# Qualitative Analysis of Interviews with Municipal Officers Toward the Human-Centered Improvement of the eLen Regulation Database System

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**Abstract.** The objective of this study is to analyze results of interviews that we conducted with Japanese municipal officials who have engaged in legislative drafting and to present main issues addressed by the interviewees. Moreover, based on the results of analysis, it aims to clarify remaining problems that legislators face with during legislation, which will be necessary conditions for expanding and improving human-centered functions of e-legislation systems. Using qualitative analysis of interviews with municipal officers, this paper identifies the following four issues addressed by interviewees: (1) inconsistency among ordinances; (2) inconsistency of an ordinance; (3) insufficiency in consideration of legislative objectives and facts; (4) inadequacy of legal research. Based on the results of interview analysis, this study clarifies whether the eLen regulation database system copes with them and discusses remaining problems. Overall, it illustrates that some functions included in the eLen are helpful for diminishing those issues. However, in order to overcome the problems with which legislators face in the process of legislation, the results of this study show that it is significant to provide legislators education, such as trainings for the way to use the system and benchmarking method or for learning legislation process. Although the eLen has already implemented several instructive mechanisms, we will improve further the system so that users can learn the proper process of legislation through the usage of the system.

**Keywords:** Legislation, e-Legislation, Regulation database, Municipality, Local Government, Qualitative analysis, Interview

## 1 Introduction

The authors have been developing and operating the eLen regulation database system to support legislation in municipalities. This system has a built-in database that covers more than 90% of all local governments (about 1790) in Japan and has been used by many municipalities since 2013. Moreover, it realizes automatic creation of “Benchmarking tables” for comparing regulations enacted by different municipalities, which

are created by automatic clustering of similar regulations [1]. The screenshot of this eLen is shown in Figure 1.

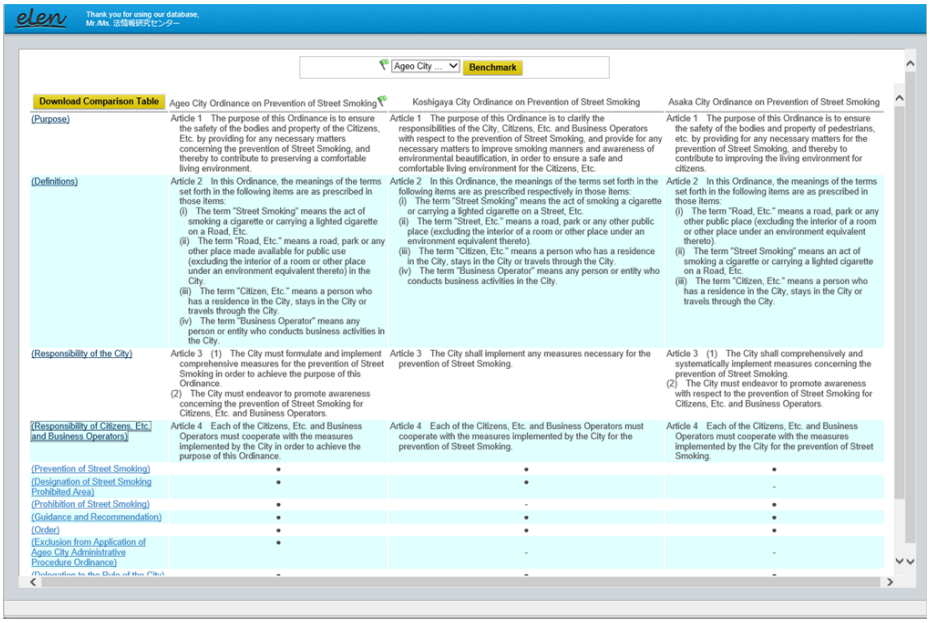


**Fig. 1.** Benchmarking Table

There is previous research that introduces the eLen database system with the functions illustrated above [2], which was proposed and created by the authors based on interviews with many local government officers in Japan [3]. The salient issues raised by those interviewees concern preparation for legislative work, such as investigation and comparison of existing regulations. It is also pointed out that collecting similar regulations and producing tables for comparison among regulations are ad hoc, intuitive and time-consuming. The most obvious finding of the previous research that emerges from the interviews is that all respondents answer that they have enacted regulations by referring to precedent and similar regulations, and sometimes regarding them as models. Additionally, an analysis of regulation data as well as operational results of the eLen are also indicated in the paper above [2]. However, a detailed analysis of those interviews conducted by the authors was not made when the eLen database system was designed, and only functions that were frequently requested by municipal officers who have engaged in legislation were realized. Therefore, the previous research indicates that the eLen covers the outstanding needs of municipal officers, but questions remain as to whether these functions alone could make legislators' work easy and provide sufficient human-centered legislative support.

Furthermore, the authors' study has been conducted as part of "legal engineering" [4] and "e-legislation" [5] studies, aimed at "applying information science and software

engineering to laws in order to support legislation" (p.322) [4] as these laws can be regarded as specifications in society. In this paper, the term "e-legislation" is used to refer to introduction of IT and ideas of information science to legislative work as well as rulemaking in general. Since much information and legislative work process will be accumulated as intermediate products and the history of an e-Legislation process in the form of digital data, those products of legislative work can be visualized and organized more objectively. Thus, e-Legislation can make legislation process more precise and more efficient. For instance, it would be able to help people who engage in legislation discover new issues and identify mistakes.

Moreover, not only can e-Legislation contribute to streamlining of administration in Japanese municipalities, but it also has the potential to export the e-Legislation system itself to other countries. The data that are stored as intermediate products of e-Legislation are not only the one such as texts of articles and proceedings of legislation process, but also structures of policies and rule description methods that are formulated as abstract models in the e-Legislation process. In other words, e-Legislation intends to develop the data that include semantic structure instead of superficial text information. The study that handles such semantic information was born in the 1970s in the field of artificial intelligence, developed as "knowledge engineering," and has been called "ontology" since the mid-1980s. This research aims to make use of the data that are called "knowledge" in such fields [5].

Thus, the objective of this study is to analyze results of interviews that we conducted with Japanese municipal officials who have engaged in legislation in local governments. Moreover, based on the results of analysis, it aims to clarify remaining problems in the process of legislation, which will be necessary conditions for pursuing ways to coordinate and integrate interface between human and information technology (IT). Since there is no other previous research on needs surveys of Japanese municipal officers regarding legislation except our research [3], this paper will use the interview data gathered through the previous research.

The paper has been organized in the following way. The second section is concerned with the methodology used for this study (section 2). In the section 3, first, an overview of the legislation situation as well as the common process of legislation in local governments in Japan will be given (3-1). There are two types of ordinance legislation in municipalities: new enactment and partial revision of ordinances. This paper will not deal with the latter as there is already support system provided by private companies. In the next part of the section 3 (3-2), it will identify issues addressed by interviewees who have engaged in legislative work. The Discussion section will assess whether the functions included in the eLen regulation database and its extensions cope with those issues and clarify the remaining issues that will be expected for human-centered improvement of the eLen regulation database system (4). Finally, this study will conclude with a brief summary (5).

## 2 Methodology

The study uses qualitative analysis of interviews conducted by authors in order to gain insights into issues addressed by officials in Japanese municipalities in the legislation process. In-person and semi-structured interviews with municipal officers who belong to a division of legislation were implemented by authors in all local governments (19 cities, 13 towns and a village[1]) in Kanagawa prefecture in Japan. Additional in-person and phone interviews were conducted to reinforce the needs surveys. Moreover, a short questionnaire was designed to ascertain the participants' ways of legislative work. There are 66 notes taken during and after interviews as well as 33 answers of questionnaires collected from September of 2011 to May of 2014.

The reason we selected neither members of assemblies nor lawyers but local government officials as interviewees is that there is a situation in Japan that officials usually prepare for legislative work and engage in legislative drafting. For instance, in a survey conducted by the National council of Municipal Councils, the total number of ordinances submitted by members of assemblies in all cities (814) in Japan was 687 during the year from January 1, 2017 to December 31, 2017. It means that only 47% of the cities (386) have submitted legislative drafts [6]. In addition, the average number of submissions in a city where there was a case of legislative proposals was 1.8. Looking at this in all local governments, including prefectures, cities and towns, ordinances proposed by the head of municipalities occupy about 85% of the total [7]. Moreover, even though regulations are drafted by members of assemblies, those who help the members with legislation as staff in Assembly Secretariat is also local government officials in Japanese municipalities. Moreover, we chose officers in a division of legislation as interviewees, since they deal with a wide range of legislation across many divisions in a municipality and that all drafts of ordinances and regulations are scrutinized by this division.

After coding transcribed texts of 66 notes, qualitative analysis of the data was conducted to identify the issues addressed by interviewees regarding legislation in municipalities. Further data collection is required, but as there are no other qualitative data of interviews with Japanese municipal officers regarding legislation process, the survey

[1] The respondents of surveys are as follows: City of Yokohama, Kawasaki, Sagamihara, Yokosuka, Hiratsuka, Kamakura, Fujisawa, Odawara, Chigasaki, Zushi, Miura, Hatano, Atsugi, Yamato, Isehara, Ebina, Zama, Minamiashigara, Ayase, Town of Hayama, Samukawa, Ooiso, Ninomiya, Nakai, Ooi, Matsuda, Yamakita, Kaisei, Hakone, Manazuru, Yugawara, Aikawa and Village of Kiyokawa. Although an interview and questionnaire were also conducted with the Kanagawa Prefectural Government during the same survey period, the results have been excluded due to many differences between prefectures and other scales of municipalities. In addition, respondents' comments are not representative of the municipality's views, but their opinions. The municipality's names are hidden in this paper, since some of them would not like to disclose their names.

run by authors would be useful sources to know needs of legislators when the e-legislation support system is developed.

## 3 Legislation in Local Governments

### 3.1 Background of Legislation in Local Governments

It is provided that local governments shall have the right to manage their property, affairs and administration, and to enact their own regulations as far as laws and regulations are not violated (Article 94, The Constitution of Japan). Thus, each municipality in Japan, the total number of which is 1772 in 2020, has established ordinances [8]. Ordinances are enacted, amended and abolished by decisions of assemblies. The right to propose these ordinances is given to both the head and members of an assembly of a municipality, but most of which are proposed by the former [6-7].

It is the local government officials who play roles of drafting ordinances submitted by the head of municipalities. Members of a division in charge of a specific area of ordinances have a responsibility of drafting ordinances. Then, the drafts are passed to the division of legislation in order to scrutinize it carefully. After reviews by the legal division, they are submitted to the Assembly [9]. Although most of the staff in the divisions that have responsibility for ordinances do not have technical knowledge on drafting ordinances, Japanese ordinances are supposed to be written, following unique and detailed legislative drafting rules as well as using specific language in accordance with laws and regulations. These rules and terms are different from everyday language and are not easily learnt.

Thus, the role of the staff in the division of legislation is to help the staff who has to make legislative drafts and is not familiar with such complicated rules and manners of drafts. Specifically, the legislative divisions examine drafts in terms of violation or conflicts of laws, objectives of making new regulations, applicable structures of ordinances, usage of legal words, influences of the concerned ordinances on other ordinances and regulations in the municipality and so on [10]. However, in general, even legislative staff acquires knowledge and skills in legislative drafting through OJT. They are not also law professionals and, even those with many experiences in legislation usually have to move to other departments a few or several years later, just like any other staff members, so that new staff members need to be trained from the beginning.

Ordinances play a very important role in implementing policies in local governments and in setting rights and obligations of residents. Nevertheless, the staff who has responsibility for preparing ordinances are not necessarily fully experienced, especially in small municipalities where it is difficult to secure sufficient human resources. Such current situation could lead to overlook mistakes of ordinances after its enforcement.

Despite such difficult situations in human resources and training of staff in local governments, in Japan, there is a situation that local governments have been expected to formulate ordinances more spontaneously because of the movement from centralization to decentralization. The basic idea of this movement was that administrative services that are close to residents' daily lives should be managed by local governments, so that "the autonomy and independence of local governments would be enhanced and

enable them to fulfill the responsibilities to develop unique and dynamic local societies" (Article 2, Decentralization Promotion Act, 1995). However, it is also pointed out that the number of ordinances that municipalities should enact individually has increased because of the decentralization, which has also led to increase burdens on officers as regards legislation.

### 3.2 Results: Situation of Legislation and Issues Addressed by Municipal Officials

In order to clarify the remaining problems that municipal officials face with during legislation, this paper will present four main issues ((1)〜(4)) addressed by the interviewees who engaged in legislation process. According to interview surveys that were conducted by the authors with the legislative section staff of local governments, the following two types of legislation were cited as cases where ordinances were drafted. Namely, revisions of ordinances and enactment of ordinances. As mentioned above, this study will describe only the new enactment cases.

In the case of new enactment, municipal officers answered that they had mainly drafted ordinances in two patterns: by modeling standard examples to be followed if they are provided by the central government or prefectures, and by referring to the similar ones that were enacted by themselves in the past or by other precedent municipalities (C, L, Q City; A, D Town and many others).

When new ordinances are planned to enact in municipalities, all the respondents answered that they always referred to similar ordinances enacted by themselves or precedent municipalities, unless there are standard examples provided by the central government or prefectures. The Government used to provide such models of ordinances to municipalities, and they obeyed them before decentralization. However, from the viewpoint of decentralization and local autonomy, standard examples have been offered only on the limited matters. The following examples were indicated by respondents (F, K, M and Q City; E, F and J Town; A Village): ordinances on the police, firefighting, tax, allowances, national health insurance, officials' salary, all of which need to be enforced impartially among municipalities.

**Issue: (1) Inconsistency among Ordinances.** In the case of referring to standard examples provided by the central government or prefectures, an issue addressed by the respondents is that it is laborious for drafters to follow both the unique rules of legislative drafting and usage of legal words that each local government has decided by custom (G and K City; B and I Town).

> Each municipality traditionally has kept its own rules on how to draft ordinances. For example, even ordinances about establishment of public facilities are different in detail among municipalities. Overall, they are similar, but there are some different parts (B Town).

> When we refer to standard examples, I think there are a few problems. Take ordinances about salary, for example, there is a huge difference in prescribing among municipalities…(A Village).

When drafters intend to follow the standard examples, inconsistency among ordinances that were enacted by a municipality will cause. Therefore, officials have to tackle laborious amendment tasks to avoid inconsistency in terms of drafting rules and usage of legal words.

**Issue: (2) Inconsistency of an Ordinance and (3) Insufficiency in Consideration of Legislative Objectives and Facts.** Makise [8] suggests that municipal officials do not refer to standard examples under the current situation, but to precedent ordinances enacted by other municipalities when they consider legislative drafting [8]. In the interviews conducted by the authors, most of respondents, at first, hesitated to admit that they drafted ordinances by referring to the precedent ones produced by other municipalities. However, some remarks show that officials think this way of legislative drafting positively as follows:

> We have no choice but to prepare for drafts by referring to precedent ordinances, but it's not like just copy and paste. I think it would be allowed if we try to cut out a good part and make it our own (D Town).

> It is true that small towns cannot store know-how for legislation, or that officials don't have time to study at all. The staff of each division has to do various projects, often alone. The situation is the same in legislative drafting. So, after all, we couldn't help gathering similar ordinances of the same prefecture, comparing them, and picking up some articles (D Town).

> When you put a penalty in or out of an ordinance, considering which degree is applicable, honestly, it is not so easy to decide, so after all, it is safe if we follow the others (D Town).

> Looking at ordinances of other local governments, I sometimes notice the background or policies of the ordinances are different from my own, and I think that will also deepen the policies of my city (D City).

Despite many merits of the method mentioned above, other respondents raise some problems with this method: (2) the issue of inconsistency that caused by doing "patchwork" and (3) the issue of insufficiency in consideration of legislative objectives and facts. These issues are clearly indicated by an official of a city (D City) as follows:

> I think there are two problems. One is the problem of terms. For example, there are cases where it is not or difficult for even a term to be consistent in the same draft. As the same term could have a different meaning, the procedure or targets of support [provided by the ordinance][2] could be changed according to the meaning. Also, if a city defines a term, but the other doesn't, and then the draft is created by copy and paste, such a draft would be inconsistent.
>
> The other problem is "ordinances without soul." Namely, ordinances should be drafted based on aims. And then, methods to carry out the aims should be stated in the following articles. So, without considering aims, "doing patchwork" would create "ordinances without soul." But, after all, such things are not problems of a system, but those of users.

The second issue is also addressed by several officials as follows:

> The persons in charge of legislative drafting in each division often explain about the legislative facts or contents of ordinances by bringing feelings, so I always need to ask them to think reasons of legislation properly. But, I have trouble with this issue the most, what's more, it takes time the most (K City).
>
> It is often the case that drafters just think it's not a problem to copy and paste of the precedent ordinances. There are many examples that drafters bring drafts to the legislative division and want us to check it. But, such drafts are frequently difficult to read. When I asked them the reason of that, they answered they copied and pasted good parts of ordinances enacted by this and that city. It happened a lot (B Town).

**Issue: (4) Inadequacy of Legal Research.** The last issue pointed out by many respondents is common in all the cases of new enactment of ordinances. It is the issue of inadequacy of legal research. Many respondents presented that searching relevant laws and relevant ordinances of other municipalities are hard and endless tasks that they spend a lot of time for (F, G, H Town and many others). As explained above, under the situation of decentralization, the new era began, in which municipalities can enact their own ordinances with the bounds of laws. It can be allowed that a municipality makes a regulative ordinance if there is rationality that the region of the municipality needs its regulation. Specifically, making ordinances is regarded as a range of municipal discretion under certain conditions, even if it regulates more strictly than national laws and regulations with the same objectives and restrictive methods ("Uwanose"), or even if it creates additional regulation standards to the national standard ("Yokodashi"). Thus, officials who mainly conduct legislative work in Japanese municipalities are required to consider whether the ordinance violates such rules very carefully in the process of legislation. Moreover, if new enactment including revisions of ordinances has effects on

[2] The sentence in a bracket was inserted by the authors for giving a supplementary explanation of the remark of the interviewee.

current regulations enacted by the municipality, they should be also revised simultaneously.

> When we make ordinances, it's so difficult and troublesome in checking relevant laws and regulations. In short, "Yokodashi" and "Uwanose". So, if the system checks such points, that will be great. I don't know whether it is possible on the system or not. (B Town).

# 4 Discussion

The results mentioned in the previous chapter indicate that there are four main issues raised by municipal officials who have engaged in legislation. In this section, this paper will discuss possible responses to each issue. Particularly, it will identify whether functions included in the eLen regulation database system cope with those issues and clarify remaining problems.

## 4.1 Response to the Issues Addressed by interviewees

**Response to the Issue (1).** A possible response to the laborious tasks that municipal officials need to tackle to avoid inconsistency in legislative rules and usage of legal terms is the function of "Context Searching" that the eLen provides as shown in Figure 2. This function might be useful to check the manner of expressions and the way to prescribe regulations in a municipality if users narrow the searching range to the own municipal regulations.

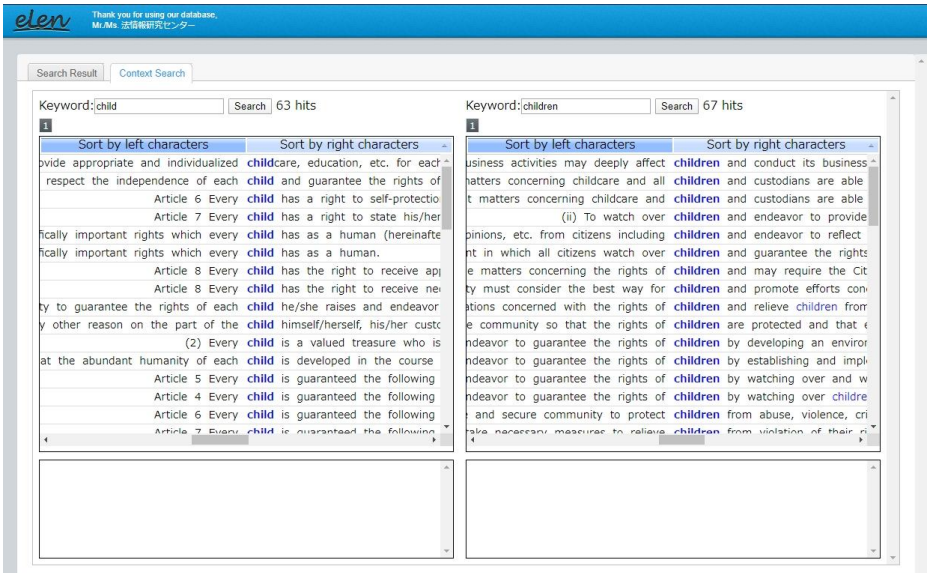


**Fig. 2.** Context Searching

Moreover, there are some types of ordinances that tend to enact repeatedly. For example, specific ordinances, such as those on establishment and management of public facilities, are required to be enacted under the law (Article 244-2, Local Autonomy Act). Every time when a new public facility is established in a municipality, it must make an ordinance on establishment of the facility to follow the law.

For those who do not have an experience in enactment and have difficulties in drafting even typical ordinances, an extended function of the eLen, which will create templates automatically as shown in the Figure 3, would be helpful. The "template" function of the eLen[3] would enable drafters to enact ordinances more efficiently as they could start to consider the draft by referring to an example. In addition, drafters can create a standard sample of each municipality by narrowing targets of municipalities searched in the eLen to its own ordinances, so that it would make officials work more easily on checking consistency among ordinances enacted by the municipality before.

[3]The extended version of the eLen can automatically create a template by extracting common parts from similar regulations clustered by AI. In the template, different parts of regulations are shown as blanks and users can select one of choices to complete the regulation. If you change clustered groups, various templates can be automatically created by the eLen.


**Fig. 3.** GUI of a template in the extended version of the eLen

**Response to the Issue (2) and (3).** The eLen was developed based on the needs of officials in local governments, which were that of making laborious work on searching and gathering ordinances among different municipalities more efficient, and that of making time-consuming jobs on creating comparison tables among referring ordinances more easily. There was no tool by which enabled drafters to search ordinances among different municipalities and to create comparison tables easily before the eLen was released to every municipality in Japan. Drafters used to do the task by looking for other municipal websites one by one, and to create a table by copying and pasting parts of ordinance texts.

After the release of the eLen, local government officials were released from many laborious tasks by using functions of the eLen, such as cross-searching, searching on attributes to municipalities, clustering ordinances for display, and benchmarking table to compare some ordinances. Users can research regulations including ordinances enacted by approximately 1700 municipalities with key words. The results of searching can be narrowed down by putting additional conditions on attributes to municipalities, such as the size of municipalities, population, industry, and the area of municipalities as indicated in the Figure 4. The list of the searching results also can be classified by the function of clustering according to the descriptive similarity. Moreover, the eLen provides a comparison table of each article that is lined up in accordance with the same heading as seen in the Figure 1. This function of creating comparison tables, which are named as “Benchmarking Tables,” automatically has acquired a high reputation from many legislative drafters (D and Q City; D Town and so on).

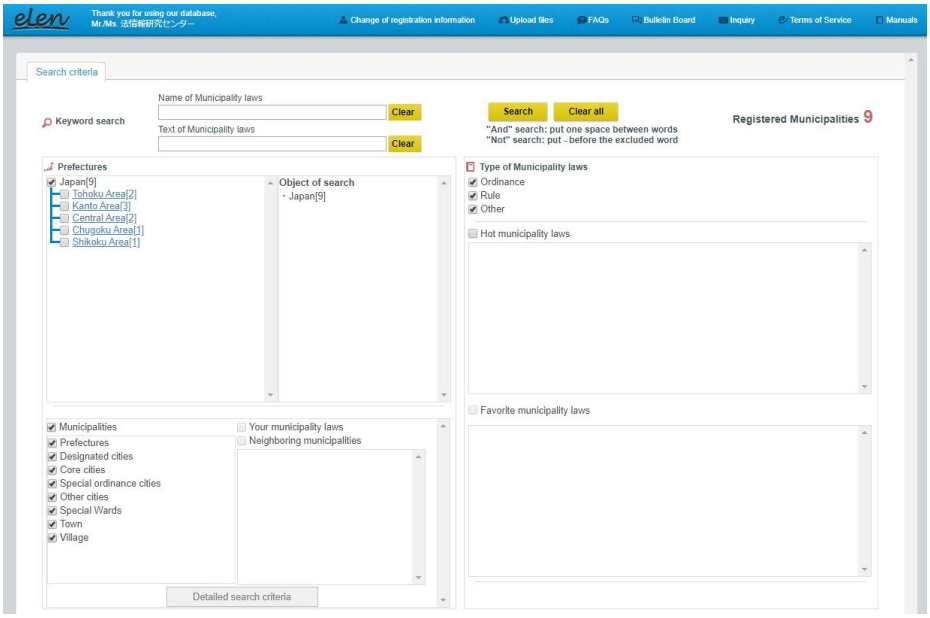


**Fig. 4.** Cross Searching

Originally, the "Benchmarking Method" was introduced as one for business improvement in 1990s [11]. "Benchmarking" is a method by which an organization finds targets to be referred ("Benchmark") and compares them with its own achievement in order to identify problems and points to be improved [12]. In the area of local administration, this method has been developed in the US as a project that measures performances of local governments by comparison among those of other governments [12].

Some researchers propose the "Benchmarking Method" as a useful method in the case of legislation [8, 13]. According to Tanaka [14], "benchmarking of ordinances is defined as a method that municipalities continuously compare best practices of ordinance system developed by other municipalities with their own situation so that they can utilize such models in designing and operating ordinance system" (p.204). He also suggests that legislative drafters should follow the process of benchmarking for legislation, such as clarifying the purpose of ordinance legislation, analyzing the current situation of its own municipality, selecting benchmarking points, choosing municipalities to be benchmarked.

If benchmarking method is used properly in legislation process, the issues of patchworking (3) or insufficiency in consideration of legislative purposes (4) could be avoided. Both copy and pasting and patchworking during legislative work are not human but mechanical activities without thorough consideration. The reason such actions were taken should be investigated further. Nevertheless, it is possible to think that government officials who engage in legislative work do not know the "benchmarking method" and the way to use it sufficiently, as it is often the case that those in charge of drafting ordinances are not familiar with this task.

Therefore, a possible response to these two issues is to provide education for legislation. In terms of the eLen regulation database system, offering legislators training occasions in order to learn how to make the best of benchmarking functions in the process of legislation, for example, would be valuable. In fact, we have provided such education to government officials, members of assemblies, and support staff for legislation such as librarians. Moreover, to study e-legislation, we have planned to create a consortium in cooperation with Judicial Policy Education Research Center in Kagoshima University, by which the eLen has been provided to all Japanese municipalities.

Another response to these issues is to design the system more instructively so that users can learn the proper method and process of legislation through using the database. The eLen has already implemented instructive functions. For instance, the functions of benchmarking tables and templates could be worked as a device for making users realize errors or problems of their own ordinances as these functions can highlight not only similarities but also differences among various ordinances. In our recent survey conducted in 2019, several officials said that the pull-down menu of templates included in the eLen was useful as an instructive tool (Mie Prefecture, Ishikari City and Satsumasendai City). An important comment was made by an official in Ishikari City. He pointed out that the function would provide users other choices clearly so that it could clarify thinking points that would give legislators hints and clues. We have thus improved the eLen to implement educational functions.

**Response to the Issue (4).** Regarding inadequate of legal research, first, it is necessary to provide legislators education in legal research since some specific knowledge and skills for research are required. The authors have engaged in education in legal research for students at universities as well as municipal officials for a long time. Furthermore, we have a plan to implement a function for tracing relevant laws and regulations. It would enable users to check their research.

### 4.2 Education for Legislators

Overall, the eLen has been developed to provide legislators several functions such as “Context Searching,” “Cross Searching,” “Benchmarking Table” and “Template” that can be utilized for diminishing four main issues addressed by interviewees. However, no matter how human-centric computing is aimed through paying attention to real users’ feedbacks and developing the system based on them, it is essential that human beings themselves act properly when they use technology. The objective of human-centric e-legislation is not to provide an automated legislative system that will replace human work in legislation completely, but to create a system that streamlines laborious tasks, reduces human errors, and provides clues for legislative work in order for legislators to focus on tasks that only human can accomplish. Thus far, it is significant to provide education in legislation, such as trainings for learning the way to use the system, benchmarking method, or legislation process. Although the eLen has already implemented several instructive mechanisms, we will improve further the system so that users can learn the proper process of legislation through the usage of the system.

## 5 Conclusion

The objective of this study was to analyze results of interviews that we conducted with Japanese municipal officials who have engaged in legislation of ordinances or regulations and to present main issues addressed by the interviewees. Moreover, based on the results of analysis, it aimed to clarify remaining problems that legislators face with during legislation, which will be necessary conditions for expanding and improving human-centered functions of e-legislation systems. Using qualitative analysis of interviews with municipal officers, this paper identified the following four issues: (1) inconsistency among ordinances; (2) inconsistency of an ordinance; (3) insufficiency in consideration of legislative objectives and facts; (4) inadequacy of legal research. Based on the results of interview analysis, this study assessed whether the eLen regulation database system coped with those issues and discussed remaining problems. Overall, it illustrated that some functions included in the eLen were helpful for diminishing those issues. However, in order to overcome the problems with which legislators face in the process of legislation, the results of this study showed that it was significant to provide legislators education, such as trainings for learning the way to use the system, benchmarking method or legislation process.

There are two main limitations in this paper. First, the interview data are not up to date. As further interviews with local government officials have continued to be conducted by the authors, it will be expected to analyze the new qualitative data in next study. In addition, although there have been few cases of interviews with members of assemblies and lawyers implemented by the authors, it would be useful to expand the range of interviewees to grasp the different aspect of legislation in Japan. Second, the situation of the legislation process in municipalities might be unique to Japan. However, there are few studies on legislation process in municipalities in other nations, especially focusing on real voices of people who engage in legislation by using qualitative analysis. Thus, in order to conduct an international comparative study on legislation process in municipalities, it will be valuable to run our own survey in those who engage in legislative work in other countries. There may be some similarities with Japanese legislative approach. Japanese benchmarking method for legislation might be also adopted or deserves consideration as a new legislative method for other countries. Since the method of clustering and template production adopted in this study are not influenced by languages, it would be possible for the eLen database system to be transplanted into different countries with different languages. Therefore, further qualitative research in this field would be of great help in exploring possibility of the eLen as well as our research.

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