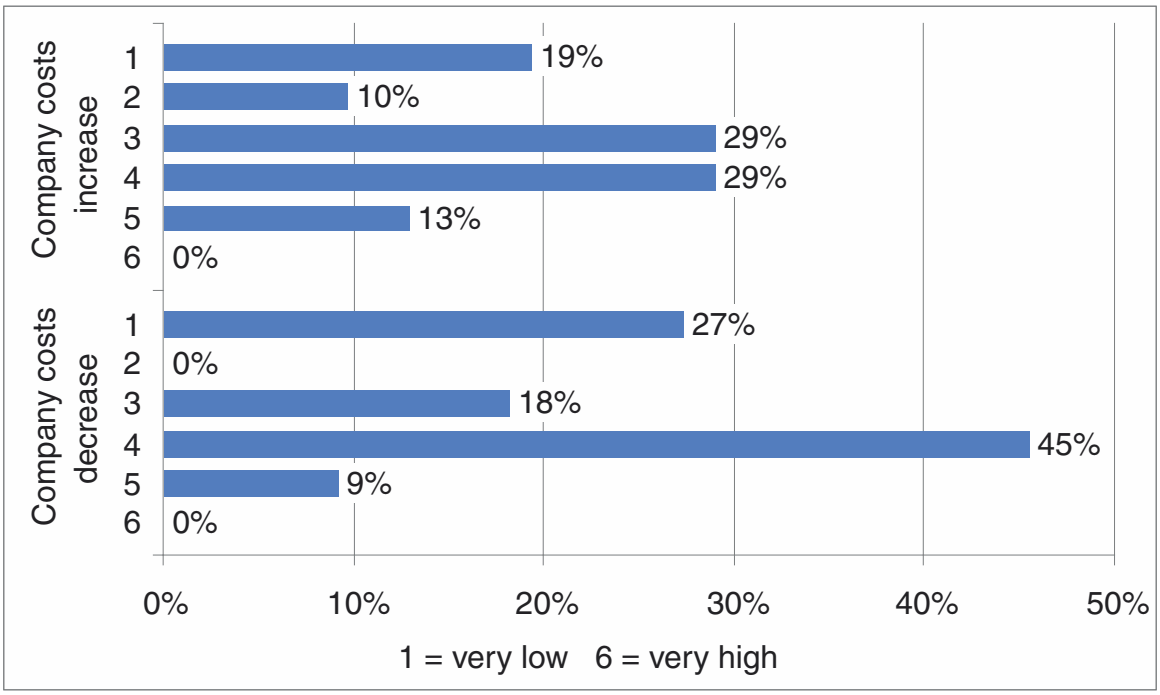

Figure 6:

Extent of change of company costs from additional investments in occupational safety and health.

Notes:

- Total answers (n): 50
- Ratings were based on a scale of 1 - "Company costs would increase or decrease very low" to 6 - "Company costs would increase or decrease very high."

Results:

According to the majority of companies, additional investments in occupational safety and health would either increase or decrease the company costs in a moderate way. None of the companies replied that additional investments would result in very high increased or decreased costs whereas a significant number of companies estimated that company costs would increase or decrease to a very low extent.

Question 6:

Please estimate, for each individual cost type, the occupational safety and health costs (in PKR) per employee accrued by your company in 2015.

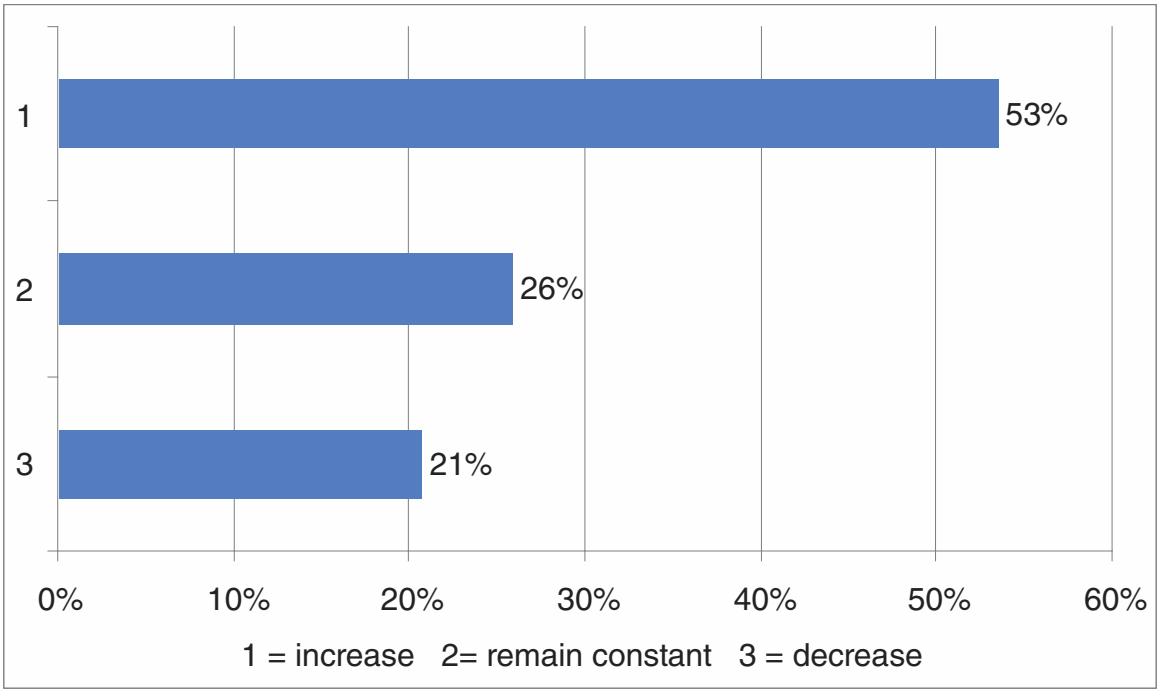

Figure 7:

Costs of occupational safety and health per employee (in PKR)

Notes:

- Costs as 5 per cent truncated means; all other deviations were included due to their high amount.
- Total answers (n): personal protective equipment (50), guidance on safety technology and company medical support (48), specific prevention training measures (45), preventive medical check-ups (44), organisational costs (45), investment costs (44), start-up costs (45)

Results:

Companies rated the following three cost types of occupational safety and health as the most significant (in order of decreasing significance): organisational costs, start-up costs and investment costs.

Question 7:

Based on your experiences, how do you rate (estimate!) the relationship between occupational safety and health benefits and its costs within your company?

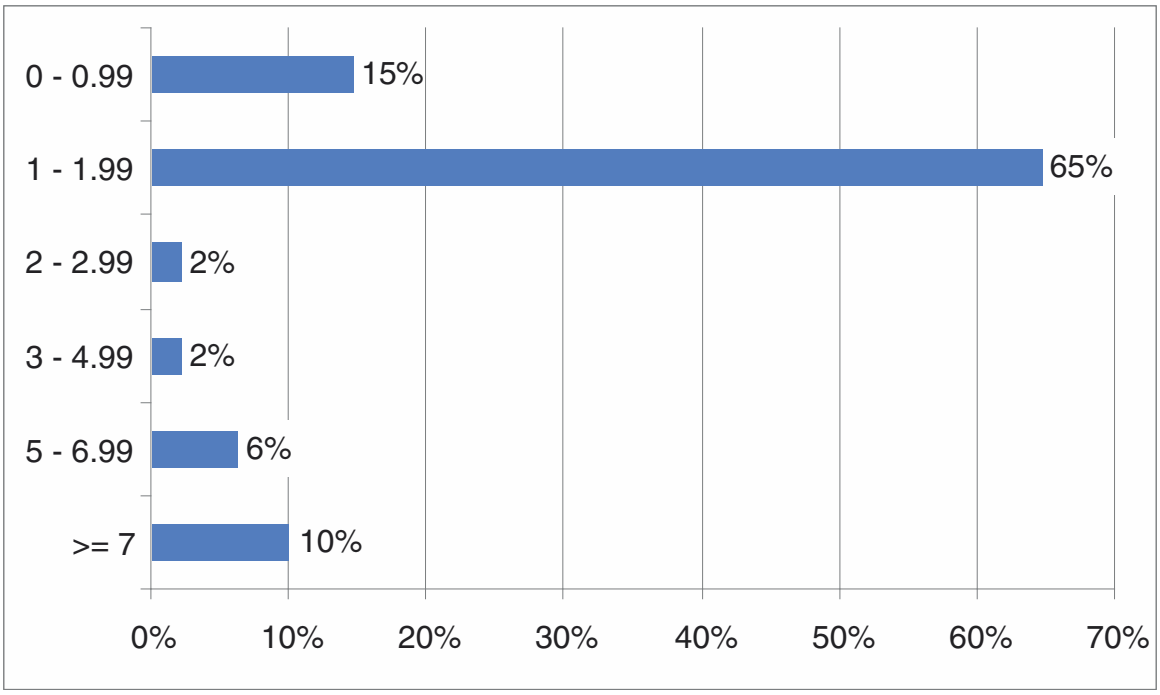

Figure 8:

Benefit-cost ratio (Return on Prevention) of occupational safety and health

Notes:

- Return on Prevention as 5 per cent truncated means
- Total answers (n): 49

Results:

Most companies rated the benefit-cost ratio between 1 and 1.99. The mean benefit-cost ratio (Return on Prevention) was 2.55.

Question 8:

Please tick all the occupational safety and health benefit types which are relevant to your company (multiple responses possible).

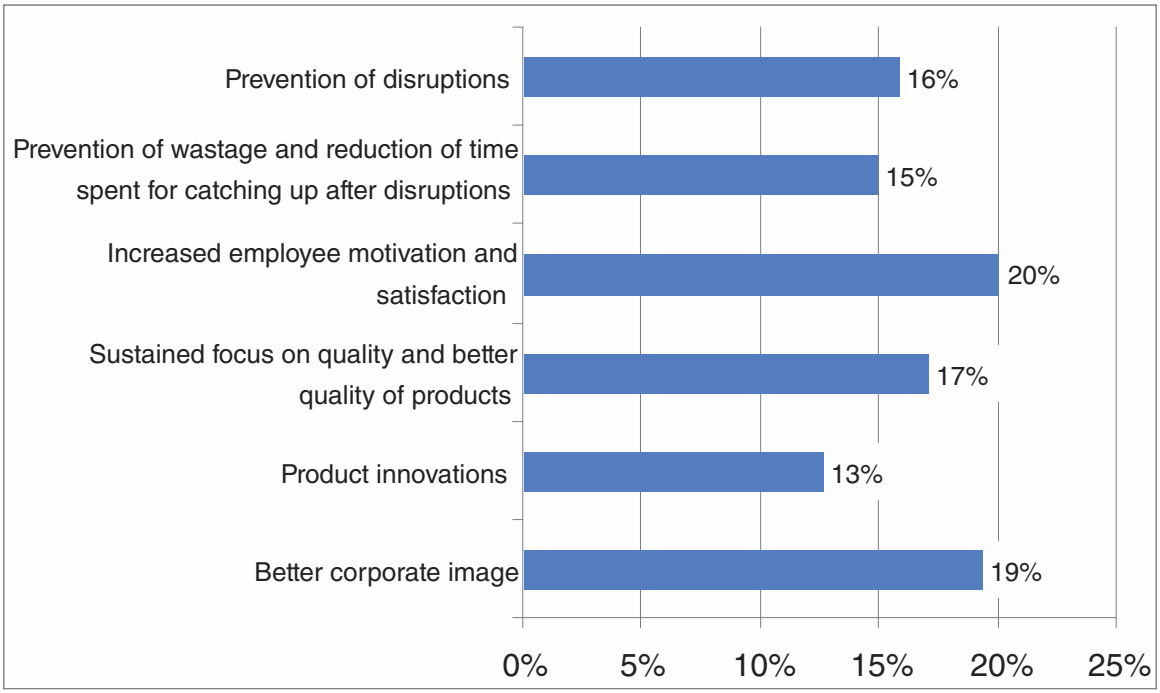

Figure 9:

Significance of different benefit types of occupational safety and health

Note:

Total answers (n): 58

Results:

Companies named the following occupational safety and health types of benefits most often (in decreasing order of frequency): increased employee motivation and satisfaction, better corporate image and sustained focus on quality and better quality of products.

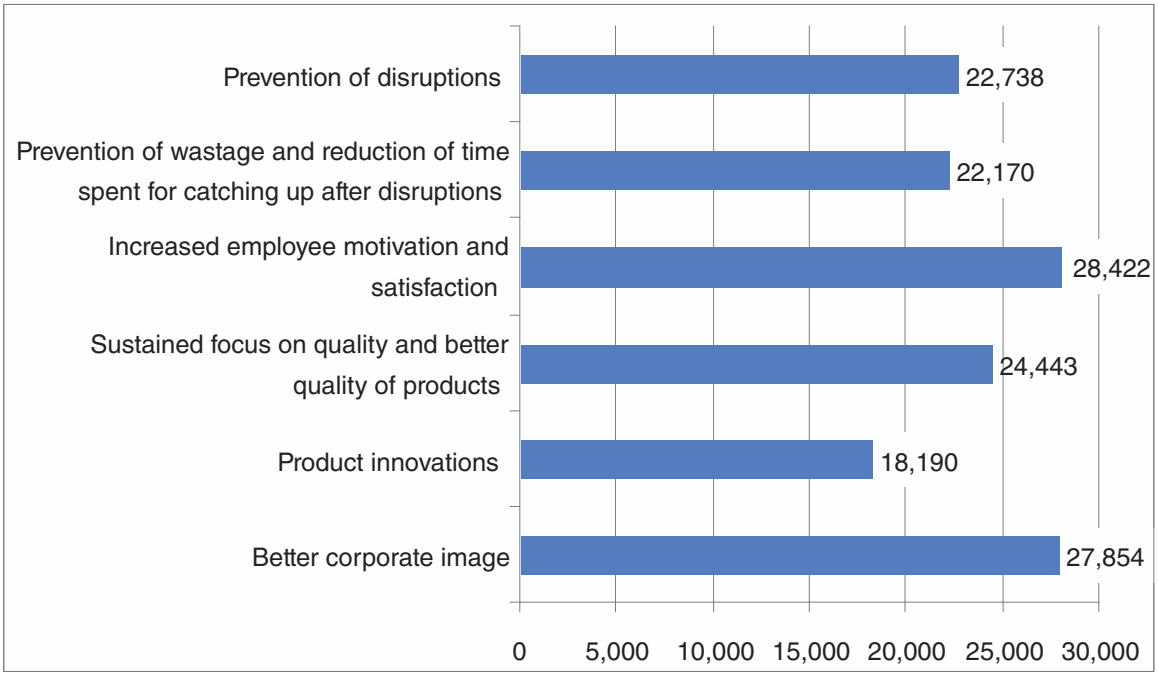

Figure 10:
Benefits of occupational safety and health per employee (in PKR)

Note:

The monetary total benefit can be calculated as the product of the total costs (sum of the individual cost types in Figure 7) and the ratio "Return on Prevention" (amount of 2.55 according to Figure 8). The different types of benefits resulted from categorising the total benefit as per Figure 9.

Prevention balance sheet (in a narrower sense)

Prevention Balance Datasheet			
Occupational safety and health costs per employee per year (in PKR)		Occupational safety and health benets per employee per year (in PKR)	
Personal Protective Equipment	1,200	Cost savings through prevention of disruptions	22,738
Guidance on safety technonology and company medical support	1,097	Cost savings through prevention of wastage and reduction of time spent for catching up after disruptions	22,170
Specic prevention training measures	319	Added value generated by increased employee motivation and satisfaction	28,422
Preventive medical check-ups	467	Added value generated by sustained focus on quality and better quality of products	24,443
Organisational Costs	28,965	Added value generated by product innovations	18,190
Investment Costs	3,736	Added value generated by better corporate image	27,854
Start-up Costs	9,176		
Total costs	44,960	Total benefits	143,818
Prevention net benefit = 98,857 PKR			

Figure 11:
Companies' prevention costs and benefits of occupational safety and health

Notes:

- The prevention balance sheet includes occupational safety and health costs (Figure 7) and benefits (Figure 10) per employee.
- The prevention net benefit as well as the Return on Prevention expresses the economic success of occupational safety and health from different perspectives.

IV. Do investments in occupational safety and health pay off for informal economies?

Informal economies are often considered as a sphere of production that is marked by extremely poor, if not non-existing standards regarding occupational safety and health. According to common narrative, knowledge, attitudes and practices of workers and employers concerning this topic would be so poor that the solutions suggested often sound radical: the demand for complete shutdowns is not uncommon.

According to the Labour Force Survey, 74% of the labour force in Pakistan comprises informal workers. This makes informal economy the backbone of the country's economy, and a shutdown is not an option. Due to the significance of informal economies, it was worth collecting evidence if investments in occupational safety and health can be incentivised for the informal setups, too. The project team wanted to test if the methodology could also be applied in this context.

HomeNet Pakistan has been working on labour standards and occupational safety and health for informal economies for 10 years. Through the organisation's network it was possible to look at informal units engaged in the garment, sports and knitwear sector and the return on prevention for them, providing access to seven informal setups that were willing and in a position to discuss occupational safety and health matters. Seven interviews are clearly not enough to produce a reliable and representative database. Nevertheless, the results indicate a trend, to be verified further through in-depth research focussing exclusively on informal economy.

These seven setups located in Sialkot, Lahore and Faisalabad produce footballs, gloves and sportswear, hosiery and other garments and have between 10 and 30 workers. Whereas the initial three questions were easy to answer for the interview partners, the quantifying questions regarding investments and their impacts were difficult to reply to. For this reason, only the graphs regarding these three questions are taken into account here.

The most important finding is that the interview partners recognised the importance of occupational safety and health. The results even resemble those from formal setups very much. Firstly, this indication justifies the inclusion of informal units in this study. Secondly, the results give a strong indication that it is worth doing further research on incentivising investments in occupational safety and health. If such investments produce a return for informal setups too, further research would provide precious insight into developing strategies that build on preserving these companies and units and ensure decent employment for millions of workers. From this perspective, the investments in occupational safety and health may be looked at as a factor to increase process and business stability, an element to upgrade standards of work and

productivity and, ultimately, economic growth.

When looking at the results regarding the impacts and effects of occupational safety and health, the results of the seven interviews are informed by the fact that there is less division of labour in smaller units of informal economies; an accident at the workplace is likely to affect several core processes than in a big enterprise, and the variance between the different effects and impacts is small. Further research would have to take these and other aspects into account to provide input for the development of suitable approaches. If investments in occupational safety and health have a positive impact for setups in the informal sector too, more emphasis can be given on targeting persons taking economic decisions in these setups. With strong economic incentives awaiting entrepreneurs of the informal economy and a high turnover of their staff, programmes to enhance occupational safety and health might focus on employers' economic literacy and decision-making, and on occupational safety and health as an element of smart economy and less on behavioural changes of workers who change both their work and workplace often. This also affects the role of the state and governmental institutions: next to law enforcement, concepts for the large-scale provision of advisory services to informal economies can be developed.

To reach here, in-depth research to verify and specify the trends of our seven interviews might also have to take additional aspects into account: informal economies comprise informal setups, resembling small manufacturing units rather than proper factories, and also home-based workers, most of them female. The occupational safety and health of the latter is determined by other factors, and this produces particular needs regarding outreach strategies. Looking again at the significance of the informal economy, it is appropriate to initiate pilots where different approaches can be tested, assessed and refined with a selected number of informal units and home-based workers, and later be introduced to the informal economies at a larger scale.

Question 1:

How do you rate the relative importance of occupational safety and health within your company?

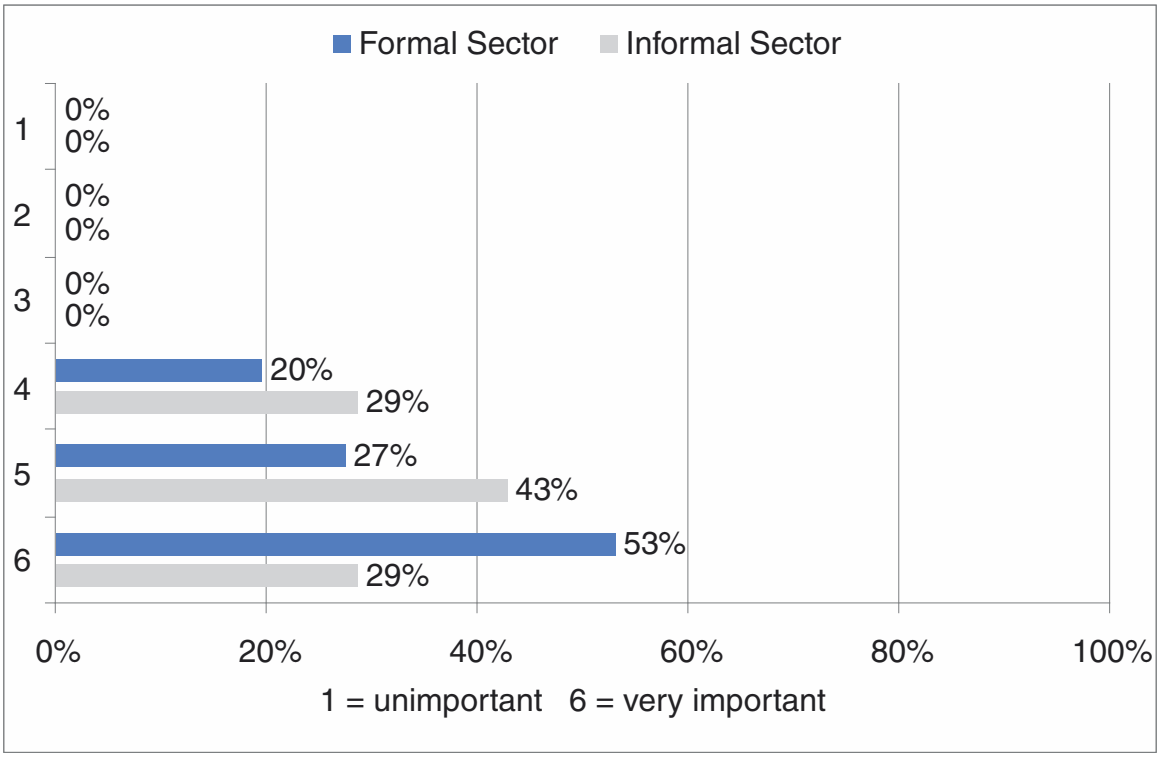

Figure 1.1:

Relative importance of occupational safety and health within the company by sector

Formal Sector:

Twenty-seven per cent of the interviewed companies rated occupational safety and health as important while 53% rated it as very important. Overall 80% of the interviewed companies rated it as important or very important.

Informal Sector:

Forty-three per cent of the interviewed companies rated occupational safety and health as important while 29% rated it as very important. Overall 72% of the interviewed companies rated it as important or very important.

Note:

The difference between the formal and the informal sector on importance of occupational safety and health could be due to lack of awareness in the informal sector.

Question 2:

How do you rate the impact of occupational safety and health within the following areas of your company?

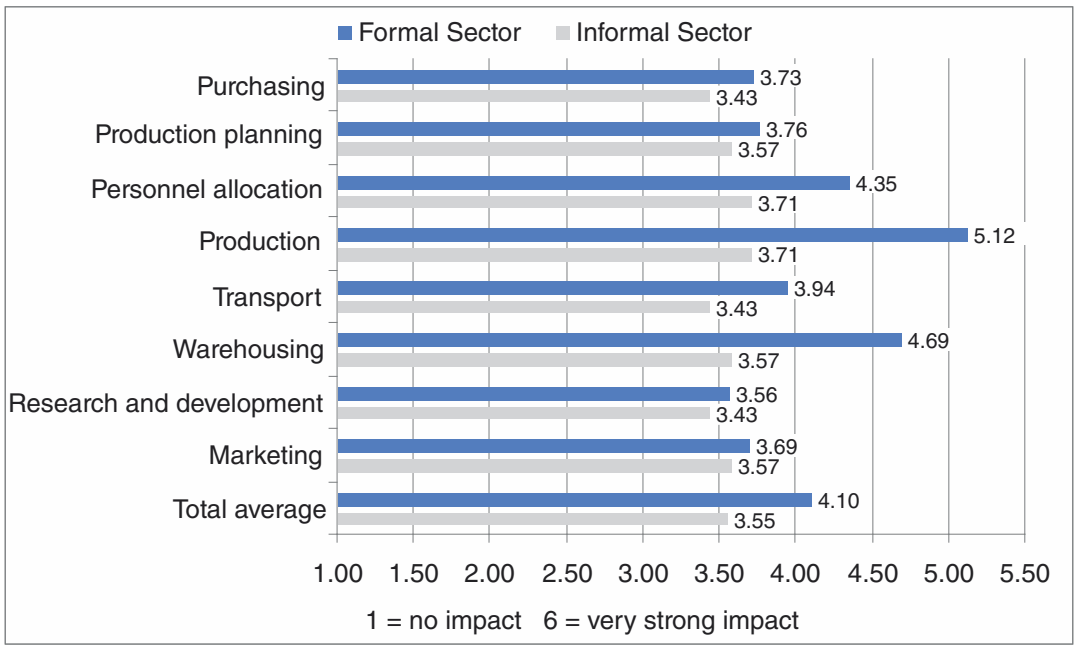

Figure 2.1:

Impact of occupational safety and health on different company areas by sector

Formal Sector:

Occupational safety and health was rated as having the strongest impact on the following company areas: production (4.95), warehousing (4.55), personnel allocation (4.28), transport (3.88), and production planning (3.74). The total average impact of occupational safety and health in on different company areas of formal sector is 4.04.

Informal Sector:

Occupational safety and health was rated as having the strongest impact on the following company areas: production and personnel allocation (3.71), marketing, warehousing, and production planning (3.57). The total average impact of occupational safety and health on different company areas of informal sector is 3.55.

Note:

The difference between the formal and the informal sector on impact of occupational safety and health on different company areas could be due to lack of proper organisational structure in the informal sector.

Question 3:

How do you rate the effects of occupational safety and health within your company?

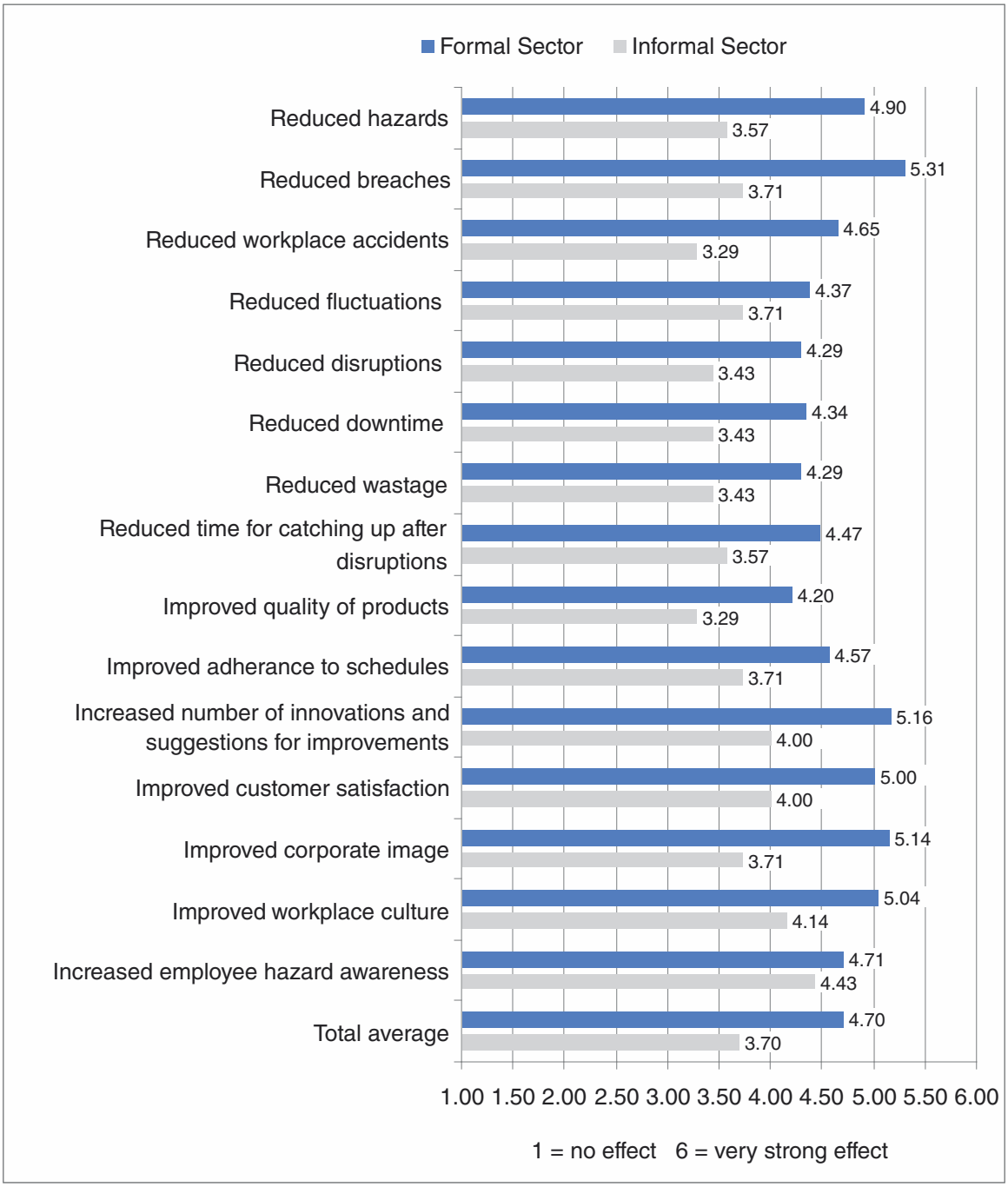

Figure 3.1:

Effects of occupational safety and health within the company by sector

Formal Sector:

Occupational safety and health was rated as having the strongest effect on the following: reduced breaches (5.31), increased number of innovations and suggestions for improvements (5.16), improved corporate image (5.14), and improved workplace culture (5.04). The total average impact of occupational safety and health on different company areas of formal sector is 4.70.

Informal Sector:

Occupational safety and health was rated as having the strongest effect on the following: increased employee hazard awareness (4.43), improved workplace culture (4.14), increased number of innovations and suggestions for improvements (4.0) and improved customer satisfaction (4.0), improved corporate image (3.71), improved adherence to schedules (3.71), reduced fluctuation and reduced breaches (3.71). The total average impact of occupational safety and health on different company areas of informal sector is 3.70.

Note:

The difference between the formal and the informal sector on effects of occupational safety and health within the company could be due to lack of awareness and their product supply in local markets in the informal sector.

V. Short outlook: The new ISO 45001 standard

A new international standard, the ISO 45001 "Occupational health and safety management systems – Requirements with guidance for use", will be published most likely in the second half of 2017. This standard focuses on the organisation of occupational safety and health, including processes, risks and opportunities. It will not define specific occupational safety and health measures that indeed still belong to state liability, but rather requirements regarding the management system. For companies, it could be recommendable to introduce the ISO 45001 and to pursue corresponding certification in order to avoid occupational accidents and illnesses complying with ethical and social responsibility as well as to improve business performance.

The format of the ISO 45001 follows the high level structure; therefore, it is compatible with ISO 9001:2015 (Quality management systems – Requirements) or 14001:2015 (Environmental management systems - Requirements). "High level structure" means that regarding the formal point of view they hold the same composition, requirements, and features. Important sections of the standard are: context of the organisation, leadership and worker participation, planning, support, operation, performance evaluation, continual improvement, and informative annex (ISO/DIS 45001). It seems reasonable to integrate several management systems, especially if they reflect the high level structure, in order to profit from synergetic effects. Besides, occupational safety and health, quality and environmental management are three sides of the same coin.

The new ISO 45001 promotes the international harmonisation of requirements concerning the organisation of occupational safety and health management. This could come along with positive effects on the conditions of employment and the global business competitiveness of companies.

VI. Summary

The most important results can be summarized in normative terms as follows:

- The interviewed companies rated occupational safety and health as very important. Here, Pakistan follows the international rating.
- The interviewed textile and garments companies see the strongest impact of occupational safety and health on the areas of production, warehousing, personnel allocation and transport. Similar to the international study, occupational safety and health impacts almost the same areas in Pakistan.
- The strongest effects of occupational safety and health are defined as follows: reduced breaches, increased number of innovations and suggestions for improvements, improved corporate image, improved workplace culture as well as improved customer satisfaction and reduced hazards. The results of the Pakistani study show comparable effects as observed in the international study.
- According to approximately 45% of the companies interviewed, the current occupational safety and health conditions are moderate. This indicates that there is still a significant room for improvement. However, the study in Pakistan shows that the differences in the occupational safety and health conditions among the interviewed companies are very significant.
- Approximately 53% of the companies interviewed stated that additional investment in occupational safety and health will increase the company costs while 26% are of the opinion that the costs will remain constant. The results of the Pakistani study are completely reverse compared to the international study. This may be due to several factors: Firstly, in Pakistan's overall garment and textile sector, the implementation of occupational safety and health measures is still at an initial stage, and best practice examples remain missing. The current status regarding occupational safety and health standards is lower than in most other countries that took part in the international study (as seen in Figure 4). This might lead the interview partners to presume that investing in occupational safety and health would automatically increase the company costs. As to the feedback of the interviewers, the question furthermore may have been too abstract and unclear. The positive answers in Question 7 support this assumption.
- The three most significant types of costs and benefits regarding occupational safety and health are: [costs] organisational costs, start-up costs and investment costs, and [benefits] added value generated by increased employee motivation and satisfaction, better corporate image and sustained focus on quality and better quality of products. The benefits of occupational safety and health were rated in close accordance with the international study whereas differences occur in the assessment of

the costs. The study in Pakistan revealed that much less is spent on personal equipment, prevention trainings and guidance regarding safety in comparison to start-up, investment and organisational costs.

- Expenditure on occupational safety and health is an investment that "pays off" for companies according to the companies interviewed. The Return on Prevention is assessed at 2.55. Although a significant share rated the return lower than the investments (0-0.99), 10 per cent of the interviewees gave a high rating of above 7.
- As in the international ROP study, the results of the present survey are only estimates and should not be over-interpreted. However, they also should not be underestimated as the persons interviewed have proven to be aware of the importance of occupational safety and health. Despite the deficit of occupational safety and health implementation in Pakistan's textile and garment sector, the results of this project show that occupational safety and health spending pays off in microeconomic terms and is an investment that can directly benefit the company.
- Although the range of the informal units covered is limited, the key statement of this study counts for both the formal and the informal sector: prevention pays off thrice. First, and most importantly, it protects employees against workplace accidents and illnesses, second, it ensures the employees' social protection and third, it can directly benefit the companies' core economic interests. Keeping those three factors in mind, the investments in occupational safety and health can play an important role in Pakistan's future efforts to compete in the international market and meet the requirements of international labour standards at once.

VII. Appendix

Calculating the International Return on Prevention for Companies: Costs and Benefits of Investments in Occupational Safety and Health

Project of the International Social Security Association (ISSA),
German Social Accident Insurance (DGUV),
German Social Accident Insurance Institution for the
Energy, Textile, Electrical and Media Products Sectors (BG ETEM)

Questionnaire[3]

Date of interview

_____

Country and currency

_____

Positions held by interviewees
(Please do not note any names. The interview should be completely anonymous.)

_____

_____

_____

_____

_____

_____

How many people did the company employ in 2015?

_____ persons (fulltime and fulltime-equivalent)

To what industry does the company belong?

mining	construction	trade	manufacturing	others
☐	☐	☐	☐	☐

[3] Based on Dietmar Bräunig and Katrin Mehnert, Präventionsbilanz aus theoretischer und empirischer Sicht, Teilprojekt 5 des Projektes Qualität in der Prävention, Dresden 2008, p. 58-68
(www.dguv.de/iag/de/forschung/forschungsprojekte_archiv/qdp/qdp_abschluss/index.jsp)

1. How do you rate the relative **importance of occupational safety and health** within your company?

unimportant (---)	(--)	(-)	(+)	(++)	**very important (+++)**
☐	☐	☐	☐	☐	☐

2. How do you rate the **impact of occupational safety and health** within the following areas of your company?

2.1 **Purchasing**					
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.2 **Production Planning**					
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.3 **Personnel Allocation**					
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.4 **Production**					
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.5 **Transport**					
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.6 **Warehousing**					
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.7		**Research and Development**			
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

2.8		**Marketing**			
no impact (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3. How do you rate the **effects of occupational safety and health** within your company?

3.1	The implementation of occupational safety and health measures has directly reduced the **number of hazards** as follows:				
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.2	The implementation of occupational safety and health measures has directly reduced the **number of breaches of safety and health regulations** as follows:				
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.3	The implementation of occupational safety and health measures has directly reduced the **number of workplace accidents** as follows:				
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.4	The implementation of occupational safety and health measures has indirectly reduced the **number of fluctuations** as follows:				
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.5	The implementation of occupational safety and health measures has indirectly reduced the **number of disruptions** as follows:				
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.6 The implementation of occupational safety and health measures has indirectly reduced the **amount of downtime** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.7 The implementation of occupational safety and health measures has indirectly reduced the **amount of wastage** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.8 The implementation of occupational safety and health measures has indirectly reduced the **amount of time needed for catching up after disruptions** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.9 The implementation of occupational safety and health measures has indirectly improved the **quality of products** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.10 The implementation of occupational safety and health measures has indirectly improved the **adherence to schedules** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.11 The implementation of occupational safety and health measures has indirectly increased the **number of innovations and suggestions for improvements** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.12 The implementation of occupational safety and health measures has indirectly improved the **customer satisfaction** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.13 The implementation of occupational safety and health measures has indirectly improved the **corporate image** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.14 The implementation of occupational safety and health measures has indirectly improved the **workplace culture** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

3.15 The implementation of occupational safety and health measures has indirectly increased the **employee hazard awareness** as follows:					
no effect (---)	(--)	(-)	(+)	(++)	**very strong (+++)**
☐	☐	☐	☐	☐	☐

4. How do you rate the **current occupational safety and health measures** within your company?

poor (---)	(--)	(-)	(+)	(++)	**very good (+++)**
☐	☐	☐	☐	☐	☐

5. In your opinion, how would **additional investments** in prevention work affect **company costs** in the long term?

5.1 Company costs would increase.	Company costs would remain constant.	Company costs would decrease.
☐	☐ (go to question 6)	☐

5.2 In your opinion, **to what extent would company costs change**?					
very low	low	more than low	less than high	high	**very high**
☐	☐	☐	☐	☐	☐

6. Please estimate, for each individual cost type, the **occupational safety and health costs (in your currency)** per employee accrued by your company in 2015.

	Costs per employee
6.1. Costs of personal protective equipment (e.g. ear defenders, boots, work clothes)	_____
6.2. Costs of guidance on safety technology and company medical support (e.g. in-house/external safety professional(s), in-house/external occupational physician(s), documentation)	_____
6.3. Costs of specific prevention training measures (e.g. initial and ongoing training of safety experts and officers, e.g. safely securing loads, forklift trucks, time-off for first-aid training)	_____
6.4. Costs of preventive medical check-ups	_____
6.5. Organisational costs (e.g. additional costs associated with ensuring that production processes meet safety and health requirements, proportional costs of the safety and health management system)	_____
6.6. Investment costs (e.g. proportional depreciations of safety technology and workplace organisation costs required for prevention measures)	_____
6.7. Start-up costs (additional safety and health costs involved during production start-up or during introduction phase of prevention measures)	_____
TOTAL	_____

7. Based on your experiences, how do you rate (estimate!) the **relationship between occupational safety and health benefits and its costs** within your company?

$$\frac{\text{benefits}}{\text{costs}} = \frac{\text{.....}}{1{,}0} \quad \leftarrow \textbf{Please fill in.}$$

8. Please tick all the **occupational safety and health benefit types** which are relevant to your company (multiple responses possible).

8.1 ☐	Cost savings through prevention of disruptions
8.2 ☐	Cost savings through prevention of wastage and reduction of time spent for catching up after disruptions
8.3 ☐	Added value generated by increased employee motivation and satisfaction
8.4 ☐	Added value generated by sustained focus on quality and better quality of products
8.5 ☐	Added value generated by product innovations
8.6 ☐	Added value generated by better corporate image


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