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RESEARCH ARTICLE

Management of Market Surveillance Authorities for Construction Products

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Abstract:

Background:

The Construction Products Regulation (CPR) entered into full force in the European Union (EU) on 1 July 2013 aiming to improve the free movement of construction products. Several EU Commission Reports acknowledge as one of the main shortcomings, the less than active role of Member States in market surveillance and suggest examining and implementing methods for more efficient prioritisation and organisation of market surveillance activities.

Objective:

The purpose of the paper is to investigate management elements of the Market Surveillance Authorities (MSAs) for construction products in the EU. To this end, and to collect information on the current level of effectiveness of the organisational approach of the MSAs, it is imperative to collect information on the main relevant management activities of the MSAs, *i.e.* strategic analysis, risk assessment and performance measurement.

Methods:

The paper presents background information on the level of market surveillance in the EU. In order to provide further insight, a survey was carried out to collect information and views from representatives of the Member States' MSAs of construction products participating in the EU committee "Administrative Cooperation Group for the Construction Products Regulation" (AdCo-CPR).

Results:

Through the findings of investigating management perspectives of the MSAs, it can be concluded that currently, market surveillance of construction products in the Member States markets is limited, and MSAs should consider implementing a quality management system to improve the effectiveness of market surveillance activities as well as to create public value.

Conclusion:

The findings also suggest that further investigation is needed to be related to strategy, risk and performance management of the MSAs in order to enhance performance and effectiveness.

Keywords: Market surveillance, Construction products, Public service, Quality management system, ISO 9001, European Union.

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1. INTRODUCTION

The Construction Products Regulation (CPR) [1] entered into full force on 1st July 2013 [2]. The main objective of the CPR is to make the single market work better and improve the free movement of construction products in the EU [3].

CPR sets out the framework for the placing or making available on the market of construction products, by defining

the harmonised rules for declaring the performance of construction products based on their essential characteristics and the use of CE marking on those products [1]. The objective of the CPR is to ensure the delivery of credible information for the construction products concerning their performances. In order to achieve the objective, a common technical language is used by manufacturers, *i.e.* the harmonised technical specifications developed under the CPR, in order to declare the product technical-characteristics' performances when placing them on the market, and by public authorities and engineers when defining the technical requirements of works.

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The common technical language is also providing the competent national authorities, *i.e.* the Market Surveillance Authorities (MSAs), the necessary tools for assessing the required characteristics of the construction products, by enabling them to carry out all the necessary document and physical checks [4]. CPR requires the mandatory establishment of market surveillance programmes for construction products, where the Member States should operate effective market surveillance to ensure an equivalent and consistent enforcement of Union harmonisation legislation [1].

Work has been done by the relevant committee, *i.e.* the Administrative Cooperation Group for CPR (AdCo-CPR), established in EU with 33 members (28 Member States and Norway, Iceland, Switzerland, Liechtenstein and Turkey), for developing general principles to be followed for market surveillance of construction products, focusing on facilitating the efficient handling of cases as well as cross-border cooperation between MSA [5], as well as for the development of a risk assessment methodology for construction products in case of deviation from the declared performance [6]. However, currently, there are no specific guidelines for the management of the work of the MSAs for construction products.

There are available recommendations on a horizontal level to assist and enhance the management of market surveillance in Europe. These recommendations, although not dedicated to the market surveillance for construction products exclusively, can provide useful horizontal guidance and good practice in the field of market surveillance and they can contribute to a better understanding, uniform approach and consistent application of EU rules [7]. They outline the basic principles also followed in the implementation of a Quality Management System (QMS), *e.g.* the screening of the internal and external environment, the investigation of addressing the risks and opportunities and the monitoring and evaluation of the work of MSA.

The MSAs should perform market surveillance in a uniform and consistent way to assure equality before the law for all inspected businesses. Therefore MSAs should function under a pre-defined framework to minimise the risks for mistakes as well as to increase efficiency. For this reason, as it is recommended by the Best Practice Techniques in Market Surveillance [8], the application of QMS should be mandatory for MSAs, since it strengthens the position of MSA in court, when economic operators are challenging the MSA's action with conflicting evidence.

ISO 9001 is internationally agreed as a valuable tool on good management practices in order to deliver consistent product and service quality, even in the unprecedented circumstances of the economic downturn under which they operate [9]. There is strong evidence to support that managers obtain ISO 9000 certification as a credible public signal of effective quality management practices [10], as well as to achieve operational and marketing advantages that affect expenses and profit [11, 12]. Also, certification is regarded as a supportive instrument to obtain authorised status of the supplier, by guaranteeing the constant fulfilment of the demands of the customer [13, 14]. Furthermore, companies regard certification as an instrument for national and global competition [15, 16], and those companies marketing their

products in Europe or working closely with foreign partners can perceive a lower degree of difficulty in the implementation of ISO 9000 series demands [17]. Moreover, ISO 9001:2000 can enhance the quality of public service delivery from the perspective of external and internal customers [18].

There is an increasing interest in implementing ISO 9001 in the public sector or for services under the control of public authorities in general [18]. Nevertheless, there is evidence that many top managers in public organisations are encountering difficulties implementing ISO 9001, mainly due to difficulties arisen from a lack of knowledge of ISO requirements, as well as from experiencing strong resistance from employees [19]. It is also clear that merely adopting a QMS and maintaining the relevant certificates is not enough [18], as well as merely fulfilling a quality standard's minimal requirements is insufficient [20]. In this way, the MSA should apply all the requirements only after thoroughly investigating the relevant issues and only after gaining a deep understanding of the processes, in order to use them as a strategic management tool to achieve superior organisational performance.

Based on CPR Article 67(2), the Commission prepared an Implementation Report on the CPR in 2016 through the engagement of an extensive stakeholder consultation on a variety of issues through technical platforms [21]. According to the findings of the Implementation Report, the perception among stakeholders was that currently the market surveillance of construction products on the Member-States markets is very restricted, and in fact, around one-third of companies would describe market surveillance as 'non-existent' in their country [21]. Cuts in public spending and insufficient funds are making it difficult for the MSAs to enhance market surveillance to the necessary level. This is reflected in the national reports concerning market surveillance activities for the years 2010 - 2013, whereas about half of the Member States, complain about a lack of sufficient resources [22].

In October 2019, the Commission published an updated report on the evaluation of CPR. Analysis of the effectiveness of CPR showed that cross-border trade of construction products has grown in the EU since the introduction of CPR and that stakeholders consider the role of CPR as positive towards this development. However, the Report acknowledges that the obstacles to the smooth functioning of the internal market remain. The main shortcomings identified are the insufficient performance of the standardisation system supporting the functioning of the system, the low uptake of simplification provisions, but also due to the less than active role of Member States in market surveillance. Although structures and mechanisms have been introduced, and cooperation has improved, market surveillance is considered as uneven and ineffective, undermining the system's credibility. The Report concludes that these factors were the result of legal clarity, and for these reasons, an analysis of options to address the issues is required [23].

The Implementation Report of 2015 suggested that for reacting to this situation, the MSAs are called to examine and implement methods for more efficient prioritisation and organisation of market surveillance activities to overcome the constraints linked to limited resources, which affect all MSAs

across EU administrations [2]. To this end, and to collect information on the current level of effectiveness of the organisational approach of the MSAs, it is imperative to collect information on the main relevant management activities of the MSAs, *i.e.* strategic analysis, risk assessment and performance measurement.

Therefore, the purpose of this paper is to close this gap by collecting information on these three core areas, which are fundamental tools of a quality management system, as described in ISO 9001:2015 [24]: with regards to strategic analysis the identification of the relevant key interested parties that could positively or negatively affect the MSAs ability to provide the requested services; for the risk assessment the performance of risk analysis and risk evaluation, in order to give assurance to achieve the intended results and at the same time prevent or reduce the undesired effects and achieve improvement; and concerning the performance measurement the planning of monitoring and measurement, in order to provide the MSAs with the confidence that they achieved the intended results. Information on the level of the MSAs activities in these areas, will provide valuable information on the effectiveness of the current management level achieved or whether there is significant room for improvement.

For the collection of information through a survey, the following research questions were formulated:

RQ1: What is the extent of market surveillance activities in the Single Market?

RQ2: What is the extent of interested parties analysis performed by the MSAs?

RQ3: What is the extent of the risk assessment performed by the MSAs?

RQ4: What is the extent of performance measurement performed by the MSAs?

2. RESEARCH METHODOLOGY

The purpose of the survey was to examine information on the management of MSA and to identify whether such information is available or lacking. A research plan was formulated for identifying the decisions the research will support, as well as the necessary information needed, since defining decisions first is critical to getting the right information and designing the right study [25]. The plan was developed after performing qualitative research and by using market research guidelines. The questions were developed to be clear, answerable, straightforward and unbiased, and to this end, a pilot test was performed with the assistance of members of MSA for construction products of Cyprus.

The survey was addressed to all members participating in AdCo-CPR, who also comprise the target population. The members were firstly informed of the survey at the AdCo-CPR 22nd meeting in November 2017 in Brussels, followed by a more detailed presentation at the 23rd meeting in May 2018 in Lisbon.

The final version of the questionnaire consisted of 26 questions. It was divided into five parts collecting information on: (i) the respondent and the relative country, (ii) analysis of

interested parties and work environment of the MSA, (iii) the core competencies of human resources, (iv) analysis of risks and opportunities, and (v) monitoring, measurement, analysis and evaluation. In this way, the questionnaire was designed to investigate the extent of the strategy management (parts (ii), (iii)), the risk management (part (iv)) and the performance management (part (v)) established by the MSAs in the Single Market.

The survey was published on 7 May 2018 and was completed by 4 June 2018. Replies were kept confidential; thus, the identity of the respondents was not revealed. However, the survey collected valuable information presenting insight on the subject. The survey received responses from 29 countries and given the limited number of the total population, and by having a total of completed answers from 28 countries (*i.e.*, from 25 out of 28 Member States as well as from Norway, Switzerland and Iceland), the result can be regarded as statistically significant.

The survey collected the views from members of AdCo-CPR; their opinion as to the formal representatives of MSA of their country has the merit to shed further light on the current relative management practices followed by the MSAs in the Single Market.

3. RESULTS AND DISCUSSION

3.1. Country Information on Market Surveillance and QMS

The first part of the survey explores information about the administration and resources of the MSA in each country. Firstly, it investigates whether the MSA is a standalone Authority dedicated to construction products or whether it is responsible for other legislation. From the 29 countries, 31% replied that the MSA is a standalone Authority dedicated to construction products, compared with the majority of 69% of being competent Authority for other fields of responsibility as well. This question was posed to investigate whether having just the competency for the market surveillance for construction products and no other areas of responsibility is affecting the strategic, risk and performance management of the Authority.

Secondly, the survey provided information regarding whether the MSA is responsible on the national level or whether several MSAs are working on a local level. From the responses received from the 29 countries, 66% of the MSAs are working on the national level.

The results were also investigated by taking into account the population of countries in the EU to comprehend the level of adopted practice in the European area. In cases where the adopted comparison based on population was deviating significantly from the results, this is highlighted. The above is such a case; by transforming the results based on population [26, 27], only 25% of the European population of the countries replied under the responsibility of MSA working on the national level, which is relatively predictable, since the majority of countries with sizeable geographic area adopt practices involving local authorities.

Furthermore, the questionnaire provided information on the level of implementation of QMS based on ISO 9000 standards in the work of MSAs. From the responses of 29 countries, it was concluded that 38% implemented QMS, and 62% were not Fig. (1). By comparing the results of the first question regarding whether the MSA is a standalone authority dedicated to construction products with the replies for QMS, it was found that only 14% of those implemented QMS at the same time.

Also, the survey investigated the resources for the market surveillance activities available to the MSAs, by gathering information on the total number of inspectors involved and the availability/ expenditure of funds for laboratory testing for the year 2017. From the 29 countries, 52% responded that they employed less than ten inspectors, but most importantly, 38% declared that they did not have available funds for laboratory testing. From those countries that had available funds for testing, the responses showed that 71% had expenditure for testing less than €100,000 (Figs. 1 and 2).

The above information can give an insight into the extent of market surveillance in the Single Market, and support the findings of the Implementation Report regarding the perception among stakeholders, which was that currently the market surveillance of construction products on the Member States markets is very restricted [21]. Furthermore, there are insufficient resources reflected in the national reports

concerning market surveillance activities for the years 2010 - 2013, whereas about half of the Member States complain about a lack of sufficient resources [22].

Based on the magnitude of the construction industry in EU, contributing to about 9% of the EU's GDP [26], the findings that 38% of MSAs do not have available funds for laboratory testing, and those that do, the majority of MSAs have a budget of less than €100,000 and less than ten inspectors, there is strong evidence from the overall information collected to support that the extent of market surveillance in the Single Market is low.

3.2. Interested Parties Analysis of MSA

The second part of the survey investigated the extent of screening of the external and internal work environment performed by the MSAs (Fig. 2). The screening of the work environment is of profound importance for strategic and risk management, in order to identify the strengths, weaknesses, opportunities and challenges, so the MSAs can develop strategies in such a way that significant and long-lasting public value is created [28].

From the 29 countries, 72% replied that they did not perform any analysis of the interested parties. The responses from the rest (28%), were explored in order to understand the way the analysis was performed.

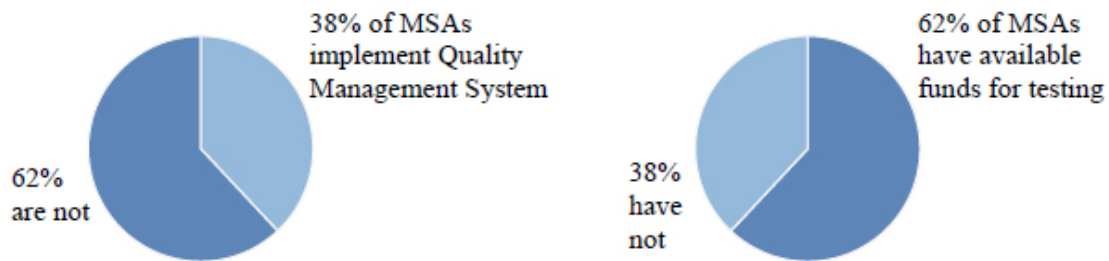


Fig. (1). Information for MSAs on implementing Quality Management System and having available funds for laboratory testing construction products.

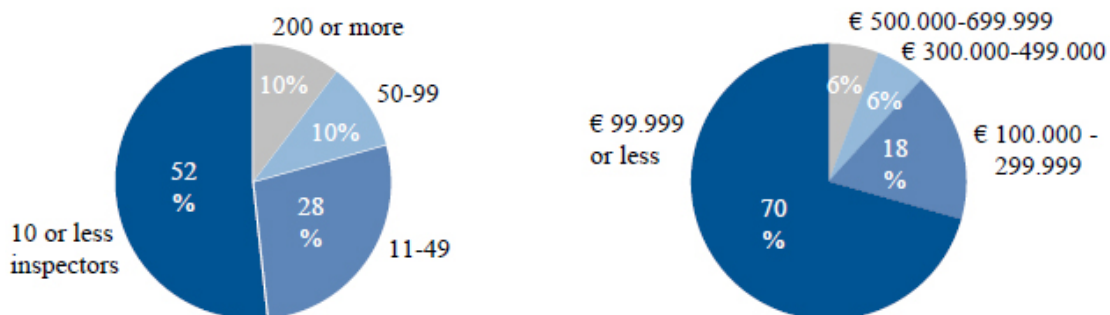


Fig. (2). Information for MSAs on the number of inspectors* involved and available funds for market surveillance activities in 2017, implementing Quality Management System, and having available funds for laboratory testing construction products (*one inspector is a person working on compliance assessment of economic operators/ products with the relevant legislation, from Monday to Friday for a total of 40 working hours). Information for MSAs on the number of inspectors* involved and available funds for market surveillance activities in 2017, implementing Quality Management System, and having available funds for laboratory testing construction products (*one inspector is a person working on compliance assessment of economic operators/ products with the relevant legislation, from Monday to Friday for a total of 40 working hours).

Regarding the type of analysis performed (*i.e.*, the identification of interested parties; identification of their requirements and expectations; the relative links between their requirements and the MSA’s processes; and identification of interested parties power and effect on the work of MSA), the two most favourite types stated were the identification of interested parties and the identification of their requirements and expectations.

Moreover, the survey explored the types of analysis used for the environmental screening (*i.e.*, *environment basics*, *e.g.*, market definition and size, market growth, market share; Political, Economic, Social, Technological, Legal, Environmental Analysis (PESTLE); scenario-based analysis; identification of key-factors for success of MSA; competitive environment analysis, *e.g.*, Five Forces Analysis; co-operative environment analysis, *e.g.*, Four Links Model; customer and market segmentation analysis; analysis of resources and capabilities of MSA; Strengths, Weaknesses, Opportunities, Threats Analysis (SWOT); external and internal system mapping). The two most favourite types stated were the environment basics, and customer and market segmentation

analysis. It should be noted that just only one member of AdCo-CPR stated that SWOT analysis was performed (Fig. 3).

The questionnaire explored how the analysis was performed and by whom. Regarding the way the analysis was performed (*i.e.*, by observation; survey; experiment; market research), the two most favourite answers were market research and observation. The majority also stated that the MSA performed the analysis.

Lastly, the survey collected the opinion of the AdCo-CPR members for the need of guidance for performing such an analysis by requesting their views on a scale of 1 to 5, where 1 means no need, and 5 means great need. The weighted average of the replies was 3.4.

All the above information supports that the majority of MSAs did not perform an analysis of the external and internal environment. The results indicate that even for MSAs who performed such an analysis, the analysis was aiming to explore the size, share and segmentation of the market, and that analysis for identifying the factors affecting the ability of the MSA to deliver its intended results [29] was minimal.

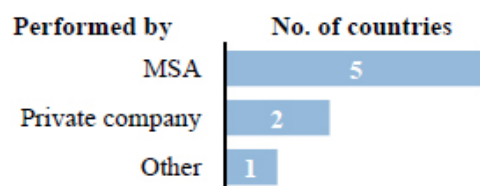
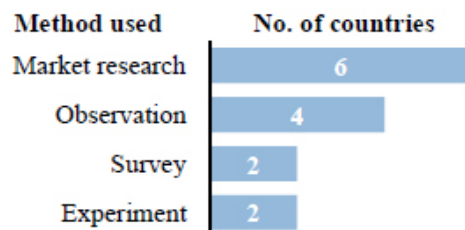
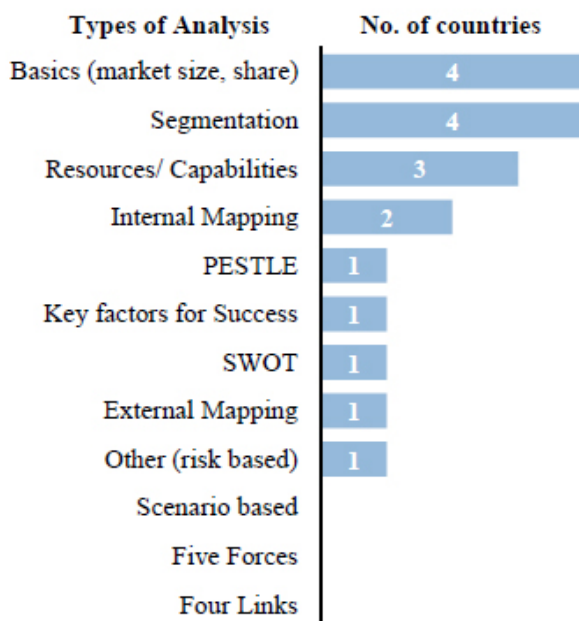
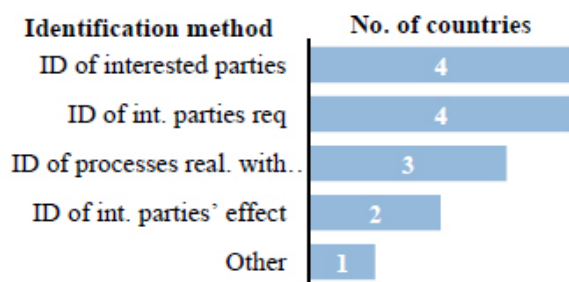
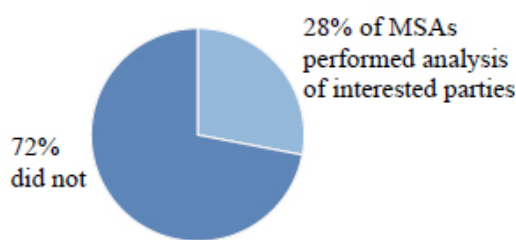


Fig. (3). Information for MSAs on performing work environmental screening (multiple answers possible).

3.3. Risk Assessment of MSA

The fourth part of the investigation was intended to review the extent of analysis performed by the MSAs for the risks and opportunities faced in the field of their work environment (Fig. 4). The reaction from the AdCo-CPR members showed that 52% had not performed an identification analysis of the risks and opportunities.

The survey also explored further the relative identification methods used. For example, by a team of experts (*e.g.*, following a structured set of questions); using evidence-based methods (*e.g.*, checklists, reviews or historical data); inductive reasoning techniques (*e.g.*, by investigating how the mitigation of risk will prevent or reduce the potential failure of achieving the requested results by the work of MSA). The responses showed that the two most favourite identification methods used were the evidence-based methods, including checklists, reviews or historical data, and then the use of a team of experts.

Furthermore, the survey investigated whether MSAs performed risk analysis after the identification of risks and opportunities. Seventy-five per cent (75%) of the respondents replied positively and were asked to indicate the relative methods used (*i.e.*, expert’s intuition; simple stratification methods, *e.g.*, green-yellow-red or high-medium-low rating scales to assess likelihood and consequence in a two-dimensional matrix; weighted scores; methods using calculus of preferences, *e.g.*, multi-attribute utility theory, multi-criteria decision making, analytic hierarchy process; probabilistic models, *e.g.*, fault tree analysis, failure mode and effects analysis, Monte Carlo method). From the replies, it was shown that the two most favourable methods used were first the

stratification method and then the use of experts’ intuition. It should be noted that none of the responses included a reference for using probabilistic models.

Next, an investigation took place on whether MSAs performed risk evaluation after the risk analysis. The responses showed that 69% performed risk evaluation. The risk evaluation criteria described were the nature and type of consequences, and how to measure them; the way probabilities are expressed; how to determine the level of risk; criteria when the risk needs to be treated; criteria when the risk is acceptable and tolerable; whether and how risk combinations will be used. From these criteria, the two most favourable methods used were first the nature and type of consequences and how to measure them, followed by the criteria when a risk is acceptable and tolerable. Again, it should be noted that none of the responses included a reference for using the way probabilities are expressed.

Lastly, the survey collected the opinion of the AdCo-CPR members for the need of guidance for identifying, analysing and evaluating the risks and opportunities faced by the MSA. On a scale of 1 to 5, where 1 means no need and 5 means great need, the weighted average of the replies of AdCo-CPR members was 3.3.

By comparing the previous information collected through the responses of AdCo-CPR members, there was only just one case of an MSA where after the analysis of the external and internal environment, the risk identification analysis and evaluation were performed. However, it should also be highlighted that this MSA was not dedicated to construction products.

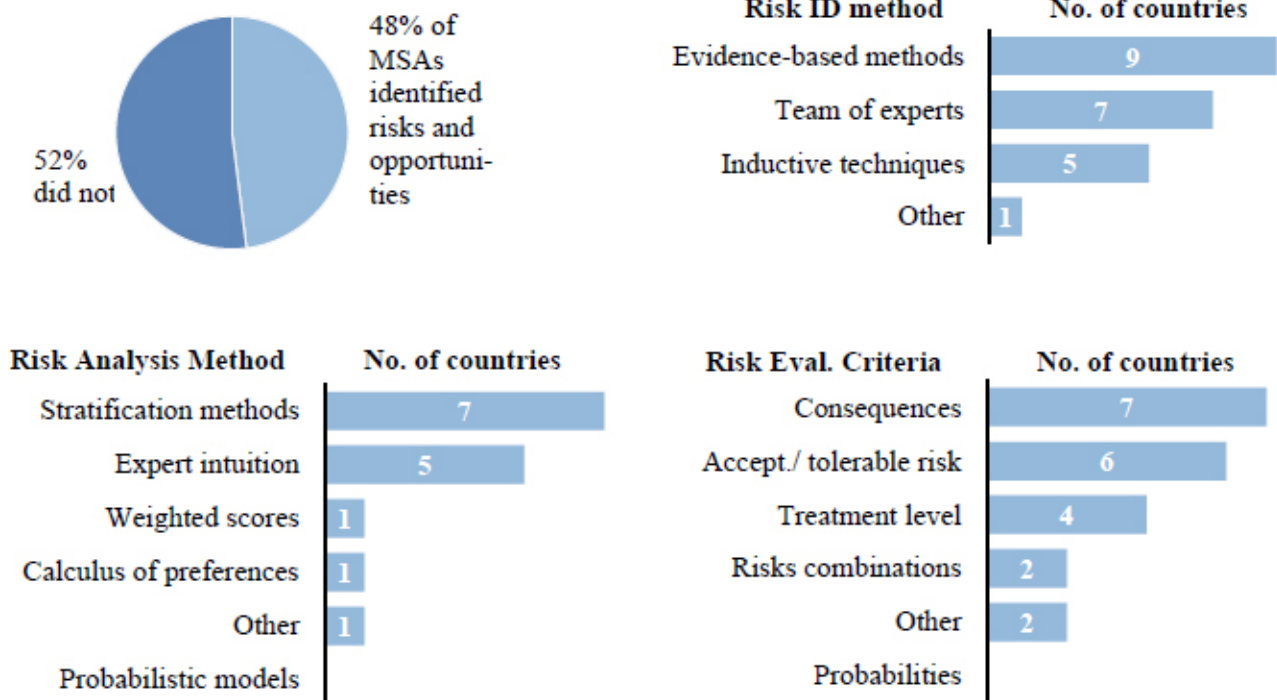


Fig. (4). Risk identification, analysis and evaluation performed from MSAs for construction products (multiple answers possible).

The first part of the analysis, *i.e.* the environmental screening, is considered the first core area of strategic management [30] and it is needed for the establishment of external and internal parameters in great detail, and particularly how they relate to the scope of the particular MSA’s risk management process [31]. Therefore, the valid question is that since 72% of the MSAs have not analysed the external and internal environment, which is a prerequisite for the risk assessment, in what way the MSAs proceeded (48%) with the identification of risks and opportunities and a number of them even performed risk analysis and risk evaluation?

The case of MSA for construction products of Cyprus is an example that can provide one explanation on the issue. Although the work environment was not screened, identification of certain operational risks for market surveillance activities was performed, and specific measures have been taken, in order to ensure that market surveillance actions are according to the legislative framework and that MSA will minimise its risk exposure in this field. Nevertheless, management-wise, these actions are only just part of the whole procedure of risk management, *e.g.*, as provided by ISO 31000, and do not fulfil the applicable requirements of the standard [31].

In this way, the results of the survey indicate that in the sense of following the risk management principles and guidelines, the extent of the relative analysis in the Single Market is low, and the use of probabilistic methods to this end is none.

3.4. Performance Measurement of MSA

The last part of the survey was designed to explore the information collected related to the management of the work of the MSAs (Fig. 5).

The members of AdCo-CPR were given an array of choices and parameters (*i.e.*, changes in external and internal issues affecting the work of MSA; changes in interested parties related with the work of MSA; performance of processes for the market surveillance activities; effectiveness of actions to address risks and opportunities; actions for securing necessary competence of persons involved in market surveillance activities; performance of external providers; effectiveness of controls in place for the external providers; performance and effectiveness of the management of the MSA; interested parties’ perceptions on the level of market surveillance for construction products; conformity of market surveillance actions taken by the MSA; information on the adequacy of resources; and effectiveness of corrective actions taken for non-conformities of the work of MSA).

As predicted, the majority of the MSAs have monitoring processes for the conformity of actions, the effectiveness of actions for non-conformities, the performance of processes and the adequacy of resources. However, based on the responses received, it was clear that the MSAs, although collecting information mainly for the operational functions, their control of the parameters for other essential management issues of MSAs is not uniform and even it is low (see information collected for effectiveness to address risks and opportunities, the performance of management, control of external providers, and interested parties perceptions).

The last question of the survey aimed to collect the opinion of the AdCo-CPR members for the need for guidance for monitoring, measuring, analysis and evaluation for the management of the MSA. Although the members did reply that specific parameters were monitored, their response indicates that there is a clear need for such guidance, since the weighted average of the replies, on a scale of 1 to 5, where 1 means no need and 5 means great need, was 3.2.

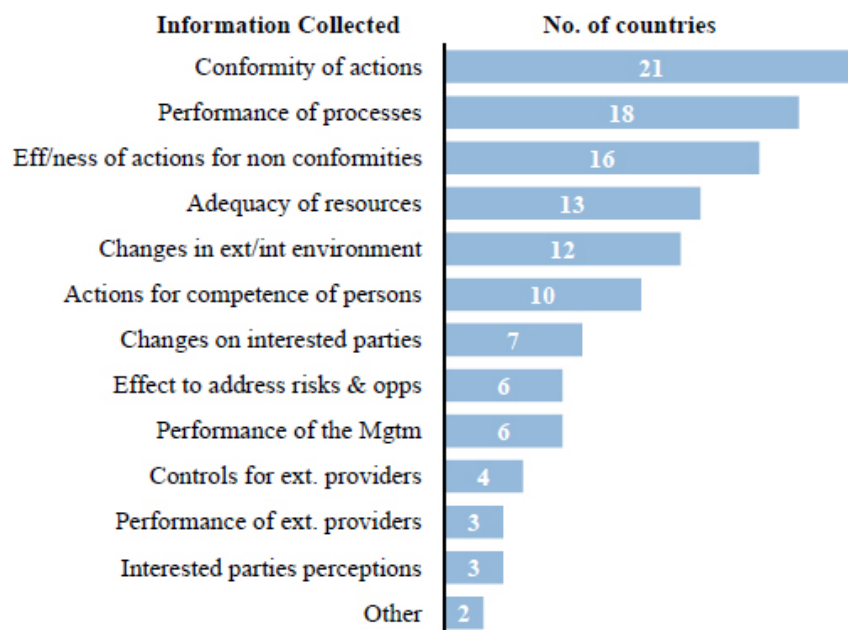


Fig. (5). Information for MSAs on performing monitoring and measurement of management.

CONCLUSION

The findings of the survey performed for investigating management perspectives of the MSAs support the position that, in general, currently the market surveillance of construction products on the Member States markets is very restricted, as it can be extracted from the conclusions of the Implementation Report [21] in coordination with the reflection in the national reports concerning market surveillance activities for the years 2010 - 2013 [27] and the magnitude of the Single Market.

The survey also provided insight for the AdCo-CPR Members' views on the current situation of the relevant management issues (*i.e.*, strategic analysis, risk assessment, and performance measurement) of the MSAs. The responses revealed that although attention may have been given to some operational regions of the work of MSAs, the extent of strategic planning for identifying the factors affecting the ability of the MSA to deliver its intended results, and the extent of the risk assessment performed by the MSAs, following the principles and guidelines, are both low. In addition, the findings support that the measurement and control of parameters related to management issues of MSAs is not uniform and can be supported that monitoring of performance can also be considered as low.

The results of the survey suggest that there is room for improvement for more efficient prioritisation and organisation of market surveillance activities to overcome the constraints linked to limited resources, which affect all MSAs-cp across EU administrations [2], and this can be assisted by effectively implementing a QMS based on the ISO 9001. Based on the responses collected, none of the MSAs dedicated to construction products has performed analysis of the external and internal environment, followed by identification of risks and opportunities, the performance of risk analysis and risk evaluation. However, merely adopting a QMS and maintaining the relevant certificates, or even fulfilling a quality standard's minimal requirements is not enough [18, 20]. It is concluded that the MSAs for construction products should consider implementing a QMS to improve the efficiency and effectiveness of market surveillance activities aiming to create public value. The implementation though should be developed only after a thorough investigation of the unique environment they operate, the relevant issues, and by gaining a deep understanding of the processes involved in order to use them as a strategic management tool to improve organisational performance.

One should note the expressed views from the AdCo-CPR members regarding the need for further guidance to the MSAs. For all the issues asked in the survey, the members replied with a score above the mean value, giving priority first to the need for guidance for the analysis of interested parties and work environment of MSA, followed by the need for guidance for the analysis of risks and opportunities, and then guidance on performance measurement. These findings suggest that further work is needed for expanding the knowledge and understanding of the necessary actions that need to be taken related to strategy, risk, and performance management of the MSAs, in order to enhance performance and effectiveness in

the relative external and internal environment.

For these reasons, an in-depth research for the strategic analysis is being carried out to identify the relevant key interested parties and their behaviour, that could positively or negatively affect the MSA's ability to provide the requested services, their requirements and expectations, as well as the external and internal issues relevant to MSA's purpose that affect its ability to achieve the intended results. At the same time, an investigation to understand the various implications of performing risk assessment through a systematic analysis of the components of a QMS based on ISO 9001 is being performed, in order to provide more information on the vulnerabilities of the system and its subsystems, allowing the MSA to determine necessary changes and types of controls that should be made. Lastly, a performance measurement system is being developed, specially modified for government and non-profit organisations that can provide top managers a quick and clear strategic picture that highlights the areas of improvement or where intervention is required.

The above investigation is expected to contribute to the understanding of the fundamental management issues the MSA has to face by highlighting the importance of considering strategy analysis, risk assessment and performance measurement in the strategy-setting process. In this way, the MSAs could gain a better comprehension of how the relative considerations may affect the choice of strategy and provide insight for the development of a sustainable, efficient and effective market surveillance system.

LIST OF ABBREVIATIONS

AdCo-CPR	= Administrative Cooperation Group for the Construction Products Regulation
CPR	= Construction Products Regulation
EU	= European Union
GDP	= Gross Domestic Product
ISO	= International Organization for Standardisation
Market Surveillance Authorities	= MSAs
PESTLE	= Political, Economic, Social, Technological, Legal, Environmental Analysis
SWOT	= Strengths, Weaknesses, Opportunities, Threats Analysis
QMS	= Quality Management System

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

The authors confirm that the data supporting the findings of this study are available within the article.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

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