

National Standardization Strategic Framework. (2008). *British National Standardization Strategic Framework*. Retrieved from http://www.nssf.info/resources/documents/Guide_to_NSSF.pdf

Shuman, L., Besterfield-Sacre, M., & McGourty, J. (2005). The ABET "professional skills"—can they be taught? Can they be assessed? *Journal of Engineering Education*, 94(1), 41–55.

Smerdon, P. (2000). *An action agenda for engineering curriculum innovation*. Paper presented at the 11th IEEE-USA Biennial Careers Conference, San Jose, CA.

U.S. House of Representatives. (2005). *China, Europe, and the use of standards as trade barriers: How should the US respond?* Congressional Hearing.

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Where Are You? Consumers' Associations in Standardization: A Case Study on Switzerland

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ABSTRACT

The expansion of international standardization has reinforced enduring questions on the legitimacy of standards. In that respect, the participation of all stakeholders, including the weakest ones (unions, NGO, consumers' associations) is crucial. Given the recognized role of consumers' associations to express legitimate objectives, the question of their representation becomes central. In order to get a deeper understanding of their participation, this article explores the evolution of their representation within the Swiss national mirror committees of international standardization between 1987 and 2007. It probes the extent to which their participation is determined by the distinctiveness of issues supposedly related to consumers' concerns and by their own use of standards. The empirical findings of our study indicate an underrepresentation of consumers' associations and confirm the topical specificity of their implication in standardization processes. Finally, we found evidence that the use of standards in an association's activities supports and encourages its participation in standardization committees.

Keywords: Comparative Tests, Consumer Participation, Stakeholders' Involvement, Standardization

INTRODUCTION

Standardization is part of the infrastructure of globalization providing cross-border nongovernmental coordination mechanisms, which formally respect state sovereignty. Various studies in organizational science and international relations have examined how voluntary and consensual

standards have become crucial tools in the organization of global markets (Graz, 2004; Tamm-Hallström, 2004; Krewer, 2005).

As the increased usage of standards affects a wide range of issues, such as environmental management, psychological tests, measures of the quality of medical services, and nanotechnologies, the quantitative and qualitative expansion of international standardization has reinforced enduring

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questions on the legitimacy of standards. In other words, who defines standard matters for the recognition of their greater use in society at large? As Ulrich Bamberg, from the German KAN (Workplace Health and Safety and Standardization Commission) emphasizes, "Standardization is characterized by a paradox of 'large minorities.'" The two biggest groups concerned (370 million consumers, including 165 million salaried employees, in the EU) are in the minority on standardization committees ... if represented at all" (Bamberg, 2004, p. 13). Given the recognized role of these actors, especially consumers' associations, to express legitimate objectives in matters of health, safety or environmental protection within the standardization process, the question of their representation, as well as the mechanisms governing their involvement within these arenas, becomes central (Fabisch, 2003; Biswell, 2004; Dawar, 2006).

Studies on the world of standardization never fail to stress the under-representation of civil society actors, such as consumers' associations, environmental protection organizations, unions, and NGOs, despite their recognized contribution to the process of legitimizing standards. Some case studies in distinct specific international committees have provided evidence of their under-representation (Morikawa & Morisson, 2004). Several scholars have highlighted that including the weakest stakeholders remains important for the perception of legitimacy in decision-making procedures that respect public interest concerns (Raines, 2003; Fabisch, 2003; Dawar, 2006). Standardization studies conventionally explain the under-representation of civil society actors in international committees of standardization by lack of financial, cognitive and

temporal resources (Egan, 1998; Schmidt & Werle, 1998; Tamm-Hallström, 2004). From a more sociological perspective, consumers' concerns in standardization are understood as a rhetorical resource under the control of standard-setters (Cochoy, 2000); yet, by identifying standardization processes as topical issues related to consumers' concerns, such a rhetorical resource may in turn reinforce consumers' effective participation (Cochoy, 2000).

While studies draw attention to the resource that consumers' participation brings to standardization organization in terms of legitimacy, they largely ignore the resource that standards can in turn bring to consumers' associations themselves, through the use of for instance comparative tests. Moreover, the study of their participation in an international committee only provides a one shot picture of their implication with no clue to its evolution in the course of time. Finally, financial, temporal and cognitive resources are determinant in explaining consumers' under-representation, but these elements remain very broad and only partially take into account the dynamics governing the involvement (or not) of these actors in standardization work.

Thus, the following questions remain largely unexplored: does the evolution of consumer's participation reflect the growing importance of standardization in society? To which extent is their participation related to the specificity of the topics standardized? To which extent does the inclusion of standards in the deliverables of consumers' associations affect their participation in committees?

This article tries to answer these questions by exploring more systematically the evolution of consumers' associations' representation within national mirror com-

mittees of international standardization processes. It probes the extent to which their participation is determined by the distinctiveness of issues supposedly related to consumer's concerns and by their own usage of standards.

Our contention is that a resource-based explanation of the under-representation of consumers' associations should bring together the resource-consuming activity of standard-setting with the resource-providing activity of consumers' associations. In other words, this article argues that the propensity to use standards in the services provided by consumers' associations is likely to affect their participation. This participation incentive is operational and topical as the specificity of consumers' issues dealt with in standardization is likely to reinforce the participation of consumers' associations.

In order to test our argument, this article provides for the first time a study of a longitudinal analysis of participation in ISO and CEN national mirror committees by exploring the case of Switzerland in 1987, 1997 and 2007. A quantitative analysis completed by semi-open interviews with participants of three representatives of consumers' associations have helped to gain a deeper understanding of consumers' participation.

Our results provide clear evidence of consumers' associations under-representation: despite a slight increase in consumer participation in mirror committees, today they are present in less than one committee out of five. Moreover, our results provide evidence of the topical specificity of consumers implication: these associations are principally represented within committees dealing with transversal themes (health, safety and the environment) as Graz high-

lights, whose definition is "intrinsically more controversial" (Graz, 2004, p. 257), as well as concerning consumer goods and services. Finally, according to our argument, we found evidence that the use of standards in an association's activities, supports and encourages its participation in standardization committees: activities that incorporate standards such as comparative trials or the selling of quality seals to producers provide financial as well as cognitive resources to consumers' associations, raise their awareness regarding standardization, leading to sustaining their overall participation.

The following section presents a discussion of the literature on civil society participation, especially that of consumer associations in standardization arenas. Section 3 outlines our theoretical framework in order to explain why the usage of standards in consumers' associations activities is likely to shape their inclination to take part in standard processes. Section 4 presents the methodology employed and section 5 presents our principal results. The conclusion reflects on the significance and limits of our findings. It emphasizes that consumers' associations are certainly a resource in the construction of the authority of standards, but standards also constitute a resource for these associations.

CONSUMER PARTICIPATION IN THE LITERATURE

Many studies mention the degree to which companies are overrepresented and civil society is under-represented, despite its recognized role in defending legitimate interests such as access to transparent information, and protection of health, the environment or work safety conditions. Their lack of resources largely explains their

under-representation as "Participation in standards development is time-consuming, resource-intensive and requires technical expertise" (Werle & Iversen, 2006, p. 36). For instance, the target time frame required for the development of a standard at the ISO is 36 months, even if this time frame may be shorter for other standard-setting bodies (NO-REST, 2005, p. 73). Furthermore, active participation involves reading and understanding the standard discussed during committee meetings, and participation in the latter further adds to the workload. In addition, participation in committees incurs a number of expenses, especially at the logistical level (travel and accommodation) and fees. Finally, technical expertise is required to comprehend and formulate propositions, since it is the basis of argumentation during deliberations. Technical language thus seems to be a "compulsory figure" for standardization (Mallard, 2000a, p. 57). While industries have access to the required technical expertise by their involvement in the production process of the goods and services subject to standardization, civil society actors find themselves far removed from the manufacturing process and its underlying technical expertise. For instance, consumer associations wish to have quality condoms, particularly in regard to resistance. The standardization work implies to translate the concept of resistance in a way that enables its physical measurement. In other words, a translation work must be accomplished between public health, safety or environmental concerns made in general terms and a series of tests organized and manipulated in a laboratory (Callon, Lascoumes & Barthe, 2001). Thus, "an understanding of at least the technical basics" (Jakobs, Procter & Williams, 2006) can overcome communication problems

between engineers and consumers' associations. It is against this understanding for instance that Morikawa and Morrisson (2004, pp. 18-22) provide evidence of the under-representation of NGO participation on two ISO technical committees, attaining three and five percent of delegates representing civil society.

The few studies of consumers' associations' participation emphasize the impact of their contributions on the process of legitimizing standards. Their presence permits public interest concerns to be taken into account, for example, through extending the notion of product safety beyond the foreseeable usage by an "average" consumer to guarantee consideration of more specific categories, such as children, senior citizens and the disabled (Fabisch, 2003; Biswell, 2004). Therefore, their participation may raise the quality of standards, thus contributing to their legitimization. More generally, representation of the least advantaged stakeholders is important in the perception of the legitimacy of decision-making procedures (Raines, 2003) and in the construction of the authority of standardization organizations. The concept of "inclusiveness" consequently makes us attentive to various material, cognitive and symbolic resources that different actors bring to the work of standardization and that are, in turn, mobilized by standardization bodies to bolster their credibility (Boström, 2006).

While the lack of resources explains to a certain extent consumers' associations' under-representation, in general it does not help us to understand why one association rather than another becomes involved in standardization. Moreover, the study of consumer participation in a particular international committee is very instructive,

but the selection criteria of these committees examined remain implicit. Thus, case studies fail to uncover the specific areas in which consumers are involved. Finally, the contribution of consumer participation to the legitimizing process of standards often leads to perceiving these associations from the angle of the resources they provide to standardization organizations. The distinct uses that these associations are likely to make of the standards have largely been ignored despite the fact that this may as well prompt them to take part in committee work. While consumers' associations provide legitimization resources to standardization organization, standards also provide resources the other way round to these associations. The next section sets out a framework of analysis which aims to explain more fully the (lack of) involvement of consumers' associations in standardization processes.

CONSUMER'S ASSOCIATIONS' USE OF STANDARDS

According to Marcus-Steff (1977), one of the main purposes of consumers' associations is to inform consumers. These informational tasks can be performed through comparative testing or labeling activities, which are mainly standard-based activities. However, consumers' associations' informational tasks concern not every object, but rather are concentrated on products and services of « mass » consumption as well as on broader societal issue (health, safety, environment). Consequently, the topical specificity of consumers' associations' implication in standardization committees should reflect these themes.

According to Cochoy (2000) the "consumer" offers a discursive resource to

standard-setters. This author also suggests that standards are a resource for the associations, for example in terms of consumers' information through comparative trials. Comparative tests are at the intersection of two types of actions available to associations to allow for the consumption of the healthiest and safest products possible: information and collective action (Marcus-Steff, 1977). According to Mallard (2000b), conducting comparative tests is a current practice that serves to feed "the consumer press" which represents a substantive part of consumers' associations' financing. Moreover, these trials have a number of connections to standardization. Firstly, like standardization, they are based on scientific analysis. Secondly, procedures governing these comparative tests are standardized (Cochoy, 2002). Thirdly, comparative trials mobilize standards for the products tested and thus may lead to a critical examination of technical specifications. Finally, in France for instance, it is still a standard that stipulates the possible use of test results by industries in order to prevent them being used for marketing purposes (Mallard, 2000b), which we readily understand since they might harm consumers' associations' credibility.

Comparative tests also create connections between consumers' associations and standardization. Conducting tests presupposes the collaboration of a journalist responsible for writing an article and the engineer conducting the test (Mallard, 2000b). This then permits consumers' associations to familiarize themselves with the technical language and to acquire some technical expertise. These tests being the occasion for a critical examination of standards, may trigger a campaign to set more demanding criteria or an expression of appreciation for

the intrinsic quality of a standard - witness an article in *FRC Magazine*, the magazine of the French-speaking Swiss Consumers Federation (Erard, 2008). In the case of a struggle to redefine the standard, they will represent a significant source of scientific arguments in standardization committees. Tests conducted by consumers' associations bring us back to promotional activities for standards since the latter are at the core of this critical practice. Whether these tests stem from a positive or negative critique of standards, they contribute to legitimizing recourse to standardization while providing standardization organization with new clients and objects: testing centers and their procedures. At the same time as comparative tests integrate standards at a number of levels, they also permit, for example, "an understanding of usage" (Mallard, 2000b). Therefore these tests are the occasion for a new interpretation of the standard resulting from the integration of consumer concerns, such as questions about usage. The subsequent critical examination of standards opens the way to consumers' associations' involvement for the (re-)definition of a standard. As we see, the activities of definition, promotion and interpretation of standards may thus prove to be related to conducting comparative tests that constitute a useful means of providing consumer information. In this way, these tests are shaped by standardization, while they contribute to shaping standardization through the medium of consumers' associations.

Against this background, our main argument is that the usage of standards by an association supports and encourages its participation to standard-setting activities. As the use of standards in the deliverables of a consumers' association make them aware of the importance of standards and

permit them to acquire empirically based arguments as well as financial resources, they take part to the process of standard-setting/-reviewing. Certainly, the usage of standards does not necessarily mean participation in committees, but it offers consumers' associations an incentive to do so. While it provides cognitive resources known to be essential to participating in committee work, it also supports comparative tests that give them additional resources in return for the time and money spent in standardization committees.

METHODOLOGY

In order to probe our argument, we collected data inventorying all participants in ISO/CEN mirror committees established within the Swiss Standardization Association (SNV) in 1987, 1997 and 2007.¹ This temporal sequence reflects the growing importance of consumers' concerns in standardization over the last 20 years. After categorizing the participants and the mirrored technical committees (see below), the resulting data base allowed us to quantify the consumers' associations representation and its evolution as well as the topical specificity of their implication. In order to obtain a deeper understanding of consumers' participation we conducted semi-open interviews with participants of three representatives of consumers' associations to identify the use of standards within these associations' activities.

As we mentioned, after incorporating the participants into our data base, we classified them by the following categories:

- **Enterprises (E):** includes businesses, etc.

- **Professional associations (ProfA):** includes associations representative of an industry or profession.
- **Public actors (PubIA):** includes federal, cantonal and municipal administrative bodies, universities, graduate schools, and hospitals, as well as associations representing public collective memberships (for example the public transport union) and institutions and foundations whose financing is essentially public or has strong links with public bodies.
- **Civil society associations (CSA):** includes associations and foundations representative of individuals' "non-professional" interests: athletic, consumer, patient, Internet user and car owner associations. As unions are also included, we did not label this group "consumers' associations."

In order to establish eventual correlations between the type of participant and the object for which standards were being set, we established the following typology of standards.

- **Definitions and methods (D):** although these aspects are included in almost all committees, some deal only with these subjects. For example, "measurement of fluid loss in closed pipelines," "system of network grids," "modular systems," etc.
- **Management system (MS),** such as quality standards in the ISO 9000 series or environmental management systems.
- **Goods and services for specialists (GS):** these are goods and services whose usage is essentially professional. For example "plastic feed

lines," "metallic and other inorganic coatings," etc.

- **Consumer goods and services (CS):** products and services that could be directly purchased and used by all consumers, such as "furniture", "textiles", or "tourist services," etc.
- **Transversal themes (TT):** this category brings together themes which cannot be directly related to a distinct industry or the above-mentioned categories. They mainly concern safety, health, and the environment, as well as emerging technologies (for example, "nanotechnologies" and "biotechnologies"). Themes concerning the environment are, for example, "air quality" or "water quality," etc. Safety issues are, amongst others, "rescue systems" or "fire detection and fire-fighting." Health-related themes include subjects such as "surgical implants," "medical computer technology," "optical ophthalmology" or even "in-vitro systems of medical analysis."

Certain themes unavoidably overlap some categories: for instance, a committee concerning "toy safety" could be interpreted as belonging to transversal themes since it touches on safety, but is also a consumer product. Similarly, the committee dealing with "environmental management" could well be classified with management systems, as well as transversal themes. We chose to classify the cases mentioned above in the most specific category, that of consumer products in the case of toys, and management systems in the second case. These different types of standards are not to be interpreted in connection with their possible influence on consumers. There-

fore, the aim is not to say that management systems have fewer repercussions on consumer life, and their participation is less important. The purpose of this typology is to see whether the type of object for which a standard is being set has an influence on the representation of the different types of actors previously defined, and whether this is consistent with our hypotheses.

RESULTS

The Most Present, but Still Under-Represented, Actors

Over the entire period studied, our sample contained 91 mirror committees in which more than 600 firms and some 18 civil society associations participated. This general finding provides an initial glimpse of the weak consumer participation in standardization work, but tells us nothing about an eventual evolution of their representation. Figure 1 presents the evolution over 20 years of the participation of the different types of organizations defined earlier. It takes into account the number of committees where a type of actor is present, regardless of the importance of the actor's role in the committee. For example, in 1987 there are 43 standardization committees where at least one company is present. Therefore, these are present in 98% of the mirror committees counted in this year.

These data confirm consumers' associations under-representation and the overrepresentation of companies. The quantitative and qualitative expansion of standardization coincides with an increase in participation of consumers' associations, present in an ever-increasing number of committees. Despite this evolution, in 2007 they are present in less than one commit-

tee in five, thus having the weakest rate of participation of all categories. Observation of committees where consumers are represented indicates that their role is a minority one. They never constitute the dominant force of a committee. Our sample presents 28 committees with civil society association participation. Two thirds of the cases—19 cases out of 28—show consumer representation by a single association. In the remaining cases, they are at best represented by three associations (one case in 2007 on the committee on information technologies). The participation of more than one civil society association in the same committee could be interpreted in two ways. Firstly, the sectorial nature of certain associations' concerns makes their participation complementary. For example, the participation of the Swiss Ski Association and the Swiss Federation of Free Flight in the committee dealing with "sports material" is understandable to the extent that these actors are concerned with different aspects of standardization work. Clearly, they are not interested in the same sports equipment. Here the participation of two associations seems complementary since they are concerned with different objects within the same standardization committee. Secondly, certain committees reveal participation of associations with seemingly similar concerns. This joint presence may be explained by a different vision of consumer interests. These associations are, thus, in competition. In this manner, we may interpret the participation of the Swiss Automobile Club and the Swiss Touring Club, two associations representative of car drivers, in the committee on "road vehicles." Being classified in the same actors category—in this case, civil society association—should not, therefore, be interpreted as signifying

Figure 1. Presence of different types of organizations

	1987		1997		2007	
	(N=44)	%	(N=64)	%	(N=72)	%
E	43	97.7	60	93.8	65	90.3
ProfA	34	77.3	53	82.8	47	65.3
PubIA	35	79.5	58	90.6	55	76.4
CSA	6	13.6	8	12.5	14	19.4
Others	8	18.2	12	18.8	16	20.8

similar interests. One has only to consider consumer preferences on electrical plugs: while identical plugs in different countries would constitute a clear advantage for consumers, again one needs to know which countries must adapt; in this case, consumers have a national interest, each one hoping that their own national system would be adopted by other countries.

Detailed analysis of consumers' associations participation also allows us to determine the stability of their presence in committees: more than two thirds of committees where they are present in a particular period still report this representation in the next period. The involvement in standardization work seems lasting. However, the stability of their presence must not minimize the importance of associations' participation which were until then absent from standardization work. In 1987 and 1997, the extension of consumer participation in new committees almost always resulted in the involvement of a new consumers'

association. It was different in 2007 when an association already active in 1987 represented consumers in four new committees. One association alone accounted for more than a quarter of consumer participation in committees! Participation in new committees in 2007 is, therefore, due more to greater participation of an association that had already participated in standardization work than to the presence of new associations. Nonetheless, qualitatively, this last period marks the addition to some committees of associations dealing more directly with health, for example, an association of patients, one for quality labeling of contraceptives or an allergy, skin and asthma foundation. Are these associations present to deal with transversal themes touching on health, as our argument suggests?

The Topical Specificity of Consumers' Participation

Now, let us examine these associations' participation in the different types of stan-

dards identified. During the period studied, certain committees were created and others disappeared, thereby reflecting technological evolutions and more extensive changes in standardization. Thus, the committees created between 1997 and 2007 mainly concern services, management systems and transversal themes. The change in the nomenclature of committees in charge of developing technical specifications within the SNV is revealing in that regard: in 2006, the label “technical committee” gave way to the more “neutral” denomination of “standardization committee”, thus reflecting the fact that certain objects for which standards were being set could not be designated as purely technical (SNV, 2006)— if the SNV argument is related to “certain objects”, science studies have convincingly argued that there is nothing such as “pure science” (Lelong & Mallard, 2000, pp. 16-20). We could observe that the number of committees dealing with products for specialists had diminished, contrary to those in all other fields. The

areas that progressed the most were standards concerning consumer products and transversal themes, especially medical fields. To a lesser extent, the spectrum of management tasks lending themselves to standardization has also broadened as only quality and environmental management were on the agenda in 1997.

Figure 2 shows the percentage of each type of committee in which consumers’ associations participated. For example, in 1987, sixteen committees dealt with consumer goods or services and consumers’ associations participated in five of these committees, which is less than a third of committees on the subject (31.3%). This table will allow us, therefore, to verify the topical specificity of consumers’ associations involvement in standardization work.

Our empirical data confirm the specificity of the topical involvement of consumers’ associations. Figure 2 indicates that participation of civil society associations is concentrated mostly on standards concern-

Figure 2. Participation of CSAs in various types of standards

	1987			1997			2007		
	(N=44)	CSA	%	(N=64)	CSA	%	(N=72)	CSA	%
D	5	0	0.0	5	0	0.0	6	0	0.0
MS	1	0	0.0	2	0	0.0	6	1	16.7
GS	12	1	8.3	16	0	0.0	13	0	0.0
CG	16	5	31.3	20	6	30.0	25	8	32.0
TT	10	0	0.0	21	2	9.5	22	5	22.7

ing consumer goods and services. Indeed, these associations are present in almost a third of committees on this subject. It appears that growing consumer involvement in standardization committees is accompanied by a diversification of topics on which they are participating. Thus, we may observe here a growing participation in transversal areas, as well as an incursion into a committee concerning management systems. However, these associations are almost totally absent from fields touching on definitions and goods and services for specialists, with only an exception or two in 1987. This participation was due to the Swiss Institute of Household Research, which was dissolved in 1992. The reasons for the dissolution of this institute provide an indication of the rare participation of a consumers’ association in a field concerning primarily specialists: “Financial difficulties, as well as the accusation of favoring manufacturers over consumers, after a media campaign in 1991, led to the dissolution of the Institute in 1992” (Joris, 2008).

Outside of this rather anecdotal participation, we must stress the fact that many objects falling into the categories of consumer goods and services as well as transversal themes are still standardized in the absence of consumers’ associations. Committees dealing with “furniture,” “toy safety” or even “nanotechnologies” reveal no presence of these actors. If we wish to remedy these shortcomings, it is then crucial to further our understanding of the mechanisms governing their participation.

The Usage of Standards, a Determining Factor

According to the above-presented literature, all interviewed consumer representatives

mention the financial, temporal and cognitive constraints related to standardization work. Technical abilities are required to understand standardization work, as well as to make any proposals. Even if the users’ input are aimed, as for instance in the ICT sector, at bringing real-world requirements (experiences and needs) to the committee members (Jakobs, Procter, & Williams, 1998), these requests have to be formalized: one respondent indicated the difficulty of bringing single experiences (Pia Ernst, Swiss Patients Organization, pers. comm., January 27, 2008) while another pointed to the need of formal studies in order to be heard (Françoise Michel, French-speaking Swiss Consumers Federation, pers. comm., January 31, 2008). To the necessarily technical skills required to participate in committees are added the abilities necessary to protect consumers. As one respondent maintained, having a technical expert was not sufficient. He or she must “still be familiar with patients’ requirements and expectations with respect to the committee’s subject.” (Pia Ernst, Swiss Patients Organization, pers. comm., January 27, 2008). The importance of this unique consumers’ association expertise is underscored by one of the main Swiss associations:

It is true that with respect to the average consumer who could probably adjust to something that is not ideal, we also protect the most vulnerable consumers a great deal, that is children, senior citizens, and people with disabilities, a field in which standardization is not yet well-adapted. We have devoted considerable time to developing perfect standards, but they were created for the average consumer... and we cannot say that there is a product dangerous only for healthy, intelligent and wealthy people... and that is a total innovation in the work...

(Françoise Michel, French-speaking Swiss Consumers Federation, pers. comm., January 31, 2008).

Therefore, as well as technical expertise, specific skills for consumer protection are necessary, which means new requirements for representatives. This impacts the possibility of mandating an external expert to sit on such committees.

Our respondents also mention a criterion of efficiency that intervenes in the choice of investing financial, cognitive and temporal resources. These associations are confronting a dilemma in the usage of these resources as they are also selling benefits which often comprise a significant portion of their budget. Consequently, when there is expertise within an association, should it be used to participate in standardization work or for the production of benefits? The use of standards in the provision of consumers' associations' benefits allows for the reconciling of these two objectives. Thus, the standards are a resource for these associations, motivating them to participate in standardization work.

Associations' participation in developing standards may be explained by the contribution and use they make of standards in their daily activities. The most active consumers' association in standardization work in 2007 is a good illustration of this aspect. Some of this association's tasks are based on the usage of standards, through comparative tests. As a representative of the association said:

To do credible tests, you have to base them on the recognized standards of manufacturers, manufacturers that you are, in fact, indirectly criticizing... Since the tests are the bases of consumer work and information, there are no tests without standardiza-

tion and without "good" standardization. (Françoise Michel, French-speaking Swiss Consumers Federation, pers. comm., January 31, 2008)

Doing these tests is, therefore, part of standardization for this association. They allow for consumers to be informed and are the occasion for a critical examination of standards. The usage of standards through the intermediary of these tests then provides cognitive resources to this association that could be mobilized to make itself heard within the committees. As our respondent explains:

If you are alone amongst 12 or 15 people on a committee, and everyone tells themselves "she doesn't know anything" or if you are someone who says: "I did tests; I had that experience; I saw that the products did not respond; this is why they didn't respond. I have a study that shows that such a percentage of the population uses this type of appliance and may suffer injuries or dangers", then someone will listen. (Françoise Michel, French-speaking Swiss Consumers Federation, pers. comm., January 31, 2008)

Taking consumers' association claims into account occurs through a technical formulation of the latter. Reliance on research allows for the translation of these general concerns into a technical language. As these different studies provide many arguments during committee work, this allows for them to be heard. We see that standards are also a resource for this association to act. The use of standards is part of consumer information and brings with it cognitive resources. Thus, an association's use of standards allows for the

reconciling of participation in committees and the provision of benefits.

An association's use of standards does not only occur through comparative tests. In that respect, the Association for the Condom Quality Seal reveals another use of standards. Let us rapidly trace the history of this association:

The Association for the Condom Quality Seal was founded in 1989. It grew out of the working group responsible for contraceptives within the framework of the SNV in Zurich... Despite everything, to be able to give enough "weight" to this standard, the Swiss Consumers Federation, the Consumers Protection Foundation and the Swiss Help Against AIDS created the Association for the Condom Quality Seal." ("Qui est l'association pour le label de qualité ?", n.d.).

Among the originators of this association are personalities who were part of the technical committee, but on behalf of the Federal Office of Public Health or EMPA (Swiss Federal Laboratories for Materials Testing and Research). End-consumers are not members of this association, but are represented through affiliated consumers associations. This case is very significant because it shows how associations with broader concerns are, along with public actors, behind the creation of an association that would then guarantee consumer representation. Moreover, this association is based on standardization: on one hand, its existence stems from standardization work and the links formed between diverse consumers' associations and public representatives. On the other hand, the determination of the label is a function of the conformity of contraceptives to the corresponding standard. The association is only financed through sales of the label:

The Association for the Condom Quality Seal is naturally financed by the sale of the label. Companies wishing to use the label on their contraceptives pay the association a certain amount for each batch and this finances the association... then we buy contraceptives in Switzerland, have them tested and finance the evaluation of the results. (Dr. Johannes Gauglhofer, Association for the Condom Quality Seal, pers. comm., January 21, 2008)

This evaluation is then done by a member of the association. This case brings out two significant elements. On one hand, it confirms the links and relationships existing between the activities of definition, promotion, interpretation, and implementation of standards. Involvement in one of these activities may also lead to participation in other activities of constructing the authority of standards. Secondly, it confirms the importance of the usage of standards in an association's activities to explain its involvement in standardization work. Again, this association's utilization of standards allows for the reconciling of participation in committees and the provision of benefits. This case demonstrates that participation in standardization is not only a burden, but may also be the basis of an association's financing. Consumers' associations are certainly a resource in the construction of the authority of standards, but standards definitely provide resources to these associations too.

In contrast to these two cases, one may point to an association of patients that only participated in a single meeting of a standardization committee in 2007. The association makes no use of standards and remains skeptical of standardizing issues of a less technical nature. The representa-

tive we interviewed mentioned, however, a participation in the creation of "guidelines" formulating best practices in the medical field. This guidelines-setting activity takes place in collaboration with professional associations on issues such as "communication with the patient" or "information before intervention." Participation seems more accessible, since the association can directly refer to its own experiences, thus avoiding the technical "compulsory figure": "Discussions are less technical... we can often also come back to our experiences, for example in the matter of advice..." (Pia Ernst, Swiss Patients Organization, pers. comm., January 27, 2008). The preparation of these guides to good practice, therefore, allows for the use, as is, of experiences and the recounting of observations, in contrast with standardization work where demands usually formulated in terms of general objectives must be translated into a technical language.

These different cases show that the frequent usage of standards by consumers' association is important in explaining their participation in standardization work. Some of the tasks of the most active association in standardization work rely on the use of standards (conducting comparative tests). Similarly, the activities of the Association for the Condom Quality Seal are based almost entirely on standardization. Thus, associations using standards in their activities have become familiar with the constraints of technical language and may make reference to research and tests to make themselves heard. This research allows them to formalize past experiences and thus be able to show their worth in committee discussions. Finally, the use of standards by these associations allows them to reconcile participation in committees

and the provision of services. Therefore, we understand how the role of standards in an association's provision of services acts as an incentive to participation.

CONCLUSION

With the rich empirical material collected, we were able to test our argument about consumer participation. The results clearly demonstrate the weakness of consumer representation, resulting from both a lack of material resources, and also and perhaps especially, the lack of technical expertise. Although their participation increased in absolute terms over the period, in 2007 consumers' associations were only present in a fifth of the committees, comprising the lowest level of participation. Moreover, it remains to be seen whether their participation could achieve significant influence on the contents of the standards under elaboration.

Technical expertise clearly appears to be a major constraint for consumer participation. Technical skills are determinant even before any participation, since they are necessary to evaluate the relevance of participation in a committee. Moreover, these technical aptitudes are crucial throughout standardization work, whether it is a question of understanding propositions or formulating them. In this sense, the use of standards in consumers' associations' benefits can provide them the technical expertise through the recourse of research and tests, allowing consumers' associations to comply with the technical "compulsory figure." Comparative tests or labeling activities provide arguments during deliberations as well as an informational tool for consumers. The use of standards in consumers' associations'

benefits is important in explaining their participation because it allows for a more efficient articulation of the crucial resource of time, expertise and money. This article suggests that the classical resource-based explanation of their under-representation needs some refinement. Observing the use of standards in consumers' associations' activities can provide, as we have seen, a useful perspective on the reasons of their participation.

Not surprisingly, consumers' associations participate in committees on consumer products, and always more where transversal topics are concerned, thus confirming our argument on topical incentive. It is, therefore, appropriate to ask what influence a broadening of the themes touched upon could have. Standardization of transversal themes or services seems more difficult to formulate in purely technical language. Will the appearance of these new issues allow the consumers' associations to recognize their own experiences more easily within committees? The question remains open but we may suppose that the long tradition of technicality of deliberations might contribute to closing the window of opportunity that these new fields represent.

As a concluding remark, we suggest that the use of standards may also raise consumers' associations' consciousness about the social, economical and political impacts of standards which may in turn reinforce their participation. In that way, their participation could be conceived as a political action which takes place in the realm of "political consumerism". If this holds true, questions of legitimacy and accountability of these associations promise to become an important research issue.

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REFERENCES

- Bamberg, U. (2004). Le rôle des syndicats allemands dans le processus de normalisation national et européen. *Newsletter du BTS*, 24-25, 12-16. Retrieved December 10, 2008, from <http://hesa.etui-rehs.org/fr/newsletter/files/Pages12-16.pdf>
- Biswell, K. (2004). Consumers and standards: increasing influence. *Consumer Policy Review*, 4(6), 177-185.

- Boström, M. (2006). Regulatory credibility and authority through inclusiveness: Standardization organizations in cases of eco-labelling. *Organization*, 13(3), 345–367. doi:10.1177/1350508406063483
- Callon, M., Lascoumes, P., & Barthe, Y. (2001). *Agir dans un monde incertain. Essai sur la démocratie technique*. Paris: Seuil.
- Cochoy, F. (2000). De l'« AFNOR » à « NF » ou la progressive marchandisation de la normalisation industrielle. *Rezeaux*, 102, 63–89.
- Cochoy, F. (2002). Une petite histoire de client, ou la progressive normalisation du marché et de l'organisation. *Sociologie du Travail*, 44, 357–380. doi:10.1016/S0038-0296(02)01238-4
- Dawar, K. (2006). Global governance and its implications for consumers. *Consumer policy review*, 16(1), 2-4.
- Egan, M. (1998). Regulatory strategies, delegation and European market integration. *Journal of European Public Policy*, 5(3), 485–506. doi:10.1080/135017698343938
- Erard, L.-O. (2008). Sécurité: Fumer n'est pas jouer. *FRC Magazine*, 12, 4.
- Fabisch, G. (2003, December 8-9). *Consumers and standards: Consumer representation in standards setting*. Paper presented at the Cotswolds Conference. Retrieved December 10, 2008, from <http://www.stanhopecentre.org/cotswolds/Fabisch%20Paper%202003.pdf>
- Farquhar, B. (2006). Consumer representation in international standards. *Consumer Policy Review*, 16(1), 26–30.
- Graz, J. C. (2004). Quand les normes font loi. Topologie intégrée et processus différenciés de la normalisation internationale. *Revue Etudes Internationales*, 35(2), 233–260.
- Jakobs, K., Procter, R., & Williams, R. (1998). User participation in standards setting – the panacea? *ACM Standard View*, 6(2), 85–89. doi:10.1145/301688.301693
- Joris, E. (2008). Institut suisse de recherche ménagère. In *Dictionnaire historique de la suisse*. Retrieved December 10, 2008, from <http://www.hls-dhs-dss.ch/textes/f/F16503.php>
- Kerwer, D. (2005). Rules that many use: Standards and global regulation. *Governance: An International Journal of Policy, Administration, and Institutions*, 18(4), 611–632.
- Lelong, B., & Mallard, A. (2000). Présentation. *Rezeaux*, 102, 9–34.
- Mallard, A. (2000a). L'écriture des normes. *Rezeaux*, 102, 37–61.
- Mallard, A. (2000b). La presse de consommation et le marché. Enquête sur le tiers consommériste. *Sociologie du Travail*, 42, 391–409. doi:10.1016/S0038-0296(00)01087-6
- Marcus-Steff, J. (1977). L'information comme mode d'action des organisations de consommateurs. *Revue Française de Sociologie*, 18(1), 85–107. doi:10.2307/3320870
- Morikawa, M., & Morrison, J. (2004). *Who develops ISO standards? A survey of participation in ISO's international standards development processes*. Retrieved December 10, 2008, from http://www.pacinst.org/reports/iso_participation/iso_participation_study.pdf
- NO-REST. (2005). *Networked organisations – research into standards and standardisation*. Retrieved May 10, 2008, from http://www.no-rest.org/Documents/D05&6_Final.pdf
- Qui est l'association pour le label de qualité?* (n.d.). Retrieved December 10, 2008, from <http://www.guetesiegel.ch/>
- Raines, S. (2003). Perception of legitimacy and efficacy in international environmental management standards: The impact of the participation gap. *Global Environmental Politics*, 3(3), 47–73. doi:10.1162/152638003322469277
- Schmidt, S. K., & Werle, R. (1998). *Coordinating technology: Studies in the international standardization of telecommunications*. Cambridge, MA: MIT Press.

SNV. (2007). *Jahresbericht 2006*. Retrieved December 10, 2008, from http://www.mysnv.ch/document_show.cfm/Jahresbericht%202006?wm=c%28614%29c1%282%29cv%28200706181518%29&ext=*

Tamm-Hallström, K. (2004). *Organizing international standardization: ISO and the IASC in quest of authority*. Cheltenham, UK: Edward Elgar.

Werle, R., & Iversen, E. J. (2006). Promoting legitimacy in technical standardization. *Science & Technology & Innovation Studies*, 2, 19–39.

ENDNOTE

¹ Our data encompass all mirrored committees in « interdisciplinary stock of standards » (INB) that is under the organizational responsibility of the SNV. Standardization committees that are under the organizational responsibility of sectoral professional associations are not included.

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