A QUESTION OF TRUST

EVALUATION OF THE CONDUCT OF THE 2017 ELECTIONS

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**Prepared on assignment from the Ministry
of Local Government and Modernisation**

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Background, issues and principal findings

INTRODUCTION

This chapter presents the background to the evaluation project and the topics and issues that are addressed. We also describe how we have progressed in order to shed light on these issues and the data and methods that have been used in the evaluation work. The chapter also contains a point-by-point summary of the principal findings from the evaluation and recommendations for the work of the Norwegian Directorate of Elections up until the elections in 2019.

BACKGROUND

Elections are important pillars of a democratic system. Voter trust in elections being conducted in a proper manner is decisive to overall trust in the political system.

In Norway, the organisation of the elections is based on a decentralised model whereby a significant share of the tasks and the operative responsibility has been assigned to the municipalities and county councils. However, principal central government responsibility for the elections being conducted in accordance with the Election Act and Election Regulations lies with the Ministry of Local Government and Modernisation (KMD).

Over time, KMD has also developed a number of key functions and services that support the election work of the municipalities and county councils and which are decisive for the elections being conducted in a good and efficient manner. This applies, first and foremost, to the central computer system EVA, which includes functions for most election administration tasks carried out by the municipalities and county councils. Extensive information materials have also been developed regarding the use of EVA and the rules and routines for conducting elections, and training and user support are also offered. All of this entails significant cooperation and communication between the central government and the municipalities and county councils.

From and including the elections in 2017, responsibility for all of these key operative functions and services was delegated by KMD to the new Norwegian Directorate of Elections that was established on 1 January 2016. The principal reason for this reorganisation was a desire to create more distance and independence between the political level and the operative election work. KMD still has principal responsibility for conducting elections and administering the Election Act and Election Regulations. The Norwegian Directorate of Elections is responsible for ensuring that the municipalities and county councils have adequate enough support for the practical implementation of elections.

The evaluation addresses these services and functions that support the election work of the municipalities and county councils. It is KMD's objective to determine whether the cooperation between the Norwegian Directorate of Elections and municipalities and county councils has functioned satisfactorily and whether the Norwegian Directorate of Elections appropriately performed the tasks associated with conducting the elections. It is important to emphasise that this is therefore not a general evaluation of the newly established Norwegian Directorate of Elections, but of selected tasks that are within the Norwegian Directorate of Elections' area of responsibility.

Equivalent evaluations were conducted for the 2013 and 2015 elections when responsibility for these tasks was held by the Section for Elections and Local Democracy at KMD.

EVALUATION TOPICS, ISSUES AND DELIMITATIONS

The services and tasks that will be evaluated can be divided into four topics or areas:

- The evaluation of the election administration *system* EVA and the functionality offered by this system.
- The evaluation of the *information* provided to the municipalities and the county councils regarding the rules and routines for elections and how EVA functions and is to be used.
- The evaluation of the *training* that is provided to the municipalities and county councils.
- The evaluation of the *user support* offered to the municipalities and county councils before, during and after the election.

THE EVA SYSTEM

The evaluation of the election administration system EVA has been conducted from a *user perspective*. It is therefore the system as this appears to the users in the municipalities and the county councils that is the most important factor. Among other things, this concerns whether the system has the necessary functions for performing the different tasks during the election process, whether the functions are appropriately designed, whether the system functions effectively and reduces the possibilities of errors, and whether the system is easy to use and provides the user with the information required for using it an effective and correct manner.

This also means that it was not an objective of the evaluation to conduct assessments of the purely technical or IT-related aspects of the system, i.e. how the functionality is developed and implemented. The choice of system architecture, development tools, development model, internal programming standards etc. have therefore not been included in the evaluation. The same applies to assessments of the features of the source code such as code quality, documentation, scalability, extensibility etc.

An election administration system is not just any type of computer system. It is firstly a system in which *time is critical*. The polling day is set and a number of tasks that the system has to solve must be carried out within carefully specified and brief time periods. Delays and downtime are therefore out of the question. Secondly, this is a system for which there is minimal *tolerance of errors*. The political elections are pillars of the political system and errors or deficiencies in the election process can threaten the legitimacy of such elections. As a consequence of this, it is also a system which has

major security requirements. All of these are aspects of an election administrative system that have consequences for the criteria under which the system shall be evaluated.

INFORMATION ABOUT EVA AND RULES AND ROUTINES

Comprehensive information materials have been prepared for the municipalities and county councils relating to the conduct of elections. This information has been gathered together at the *Valgmedarbeiderportalen (Election Worker Portal)* which provides an overview of laws and rules, practical information on how the work is to be organised and technical information about how the election administration system EVA shall be used for performing the different tasks. Information on the use of EVA is collated in a separate user guide that is organised according to the different phases of the election process and the different functions or tasks that need to be performed in each phase. These information materials also include notifications more relevant to the situation which are sent to the municipalities and county municipalities during the election process.

The evaluation of the information provided to the municipalities and county councils first looks at the *quality* of the information materials, i.e. whether the information is accurate in relation to the rules and is presented in a manner that cannot give cause for any misunderstanding. We also look at the *relevance* of the overall information to the target group and whether it is presented in a manner that is *user-friendly, timely* and *appropriate*. This applies to the actual language used and how the information is structured, disseminated and organised, for example, how easy it is to find the information that is precisely relevant to the task the user shall perform.

TRAINING

The training for the 2017 elections was organised in the form of centralised training seminars which all municipalities and county councils were invited to attend. The learning content was divided into two seminars (modules), both with a duration of two days. The training is based on a "learn-the-learners" model, whereby the municipalities can send up to three participants to the two seminars.[1] The idea is that these participants will be able to transfer the knowledge they acquire to the other election workers in the municipality. In addition to the seminars, two mock elections are also part of the overall training provided.

The evaluation assesses the *quality* of the training, including the expertise and teaching skills of the course holders. We also look at the *relevance* of the training for the target group, i.e. whether it is well-adapted to the needs and level of expertise of the participants. The requirements of the participants will vary, both when concerning previous experience in organising political elections and with regard to technical skills. It will therefore often be difficult to offer a training programme that is considered relevant and beneficial to everyone. Therefore, an important part of the evaluation work has been to decide how the assessments differ between the different user groups, for example, between users with varying amounts of experience and users from smaller or larger municipalities.

Training based on physical seminars is resource-demanding, both for those who offer the training and for the participants. It is therefore important to assess the extent to which the *format* is optimal and provides the greatest possible benefit in relation to the costs involved. This applies to the choice of training venue, scope of the training and how the training is organised.

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[1] The five largest cities could send up to five participants.

The objective of the training is to provide the participants with enough expertise to be able to conduct the election in each municipality in a good and assured manner. It is also intended to enable those who participate at the training seminars to transfer the relevant parts of this expertise to the other election workers in the municipality. A principal perspective in the evaluation is to determine the extent to which this objective will be achieved.

USER SUPPORT

During the period from January until the end of September in the election year, the Norwegian Directorate of Elections also offers user support to the election workers in the municipalities and county councils. This user support answers questions regarding the rules and routines for conducting elections, as well as more technical questions relating to the use of EVA. The user support is provided by telephone and email and the goal is that the users shall receive prompt and relevant responses to the questions that are raised. The user support is heavily used and previous evaluations have demonstrated that it is a useful tool in the election process.

It speaks for itself that the organisation of a well-functioning user support arrangement is a challenge in a situation where this arrangement is only intended to be operational for a few months every second year. This creates problems in terms of continuity, training of relevant personnel and retention of expertise. The fact that the enquiries concern both technical questions and questions relating to laws and rules does not make this any less of a challenge.

In the evaluation we assess the extent to which the recruitment and training of the employees in the user support scheme were appropriate with regard to the tasks they had to perform and whether the organisation of the user support work was sensible and cost-efficient. We also assess response times and the extent to which the users in the municipalities and county councils received the assistance they required. This applies both to the relevance of the responses and the extent to which the advice provided were in accordance with applicable regulations and best practice.

DELIMITATIONS

Common for the four services that we have looked at in this evaluation is that they are focussed on the municipalities and county councils. They have the objective of supporting the operative election work of the municipalities and county councils. However, the Norwegian Directorate of Elections is responsible for additional tasks and services to those referred to in this evaluation.

This applies first and foremost to information initiatives directed at voters which have the objective of generating interest in the elections, increasing election participation and providing voters with relevant and precise information.

The Norwegian Directorate of Elections conducts separate information initiatives that focus on voters and the public and also administers a grant scheme which can be used by other stakeholders that carry out relevant information initiatives.

The Norwegian Directorate of Elections is also responsible for designing, procuring and distributing polling cards, ballot papers and other relevant election materials. This also includes universally designed election materials that shall ensure good availability in connection with the elections. In

addition, the Norwegian Directorate of Elections is responsible for the organisation of voting from abroad through a cooperative arrangement with the Ministry of Foreign Affairs.

The 2017 election principally consisted of three different elections: the parliamentary election, Sami parliamentary election and extraordinary election for the municipal council in the new Færder municipality. In the evaluation we have largely focussed on the parliamentary election and also to some extent on the Sami parliamentary election. The extraordinary municipal council election in Færder has not received any special attention.

PERSPECTIVES AND MODELS

AN EFFECT CHAIN PERSPECTIVE

An evaluation should be based on the goals of the enterprise and assess the extent to which the measures that have been initiated are designed and implemented in a manner that enables these goals to be achieved. This is often done based on an *effect chain*, whereby the detailed links between goals, measures, results and effects are specified.

Figure 1.1 shows what this type of effect chain may look like for the activities of the Norwegian Directorate of Elections:
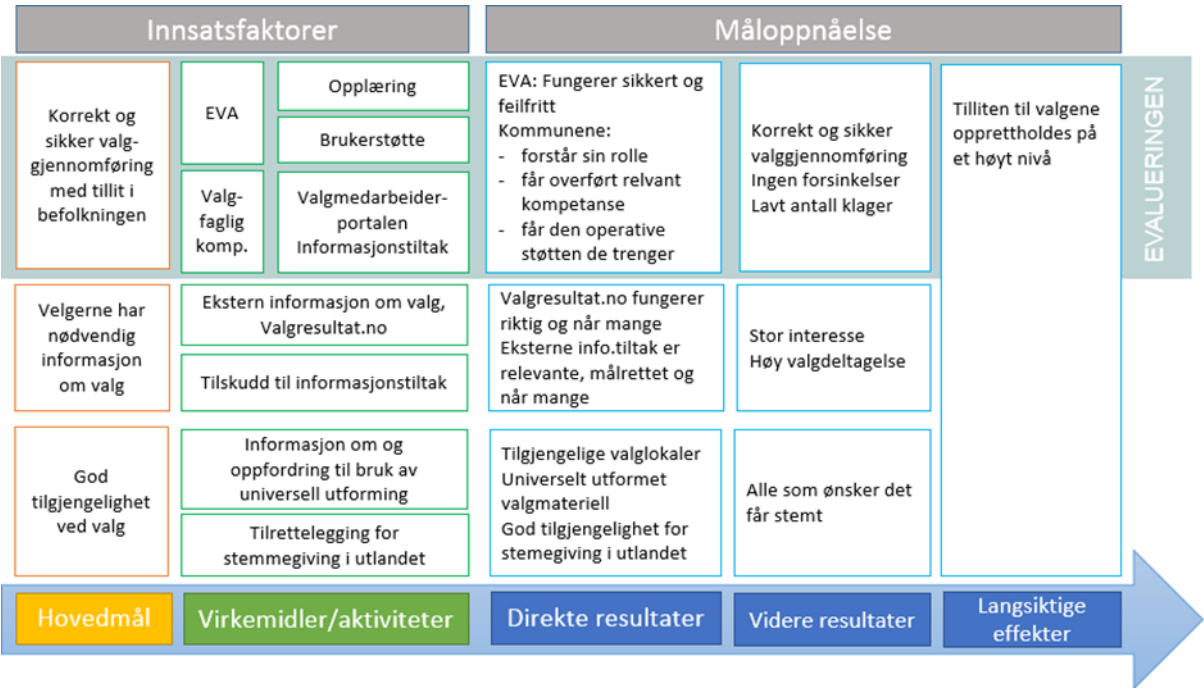
Figure 1.1: Effect chain for the overall activities of the Norwegian Directorate of Elections.

To the extreme left of this effect chain we find the three principal goals for the activities of the Norwegian Directorate of Elections as these were formulated in the letter of assignment for 2017. In the second column we have placed the most important *measures and policy instruments* that the Norwegian Directorate of Elections is responsible for and that are designed for achieving these goals. The measures are placed in relation to the principal goal they have the task of achieving. Together, goals and measures constitute what we call the *input factors* in the effect chain.

The next three columns all concern *achievement of goals*. The first focusses on the most immediate and *concrete results* of the work of the Norwegian Directorate of Elections as these manifest themselves during the actual election process. The second column concerns *the wider implications* of this work, including with regard to election participation and complaints about the election process. In the third column we look at the long-term, *societal effects* of the work, which primarily concern maintaining a high level of trust in the elections.

The further we move along the effect chain, the more long-term the perspective becomes. At the same time, the focus is shifted from the specific stakeholders who the different measures are directed at to a more general societal level. The ability of the Norwegian Directorate of Elections to influence or control the outcomes also decreases the further we move along the effect chain. While the Norwegian Directorate of Elections has, for example, greater opportunities to ensure that the election administration system EVA functions as intended, the number of complaints, and to an even greater extent, the trust of voters in the election, will be influenced by factors that are outside the control of the Norwegian Directorate of Elections. This also means that it will be more difficult to isolate the effects of the Norwegian Directorate of Elections' efforts the further we move along this effect chain.

This evaluation principally examines measures and methods that were initiated to achieve the goal of "correct and secure conduct of elections with the public's trust."[2] We also concentrate most on the immediate and direct results among the stakeholders who these measures and policy instruments are directed at, i.e. the election workers in the municipalities and the county councils. We also include some of the further results of these efforts, including as these have manifested themselves in the form of complaints regarding the election process, but have not collected separate data for this area. With regard to the long-term societal effects of the work, i.e. the general public's trust in the elections, this is outside of the mandate for the evaluation. As mentioned, this is also influenced by a series of factors other than the efforts and initiatives of the Norwegian Directorate of Elections.

LINK BETWEEN THE POLICY INSTRUMENTS

The four measures or policy instruments that we examine in this evaluation are closely linked. A computer system such as EVA and the information and the support functions that are built up around this system are part of a whole in which all pieces have to be in place and function optimally in order to provide a good result. Only the most basic and least system-critical computer systems (for example mobile telephone apps) can function without additional information to that which is communicated via the system's screens. Somewhat more complex systems will normally also include user guides or help systems, however it is expected that the user will otherwise manage by him/herself. With regard to EVA, the decision was also made to offer individual training and user support. This is natural for a system that is intended to perform complex tasks and that can be characterised as extremely system and time-critical.

There is also an internal link between the four elements. This is illustrated in Figure 1.2:

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[2] To some extent, information about universal design and availability is also available to all voters within the mandate of this evaluation, i.e. a small proportion of the measures under the third principal goal of the work of the Norwegian Directorate of Elections: "good availability in connection with elections."
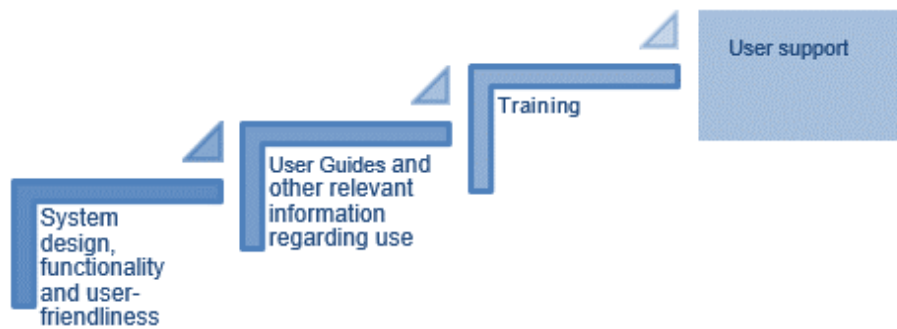
Figure 1.2: The elements in the evaluation and the links between them.

We can generally state that the better developed the elements to the left of the figure, the more limited the need for the elements located further to the right. For example, a very user-friendly system will be able to manage with a more basic and limited user guide than a system with a more complex or less intuitive user interface. Equivalently, excellent and easy-to-use user guides or help systems will reduce the need for individual training. It will also be the case that the need for user support is reduced if all of the three elements on the left are well-developed. As such, an analysis of the traffic in the user support system can provide a great deal of valuable information about deficiencies in the actual system, the user guides or the training. We use this basic model regarding the links between the four elements in the evaluation work.

DATA AND METHODS

The evaluation is based on a variety of data and information sources:

Informant interviews at KMD and the Norwegian Directorate of Elections: We conducted a total of ten initial informant interviews with relevant employees at KMD and the Norwegian Directorate of Elections, five in each organisation. The purpose of these interviews was to obtain a picture of how the work with conducing the elections was organised and how the employees at the Ministry and Directorate assessed the challenges they faced and the work that was done.

Initial exploratory interviews with municipalities and county councils: We also conducted initial exploratory interviews with the heads of election administration in a total of 10 municipalities and county councils. These were heads of election administration who had been engaged in conducting the election in 2017 and who therefore had specific experience with the election process, use of EVA, the information from KMD, training and user support. The objective of these initial interviews was to obtain an overview of user assessments and their experiences. We also wished to determine whether there were special factors which should be emphasised in the continued collection of data.

Survey of municipalities and county municipalities: The most important source of data in the evaluation is a larger survey directed at the heads of election administration in all of the country's municipalities and county councils.

This is an extensive survey that deals with all four topics in the evaluation and which also places the experiences of the municipalities and county councils with the work of the Norwegian Directorate of Elections into a larger context. The survey placed emphasis on repeating some of the questions from the corresponding evaluations in 2013 and 2015 in order to make valid comparisons. The survey consisted of a mix of questions with fixed response scales and open questions in which the users in

the municipalities and county councils were given the opportunity to elaborate on their views. We received a significant number of text responses that have been used in the report both quantitatively (categorising and tallying of views) and as qualitative illustrations (quotes) of user experiences.

The survey was conducted from 13-15 November, with invitations sent by email and responses given online. In addition to the invitations to participate, the respondents were sent two reminders. We received responses from 16 county councils and 330 municipalities. This gives a response rate of 89 per cent for the county councils and 77 per cent for the municipalities.[3] These are high response rates and we consider this to be good quality data.

Survey from the Norwegian Directorate of Elections: In the analysis work we have also made some use of the Norwegian Directorate of Elections' own survey that was directed at the same respondents in the municipalities and county municipalities. This was conducted a few weeks prior to our own survey and has an equivalently high response rate.

Data from the OTRS user support system: In order to administer and document user support enquiries, the Norwegian Directorate of Elections used the OTRS system. We use data from this system to describe the user support traffic, the subject matter of the enquiries and how effectively these were resolved.

The Norwegian Directorate of Elections' survey in connection with the first training module: This is a short survey with open text responses that was conducted following the seminars. No equivalent user survey was conducted in connection with the second module.

Information on the Election Worker Portal: We have reviewed all relevant documentation that is available via the Election Worker Portal. This applies to the user guide for EVA, information on rules and routines for conducting elections, presentations and video recordings from training seminars etc.

Key assessments of the election process: The evaluation also takes into consideration key external assessments of the election. This applies first and foremost to the Recommendation to the Parliament from the Preparatory Credentials Committee (Recommendation 1 S 2017 – 2018) which also includes the National Electoral Committee's overview of appeal cases and the decisions in these cases. This also applies to OSCE's reports on the 2017 parliamentary election.

Basic usability study of EVA: With regard to EVA and the different parts of this system, we have also conducted a so-called usability study. The study, which was conducted by our collaborative partner Sonat Consulting, was principally carried out as exploratory testing. This means that the evaluator attempted to implement different processes in the system using supporting documentation and trial and error. We also allocated one day to testing at the Norwegian Directorate of Elections. The same exercises that were used during the Norwegian Directorate of Elections' training programme were carried out under the guidance of an employee from the Directorate.

STRUCTURE OF THE REPORT

In Chapter 2 we provide an overview of the important aspects of the election process in Norway, with a particular focus on the 2017 elections. We also look at the division of responsibilities and tasks

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[3] Note that in this context Oslo is considered a municipality and not a county council.

between different administrative levels and the particular opportunities and challenges that the establishment of the Norwegian Directorate of Elections gave rise to.

Chapter 3 provides an overall and overarching assessment of how the Norwegian Directorate of Elections performed the tasks it was assigned responsibility for. This includes a discussion relating to the cost-benefit assessments of the different services. In addition, we examine in more detail how the increased focus on security prior to the election was managed by the Norwegian Directorate of Elections. Finally, in this chapter we take a closer look at the actual conduct of the election and how this will be assessed by OSCE's external election observers and the Norwegian Parliament's Preparatory Credentials Committee.

Chapters 4-7 present more detailed analyses of each of the four principal topics included in the evaluation: the EVA system, information, training and user support.

SUMMARY OF PRINCIPAL FINDINGS

GENERAL

- The main impression from the evaluation is that the users in the municipalities and county councils are satisfied with the services provided by the Norwegian Directorate of Elections in connection with the 2017 elections. The services were considered beneficial, relevant and well-executed. We also see that a majority of those surveyed were of the view that developments had gone in the correct direction since the 2015 election.
- The users were most satisfied with the EVA system and the Election Worker Portal. The assessments were more complex when concerning the training and user support.
- We also see that the municipalities were consistently more satisfied than the county councils and that the largest municipalities were more satisfied than the smaller municipalities in certain areas.
- The Norwegian Directorate of Elections was praised for its availability and courtesy, but some questioned the quality of the information that was provided through the training and user support and whether the expertise in both the user support apparatus and more generally was good enough.

THE EVA SYSTEM

- EVA Admin and EVA Scanning received excellent assessments from the users. The system has the required functionality, makes the election work of the municipalities and county councils more efficient and performs the tasks it is set to perform in an assured and correct manner.
- It is also clear that the simplifications and changes that were made prior to the 2017 election were observed and appreciated.
- EVA's user-friendliness was also considered good, but not quite at the same level as the assessments of functionality. There is a great deal of information for a user to have to absorb and not everything is considered equally logical and intuitive, particularly by those with the least amount of experience. The feedback to users was also considered deficient on certain points.

- This is confirmed by our own usability analysis which calls for, among other things, a more transparent dialogue with users where more information is provided about the tasks that have been performed and those that remain.
- Both municipalities and county councils have a desire to become more involved in the continued development of EVA. This is one of the areas of improvement in the evaluation from 2015 that has not been followed up on.

THE INFORMATION

- The evaluation of the information provided by the Norwegian Directorate of Elections is generally positive. Users considered the Election Worker Portal to be of great benefit and found that it provided the information they required during the election process.
- The information in the Election Worker Portal was also considered accurate, correct and updated.
- The Election Worker Portal, including the EVA user guide, was also found to be reasonably user-friendly, even if the quantity of information was overwhelming. There is a great deal that indicates that a somewhat better structure could have made navigation easier and provided the users with greater assurance that all of the important information had been obtained.
- The Norwegian Directorate of Elections has given time-critical and important information a more prominent position on the opening page of the Election Worker Portal. This is considered to be a correct choice.
- The extensive focus on security in the weeks prior to the election tested the relationship between the Norwegian Directorate of Elections and the municipalities/county councils. While the municipalities were reasonably satisfied with how they were kept informed during this critical phase, the county councils were far more dissatisfied.
- There was also a focus on the rights of people with disabilities during this election due to a series of appeals concerning the right of blind and visually impaired people to have someone assist them inside the polling booth. The Election Worker Portal provides correct and visible information, but the issue requires greater attention in other parts of the "chain of action", first and foremost in the training and user support provided.

TRAINING

- The Norwegian Directorate of Elections continued the model for training from previous elections of centralised seminars, but also reduced the total programme from three to two modules.
- The evaluation provides a more complex picture than for the EVA system and Election Worker Portal. On the whole, the municipalities were reasonably satisfied with the training that was offered. The county councils were somewhat more sceptical, both when concerning assessments of the benefit of the training and quality of this.
- The heads of election administration in the county councils and the largest municipalities were particularly concerned about the time at the seminars not being utilised well enough and the training was not always considered relevant.

- The municipalities were largely of the view that the benefit of the two training seminars justified the use of resources. The county councils were more sceptical.
- At the same time, most of the participants, particularly those from the county councils, valued the opportunities that the training seminars provided to share experiences and build networks.
- There was a relatively high level of agreement that the training provided reduces the
- need for user support.
- The mock elections generally appeared to function as intended and were considered to be a beneficial "dry run" before the actual election. However, there was also room for improvement in this area, particularly with regard to the coordination of the tasks carried out by the municipalities and county councils.
- The training was the area in which most users saw potential for improvement. This principally concerned greater differentiation between experienced and less experienced users and, to a slightly lesser extent, the development e-learning solutions. Many also wanted to return to a model with regional seminars.

USER SUPPORT

- The Norwegian Directorate of Elections organised all user support internally with a compact team of contracted personnel in the first line and second and third lines staffed by the Directorate's own employees. KMD also contributed to some extent to the user support work. The model appears to have resolved some of the organisational challenges that were identified in the evaluation from 2015.
- The analyses of the user support traffic show that a higher proportion of the cases were resolved by the first line compared with previous elections. The response times are comparable with previous elections, with the exception of a decrease in the third line.
- The evaluation also provides a complex picture when concerning user support. While small and medium-sized municipalities generally gave good assessments, the largest municipalities and county councils were far more sceptical.
- Most were satisfied with the availability, service attitude and response times of the user support.
- However, the county councils were far less satisfied with the ability of user support to solve the problems they were facing.
- The county councils also questioned the expertise in the user support apparatus, first and foremost when concerning specialist election questions.
- There is a great deal that indicates that an excessive proportion of the questions directed to the first line were answered by personnel who did not always have the requisite expertise to deal with these questions.

RECOMMENDATIONS

Below we list our recommendations for how the services provided by the Norwegian Directorate of Elections can be further improved up until the next election. The recommendations are entirely based on our interpretations of the results from the evaluation. They are also based on an

assumption that resources are scarce and that the benefit of proposed improvements must be weighed up against the costs they impose.

- The Norwegian Directorate of Elections was given a short period of time in which to build the specialist election expertise prior to the commencement of the work on the 2017 election. Further competence building should therefore be a high priority up until the next election.
- The Norwegian Directorate of Elections should therefore place emphasis on improving the security of the systems and the routines that are used for machine counting of ballot papers. This is in order to be at the forefront of a possible new public debate regarding security that will in all likelihood become applicable.
- A new Election Act and a new municipal and regional structure will probably require significant adaptations in EVA within the development window available prior to the next election. Beyond this, the software has reached a maturity level at which the benefits of further improvements are decreasing. Simplifications and targeted work for improving user-friendliness can still be justified if the objective is to reduce the need for training and user support. The same applies to improvements to certain control functions and deviation messages with the objective of reducing the possibility of user errors.
- The Norwegian Directorate of Elections should establish a user forum or the equivalent in which representatives for the users are consulted to a greater extent when concerning the further development of EVA and the Election Worker Portal.
- The amendments to the legislative framework will also necessitate updates to the Election Worker Portal. It should also be considered whether somewhat better organisation of the information may make it easier for users to obtain an overview and navigate the system and thereby reduce the need for training and user support.
- Emphasis should be placed on developing more differentiated training that is better adapted to the needs of experienced and less experienced users.
- The possibility of supplementing, and later also replacing, some of the time spent at training seminars with e-learning should also be tested. Such development work should also be viewed in connection with the need for increased differentiation and for offering solutions that can be used in the continued training of election staff in the municipalities.
- Due to the value of the training seminars serving as an arena for sharing experiences and network building, they should most probably also be offered in connection with the next election. However, a number of the measures proposed above will still make it possible to reduce the scope of these seminars.
- The arrangements for the mock elections should be adjusted, particularly with a view to more efficient coordination of the tasks performed by the municipalities and county municipalities.
- The organisation of user support also appears to have functioned reasonably well and can be continued for the next election. However, priority should be given to more comprehensive training of the contracted personnel working on the first line.
- Better routines should be prepared for dividing questions between the first line and the other lines and for quality control of the answers that are given. It would probably be sensible for these routines to enable a certain reduction in the proportion of questions answered by the first line.

Chapter 2
Elections in 2017 - organisation and implementation

INTRODUCTION

This chapter places the preparations for and implementation of the 2017 elections in a larger context. The purpose is to create a backdrop that the more detailed evaluation work can be placed within.

We firstly look at the legal framework and the division of responsibilities and tasks between different levels and organisational units and how this has developed over time. We then examine in more detail the background to the establishment of the Norwegian Directorate of Elections and the opportunities and challenges this restructuring gave rise to in terms of conducting elections. The discussions on social media and in other media concerning security for digital counting equipment required a great deal of attention from both KMD and the Norwegian Directorate of Elections. In this chapter we discuss how this to some extent challenged both the division of work between KMD and the Norwegian Directorate of Elections and the relationship between the Norwegian Directorate of Elections and the municipalities. Finally, in this chapter we take a closer look at the actual conduct of the election and how this will be assessed by OSCE's external election observers and the Norwegian Parliament's Preparatory Credentials Committee.

HIGH LEVEL OF CONFIDENCE IN NORWEGIAN ELECTIONS

Confidence in the elections and how they are conducted is generally high in Norway. Among other things, this is expressed by OSCE's assessments of the Norwegian parliamentary elections as this statement from the report from the 2017 election illustrates:

> *"The OSCE/ODIHR has previously assessed three elections in Norway since 2002. Most recently in 2013, the OSCE/ODIHR deployed an Election Assessment Mission (EAM) for the parliamentary elections. The OSCE/ODIHR EAM final report noted the high level of confidence in the electoral process among electoral contestants and the general public, as well as professionalism and efficiency of the election administration."[4]*

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[4] OSCE (2017): Norway, Parliamentary Elections, 11 September 2017, Report from OSCE/ODIHR election experts, Warsaw, 4 December (Norwegian edition), page 2.

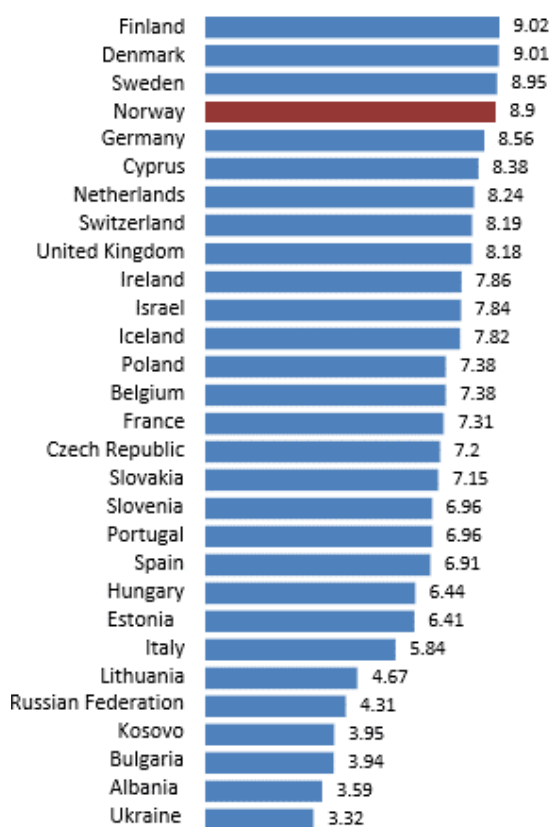| Country	Score
Finland	9.02
Denmark	9.01
Sweden	8.95
Norway	8.9
Germany	8.56
Cyprus	8.38
Netherlands	8.24
Switzerland	8.19
United Kingdom	8.18
Ireland	7.86
Israel	7.84
Iceland	7.82
Poland	7.38
Belgium	7.38
France	7.31
Czech Republic	7.2
Slovakia	7.15
Slovenia	6.96
Portugal	6.96
Spain	6.91
Hungary	6.44
Estonia	6.41
Italy	5.84
Lithuania	4.67
Russian Federation	4.31
Kosovo	3.95
Bulgaria	3.94
Albania	3.59
Ukraine	3.32

Figure 2.1: The country's elections are considered free and fair. Source: European Social Survey, 2012

The fact that there is a high level of confidence in the elections is also documented in several international studies, including the European Social Survey. Figure 2.1 shows the responses to a question that was posed to a general sample of the public and concerns *whether elections in their home country are considered to be free and fair*. The responses were given on a scale from 0 to 10 and it is the average score from this scale that is shown.[5]

Norway is at the top of the rankings together with Finland, Denmark and Sweden and is significantly higher than countries such as the United Kingdom, Iceland, Belgium and France. Among other things, this is due to Norway's long and unbroken democratic traditions and an electoral system that is considered to be reasonably fair. However, this is most likely also due to the solid legal framework for conducting elections and that elections have been held in Norway over a long period of time without serious errors and proven deficiencies.

Therefore, it is an important goal when conducting elections in Norway to maintain the general public's high level of confidence in the electoral process. The recommendation from the Preparatory Credentials Committee for the 2017 parliamentary election (Recommendation 1 S, 2017-2018) states the following:

"It is important for the authorities to retain this confidence by both continually working to develop a good and appropriate set of election rules and by facilitating a trustworthy and well-functioning programme for all parts of the election process."

DIVISION OF RESPONSIBILITIES AND TASKS

The Election Act, together with the associated Election Regulations, constitute the legal framework for conducting both parliamentary elections and local elections in Norway.[6] This is a comprehensive set of rules that describes in detail how to prepare and conduct the elections.

Both the parliamentary elections and local elections are organised in accordance with a very *decentralised* model in which the practical and operative tasks are largely entrusted to the municipalities and county councils. KMD has overall responsibility for conducting the elections, but the Election Act imposes few duties on the central government level other than to administer the

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[5] The question was asked in round 6 of the European Social Survey that was conducted in 2012.
[6] When concerning Sami parliamentary elections, these are regulated in the Sami Act and Regulations relating to the Sami Parliament.

legal framework. The most important of these statutory duties is to update the electoral register, send out polling cards, serve as secretariat for the National Electoral Committee for parliamentary elections, serve as the appellate body for local elections, and facilitate international election observation.

However, over time the Ministry has acquired a much larger role in conducting the elections. This principally applies to *advisory and coordinating* tasks in relation to the municipalities and county municipalities, as well as politically initiated *reporting and development tasks*.

It has long been the Ministry's task to provide the municipalities with assistance and advice when concerning rules and routines for conducting elections. The digitalisation of the election processes has increased the need for this type of guidance and coordination. Following a period in which the municipalities and county councils started using different election administration systems from commercial providers, it was decided that the most practical option was to develop a joint IT system under the direction of KMD. The EVA system was tested for the first time at the 2011 local elections and full scale use commenced from and including the 2013 parliamentary election.

The work with EVA not only gave the Ministry important development and operational tasks, it also created a need for even closer follow-up of the municipalities and county municipalities when concerning information about the use of the system, training and user support. The central government level has therefore attained a more extensive role in the operative implementation of the elections than what was previously the case.

The responsibilities and tasks of the central government in connection with the elections also include *the National Electoral Committee* and *the Norwegian Parliament*. The National Electoral Committee is appointed in a cabinet meeting for each parliamentary election, and is responsible for the allocation of seats at large and is the appellate body in connection with the parliamentary election.[7] As mentioned, KMD functions as the secretariat for the National Electoral Committee. Final verification and approval of the elections are given by the Norwegian Parliament at the recommendation of the Preparatory Credentials Committee.[8] Among other things, approval is based on the election protocols from the county electoral committees and the minutes from the meeting of the National Electoral Committee, including the National Electoral Committee's decisions in appeal cases.

At local level, the electoral committees in the municipalities are responsible for most tasks associated with the preparation and implementation of the elections. The duties of the county electoral committees are primarily restricted to the county council elections and parliamentary elections. For both these elections, they are responsible for tasks relating to the list proposals and for verifying the conduct of the elections in the municipalities. They also conduct the final verification count. For parliamentary elections, the county electoral committees also determine the results of the elections by county and the allocation of the district mandates in each county

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[7] With the exception of appeals relating to voting rights and which go directly to the Norwegian Parliament.
[8] The check is carried out by the Preparatory Credentials Committee that was elected by the previous Parliament. The recommendation to the Parliament for approval of the parliamentary election is provided by the Preparatory Credentials Committee which is elected by the new Parliament based on the recommendation of the Preparatory Credentials Committee.

The electoral committees in both the municipalities and counties are elected bodies responsible for oversight and issuing guidelines for the local election work. In most of the larger municipalities and the county councils the practical election work is often carried out by administrative staff who are assigned these tasks. This will often be people who have built up knowledge and experience over multiple elections. However, election work is seasonal work and in most cases these are employees who have other regular tasks in the local administration. Only Oslo municipality has a permanent administrative unit that is responsible for elections. This manner of organising the work naturally gives rise to challenges relating to long-term competence building and continuity.

THE RELATIONSHIP BETWEEN THE CENTRAL GOVERNMENT AND MUNICIPALITIES

Despite the elections being conducted according to a decentralised model, the central government has no *authority to issue instructions* to the municipalities and county councils. The municipalities and county councils are instructed to conduct the elections in accordance with the Election Act and Election Regulations, but beyond this have no obligation to make use of the support and coordination initiatives from the Ministry.

Therefore, neither the municipalities nor the county councils are instructed to use the election administration system EVA or to participate in the training that is centrally organised. However, all municipalities and county councils have chosen to use EVA and all county councils and a large majority of the municipalities participate in the training. More or less all municipalities and county councils also make use of the user support that is offered. This can be interpreted as a sign that the coordination measures and advice from the central government level satisfy a need and are considered relevant. The municipalities and county councils need these support functions and choose themselves whether to make use of them.

According to our conversations with employees at the Section for Elections and Local Democracy at KMD, it has rarely been a problem getting the municipalities to use the services offered by the Ministry. It has been more of a challenge getting the municipalities to take independent responsibility for conducting the elections and not being so reliant on the Ministry being able to resolve the challenges they may face. The need for greater "accountability" on the part of the municipalities was one of the topics that was most often raised in conversations concerning the relationship between the roles of the central government and municipalities in conducting elections.

ESTABLISHMENT OF THE NORWEGIAN DIRECTORATE OF ELECTIONS

BACKGROUND

The idea of establishing a separate administrative unit that could take over parts of the Ministry's duties relating to preparing and conducting elections was first examined by the Election Act Committee that was established in 1997.[9] However, the Committee's conclusions, which included an electoral commission appointed by Parliament, were not implemented. In 2009, the Ministry of Local Government and Regional Development as it was then known commissioned the Agency for Public Management and eGovernment (Difi) to again investigate this type of organisational change. It was

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[9] NOU 2001:3 Velgere, valgordning, valgte.

principally this report that formed the basis for the establishment of the new Norwegian Directorate of Elections from 1 January 2016.[10]

The primary reason for the establishment of a separate operational election body was a desire to create more distance and independence between the political leadership and the administrative election work. In a *minister controlled* system such as that which exists in Norway, the ministry is the *cabinet minister's secretariat* and there is no formal rule that prevents the cabinet minister from intervening in the ministry's specialist work in ways that, at least hypothetically, could have consequences for the outcome of the election. Difi made note of this "*inadequate regulation of the relationship between cabinet minister and the central bureaucracy when concerning election preparations and framework conditions or elections*" and further wrote that for this area there were only "*non-statutory norms for good administrative practises that suggest that the political leadership should exercise restraint in becoming involved in matters that must/should be decided on purely professional legal grounds*".[11] There were no specific events or developments that indicated that it was necessary to create greater distance. It was more about reducing the possibilities of there being any doubt about elections being able to be conducted independently of party political influence with regard to the long-term trust in the election administration and the elections.

Other reasons for separating the Ministry's election administration tasks into a separate unit were of a more practical nature. The work is characterised as being seasonal and linked to projects with large fluctuations in terms of the work load and tasks over time. It was assumed that it would be easier to manage this in a directorate where the tasks could be assigned more constant attention than in a ministry where the conducting of elections would always compete with other urgent tasks. It would also allow the Ministry to focus on more fundamental and long-term issues.

In addition to this was the work with the election administration system EVA which resulted in extensive development and operational tasks. This required a considerable staff of permanent and contracted IT consultants and a physical operating environment (server room, machinery, technical infrastructure) that the systems could be run from. This made the Section for Elections and Local Democracy into a somewhat special section of the Ministry and neither the nature of the tasks nor the manner in which to perform these completely fit in with the routines and organisational models that are the norm in a ministry. In addition, it was expected that it would be easier to recruit and retain competent IT personnel in a directorate located outside of Oslo.

IMPLEMENTATION

The Norwegian Directorate of Elections was formally established on 1 January 2016. The new unit was based in Tønsberg and located together with the Norwegian Directorate for Civil Protection (DSB). It was also decided that the Directorate would already take full responsibility for the tasks that were delegated from KMD for the elections in September 2017. This placed serious demands on the new unit, which was given a short period of time in which to establish a new organisation and build up the expertise and routines required for being able to adequately perform these tasks.

The Norwegian Directorate of Elections initially only had three employees and it was not until August 2016 that an organisation with 20 permanent employees was in place. Others have since been added and the Norwegian Directorate of Elections presently has 27 permanent employees. While much of

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[10] Difi (2010): *Valgets kval? Utredning for etablering av en sentral valgenhet.* Difi Report 2010:3.

[11] Difi (2010): *Valgets kval? Utredning for etablering av en sentral valgenhet.* Difi Report 2010:3, page 20.

the IT work at KMD was handled by contracted consultants, the Norwegian Directorate of Elections has focussed on building up a somewhat smaller technical staff of permanently employed developers. As of the present date there is only one contracted consultant at the Norwegian Directorate of Elections in addition to the permanent employees.

With regard to the services and tasks the Norwegian Directorate of Elections was assigned responsibility for, the new organisation could continue to build to a significant extent on the development work and the routines that were already in place at KMD. The computer system EVA had already been in use at three elections, initially as a pilot project and then full scale, and even though there was still a need for continued development and improvements, the core elements and much of the functionality were in place. The evaluation from the elections in 2015 also showed that the users in the municipalities and county councils were generally satisfied with the system and that it adequately performed the requisite tasks. The Norwegian Directorate of Elections was also able to take over the Election Worker Portal, with user guidelines for EVA and information on rules and routines for elections. Even though there was also a need for updates and improvements in terms of information, much of this had already been developed. Finally, the Norwegian Directorate of Elections could also build upon the Ministry's routines and experiences relating to training and user support. The evaluation of the 2015 election also showed that, with some exceptions, the services in these areas had found a form that worked and that the users were satisfied with.

The fact that so many of the tools, resources and routines had already been developed and tested was no doubt a necessary prerequisite for the Norwegian Directorate of Elections being able to take responsibility for conducting an election only one year after the organisation having been staffed. The Norwegian Directorate of Elections could concentrate on more defined development tasks and address some of the areas of improvement identified in previous evaluations.

It was a much greater challenge that so few of the employees who had developed these tools, routines and resources at KMD transferred to the new unit. When the Norwegian Directorate of Elections was established, most had expected that several of the KMD employees would transfer over. This would have ensured continuity and made it easier to build up the new organisation. This was not how events unfolded and there is little doubt that one of the greatest challenges facing the Norwegian Directorate of Elections was to build up sufficient expertise about elections and the election process in a short period of time. This was also emphasised in the Ministry's letter of award for 2016, in which, in addition to the specific tasks of further developing EVA and planning a skills programme for the municipalities for the 2017 election, the Norwegian Directorate of Elections was also tasked with "*establishing a robust and competent operation that is suited to the tasks the organisation is responsible for*". It was further emphasised that the Norwegian Directorate of Elections had to ensure "*to appropriately make use of expertise that KMD provides through lending agreements that have been entered into.*"[12]

In order to ease the transition, the Ministry offered an arrangement for knowledge transfer. It was also decided that the employees who were surplus to requirements at the Ministry due the outsourcing of their duties, would be able to retain their positions until the end of 2017 and potentially be used as extra backup at the Norwegian Directorate of Elections.[13] However, most of

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[12] KMD: Letter of Award to the Norwegian Directorate of Elections 2016.
[13] These are what are referred to as "lending agreements" in the quote from the letter of award above.

these employees were assigned new positions prior to the conducting of the 2017 elections and were therefore subsequently no longer in the frame.

There was an understanding in both the Ministry and the Directorate that the 2017 elections had to be treated as a transition. There was no doubt that the responsibility for the relevant tasks was with the Directorate and that these should be primarily performed there. However, the Ministry was still in a state of preparedness and monitored developments through, among other things, frequent status meetings with the Directorate. The staff at the Ministry also contributed to the specific work when necessary, including by answering the most difficult questions that were asked through the user support system and by managing parts of the external information work.

THE FOCUS ON SECURITY PRIOR TO THE 2017 ELECTIONS

During the weeks prior to the elections there was increasing media focus on security in connection with the election process and the possibility of outside parties being able to influence the outcome of the election. The reason for this media focus was the ongoing rumours that the American presidential election in autumn 2016 had been subject to a hacker attack from a "foreign power".

It all started with a series of tweets from a software developer in July 2017. By referring to possible vulnerabilities in machine counting, questions were asked about the security for Norwegian elections. The messages were followed up by a feature article in the newspaper VG on 29 July, in which it was noted, among other things, that "the 'easiest' method of manipulating an election would be to target the computers and software and the developers who make these." She was referring to the software EVA Scanning and the hardware used for machine counting.

Despite assurances from the Norwegian Directorate of Elections that security had been taken care of, the media focus increased. This led to a storm of requests for access to government documents directed at both KMD and the Norwegian Directorate of Elections.[14] The municipalities and county councils also received an increased number of enquiries from the media and voters with questions concerning the security of the counting equipment. Managing the access requests and questions from the media and voters eventually required a great deal of attention from involved employees at both the Norwegian Directorate of Elections and KMD. The discussions went to the very heart of the electoral system, i.e. the general public's confidence in the process.

On 31 August 2017, eleven days before polling day, KMD issued a regulation that affirmed that the provisional counting of all votes "must take place by manual counting". In a press release, Minster of Local Government and Modernisation Jan Tore Sanner provided the following grounds for this decision:

> *"Our election administration system is well tested and secure. We wish, however, to avoid any speculation or uncertainty pertaining to the election results. Security and trust are vital for the conduct of elections. We are therefore augmenting security measures."*

The new regulations were generally well-received and the discussion in the media regarding security then abated. The regulations were generally also met with understanding from the municipalities,

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[14] The latter was part of a trend that had affected a number of ministries in the months prior to the election and which were largely instigated by a small number of individuals

which had their workload increased due to the requirement for manual counting. First and foremost, the decision provided some peace to work, not just centrally, but also locally.

The unusually strong media focus on the security for the counting equipment challenged to some extent the expected allocation of work between KMD and the Norwegian Directorate of Elections, particularly when concerning the handling of the external information work. Given that the attention was focussed on one of the central elements of the services developed at central government level, it also no doubt challenged the relationship between the Norwegian Directorate of Elections and the municipalities. These events and the manner in which they were handled therefore serve as an important backdrop to this evaluation.

CONDUCT OF THE 2017 ELECTIONS

The 2017 elections were conducted without major problems or incidents which could provide grounds for questioning whether everything had proceeded in the correct manner. No attempts to influence the electronic counting equipment were identified and the routine of manual initial counting did not result in significant delays in the election results.

The OSCE's report on the 2017 parliamentary election was positive overall, even if, like previous elections, certain recommendations were given regarding factors that could be improved. Among other things, it was noted that it was unfortunate that advance votes were rejected because they had not arrived in time. It was also recommended that the universally designed ballot papers should better enable vision impaired voters to make corrections to the lists.[15]

The final check of the validity of the election is conducted by the Parliamentary Credentials Committee based on the protocols from the county electoral committees and the decisions handed down in appeals cases by the National Electoral Committee. The recommendation from the Preparatory Credentials Committee provided the following general assessment:

> *"...the overall impression is that the 2017 parliamentary election was*
> *conducted in a good and efficient manner in the municipalities and*
> *that the county electoral committees conducted thorough checks with*
> *the electoral committees. However, the Committee still sees that there*
> *is a need for improvements in certain areas..."[16]*

The issues identified largely concern errors that were made by election workers at the polling stations, including that names were not crossed off in the electoral register or that voters placed unstamped ballot papers in the ballot boxes. It was noted that the number of rejected ballot papers and votes increased at this election and that this was due in part to these types of errors.

Another issue concerned the sending of advance votes and election results to the county electoral committees. Despite the deadline for receiving advance votes being extended from 9pm on polling day to 5pm the following day, the Norwegian Directorate of Elections' own investigation revealed that more than 1,000 advance votes were received after the deadline expired and were therefore not included in the election result. The principal reasons for the advance votes arriving after the deadline were errors made by election workers in the municipalities where these were sent from,

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[15] OSCE (2017): Norway, Parliamentary Elections, 11 September 2017, Report from OSCE/ODIHR election experts, Warsaw, 4 December (Norwegian edition)
[16] Innst. 1 S, 2017-2018, s.6.

including incorrect addressing and that the consignments were delivered after the postal service's deadlines for normal post.

The Preparatory Credentials Committee also made mention of the practicing of rules concerning the right to assistance when casting votes for people with serious mental or physical disabilities. Despite the principle of confidential voting requiring all voters to be alone in the voting booth, Section 9-5, subsection 5 of the Norwegian Election Act stipulates that voters with such requirements can ask the returning officer for assistance in casting the vote, or possibly identify someone who can assist them among the people who are present at the polling station. This is also described in the Election Manual. Several of the appeals sent to the National Electoral Committee regarding matters relating to the conduct of the parliamentary election involved the practicing of this rule. The appeals were submitted by the Norwegian Association of the Blind on behalf of blind and visually impaired people who, despite the regulations, were not permitted to have a companion with them inside the polling booth. In other words, this involved misjudgements on the part of election workers at the polling stations.

Approximately 30,000 election workers were involved in conducting the 2017 elections. Only a small percentage of these (maximum of three from each municipality and five from the largest municipalities) participated at the central training seminars organised by the Norwegian Directorate of Elections. As stated in Chapter 1, the training is based on a "learn-the-learners" model whereby the further training of the entire team of election workers is the responsibility of the municipalities. The fact that a relative large number of unavoidable errors were made can be interpreted as a sign that this "training chain" does not always function in an optimal manner. Whether this is due to the quality of the centralised training provided or the continued training work of the municipalities is difficult to determine.

In one of the appeals cases that concerned the right to assisted voting it emerged that the Norwegian Directorate of Elections' user support service had provided incorrect information about these rules to the municipality that asked the question. This is of course serious and expresses how important it is that both the training and user support provide relevant and correct information on rules and routines to the municipalities.

Chapter 3
Principal assessments

INTRODUCTION

In this chapter we present the more overall assessments of the services offered by the Norwegian Directorate of Elections as these are expressed in the survey. We also look at the assessments made by the municipalities and county councils of how the Norwegian Directorate of Elections managed the extraordinary challenges relating to data security prior to the election and how this may have influenced assessments of the work and services of the Norwegian Directorate of Elections in other areas. This chapter also includes a discussion of the cost-benefit considerations and the guidelines these set for priorities up until the next election.

On the whole, the users were well-satisfied with the services offered by the Norwegian Directorate of Elections. This particularly applies to the EVA system and Election Worker Portal. The assessments were more complex when concerning the training and user support. We also see that the municipalities were generally more positive than the county councils and that in some areas, smaller municipalities were more satisfied than the larger municipalities.

The Norwegian Directorate of Elections was praised for its availability and courtesy. At the same time, there were several who questioned the quality of the information that was provided through the training and user support and whether the expertise in both the user support apparatus and more generally was good enough. Something that was particularly sought after was more practical experience with the election process.

Of the four service areas that we examine in this evaluation, the development and operation of EVA and the training have the highest costs. Even though the development of a computer system such as EVA will never be fully complete, there is a great deal that indicates that the system has reached a maturity level whereby the benefits of further investments are diminishing. However, the system must still be adapted to more stringent requirements for security and the changes that can be expected in the new Election Act.

Despite a majority of users being of the view that the benefits of the training seminars justify the use of resources, there is also a great deal that would indicate that this is the area which has the greatest potential for improvements. Both greater differentiation and stronger elements of e-learning may reduce the need for centralised seminars and result in a number of other positive effects, including with regard to further training in the municipalities.

We also see that a continued focus on improving the information materials may reduce the need for both centralised training seminars and user support.

On the whole, the heads of election administration in the municipalities and county councils were reasonably well-satisfied with the services provided by the Norwegian Directorate of Elections in 2017. This is illustrated in Figure 3.1 which shows the distribution of responses to a question in which they were asked to *assess all of the services as a whole*. The responses were given according to a 5 point scale ranging from "very dissatisfied" to "very satisfied".
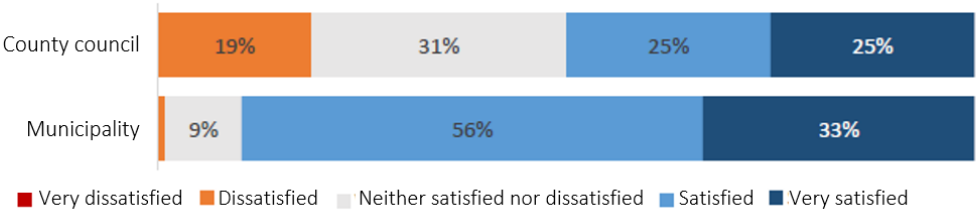

Figure 3.1: Overall assessment of all services

Among the heads of election administration in the municipalities, approximately 90 per cent of those surveyed stated that they were satisfied or very satisfied with the services provided by the Norwegian Directorate of Elections and virtually none stated that they were dissatisfied. The assessments of the county councils were somewhat more divided. While half stated that they were satisfied or very satisfied, almost 20 per cent stated that they were dissatisfied. None selected the "very dissatisfied" alternative.

As Figure 3.2 demonstrates, there was a slight trend towards smaller municipalities being somewhat more satisfied than the larger municipalities, however this pattern is still not clear. If we only look at the proportion who state that they are very satisfied, this actually increases in relation to the size of the municipalities.
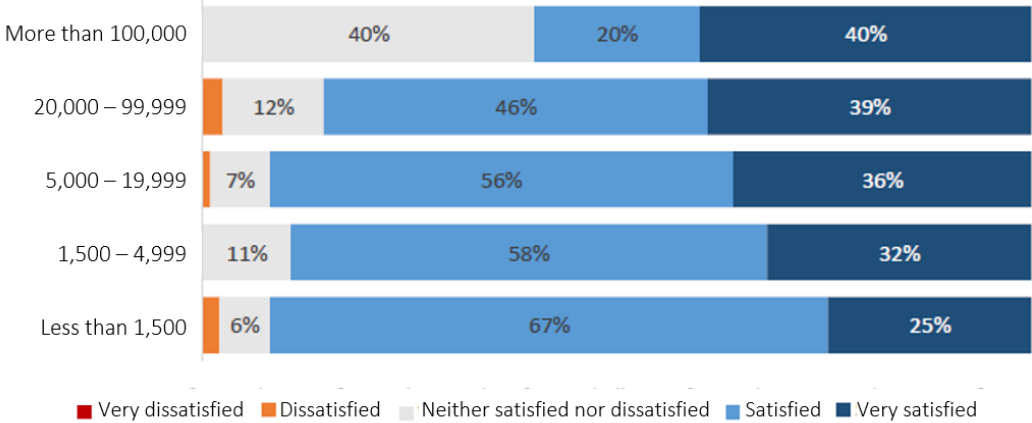
Figure 3.2: Overall assessment of services provided according to the size of the municipality.

COMPARISONS WITH THE SERVICES OFFERED IN 2015

In the survey of the heads of election administration in the municipalities and county councils, we asked for an assessment of how satisfied they were with the services offered in connection with the 2017 elections compared with the corresponding services in 2015. The responses were given

according to a 5 point scale ranging from "much less satisfied" to "much more satisfied". Here a differentiation was made between the systems, user guides, Election Worker Portal, training seminars, and user support.

		Much less satisfied	Somewhat less satisfied	No noticeable change	Somewhat more satisfied	Much more satisfied
User support	County council		29%	29%	21%	21%
User support	Municipality		4%	37%	34%	25%
Training seminars	County council	13%		40%	33%	13%
Training seminars	Municipality		10%	37%	36%	13%
Election Worker Portal	County council	7%	7%	21%	50%	14%
Election Worker Portal	Municipality		6%	31%	40%	22%
User guides for EVA	County council		8%	31%	54%	8%
User guides for EVA	Municipality		2%	36%	42%	20%
EVA Scanning	County council		7%	47%	33%	13%
EVA Scanning	Municipality		1%	32%	43%	23%
EVA Admin	County council		7%	20%	40%	33%
EVA Admin	Municipality		1%	25%	45%	29%

- Much less satisfied
- Somewhat less satisfied
- No noticeable change
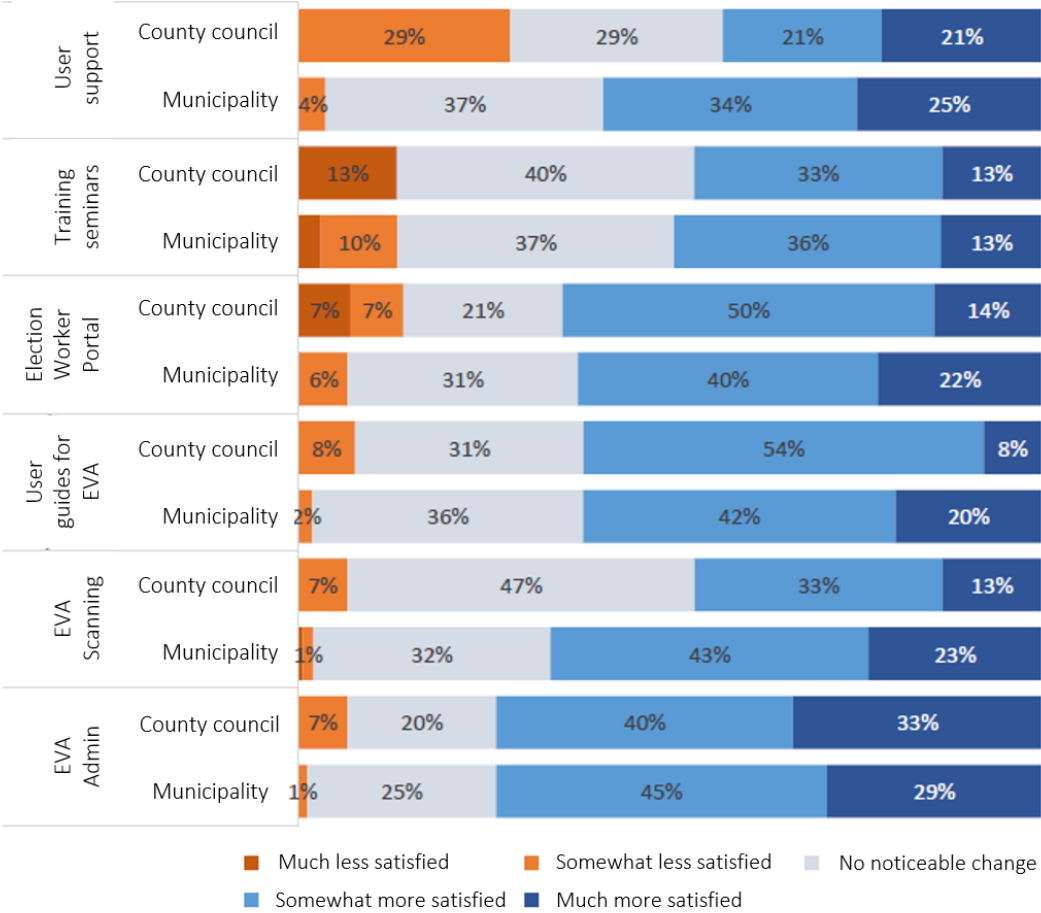- Somewhat more satisfied
- Much more satisfied

Figure 3.3: Comparisons with the services that were offered in 2015.

The results confirm the impression that the municipalities and county councils are generally well satisfied with the services they have received. For all services that questions were asked about, a significant majority of respondents stated that they were either "somewhat more satisfied" or "much more satisfied" with the service in 2017 compared with 2015.

This particularly applied to the EVA Admin system, for which almost 75 per cent of both the municipalities and county councils stated that they were more satisfied with in 2017 than they were in 2015. This is most likely an expression of the continued development and simplifications that were carried out in-between the two elections having been observed and well-received by users. The assessments are somewhat less positive for EVA Scanning, even though a majority of users, particularly in the municipalities, found that there were improvements.

With regard to the information materials, i.e. the user guide for EVA and the Election Worker Portal, about 60 per cent of both the municipalities and county councils stated that they were more satisfied in 2017 than they were in 2015.

The two services for which the assessments are somewhat more complex were the training seminars and user support. When concerning the training seminars, barely half of both the municipalities and

county councils were more satisfied with the service in 2017 compared with 2015, while slightly over 10 per cent were less satisfied. For user support, the municipalities were consistently more positive and 60 per cent experienced improvements while only 4 per cent were less satisfied. The assessments of user support among the county councils were noticeably less positive. 40 per cent experienced improvements, while 30 per cent were of the view that the services were poorer.

ASSESSMENTS OF INDIVIDUAL SERVICES

Some of the same response patterns were seen in four questions in which we asked the heads of election administration to state how satisfied they were "on the whole" with Eva Admin, EVA Scanning, the training sessions an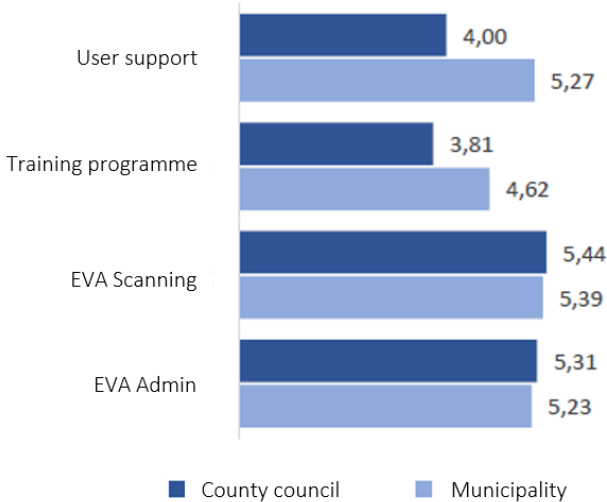d user support. The questions were worded as claims and the responses were given on a 6 point scale ranging from "fully disagree" to "fully agree". The results shown in Figure 3.4 are the average score for this assessment scale. The closer to the scale's maximum score (6), the more satisfied users were with the service.

The assessments of Eva Admin and Eva Scanning were excellent and close to the maximum score that can be achieved. In these areas, the municipalities and county councils were also in agreement. The heads of election administration in the municipalities were also well-satisfied with the user support, but somewhat less satisfied with the training programme. The assessments given by the county councils were more measured for both the user support and the training programme. In both instances the average is slightly above the assessment scale's midpoint of 3.5. In other words, it is clear that both of these services better met the expectations and needs of the municipalities than those of the county councils.

Figure 3.4: Assessments of individual services (average on a scale from 1 to 6).
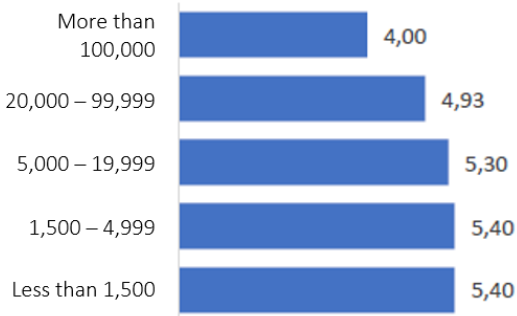
Figure 3.5: Assessments of user support, divided among number of inhabitants (average on a scale from 1 to 6).

With the exception of user support, there were no systematic differences in the assessments of these services between small and large municipalities.

However, the user support was found to be systematically better by the smaller municipalities than was the case for the larger municipalities, cf. Figure 3.5. It is difficult to state the reasons for this, but one possible hypothesis is that both the county councils and larger municipalities have a higher level of expertise and more experience with conducting elections than the smaller municipalities.

The expectations of the quality of the assistance that is offered through the user support may therefore be higher. It is reasonable to assume that the complexity of conducting elections is somewhat greater in the large municipalities than in the smaller municipalities and that this sets stronger requirements for the ability of user support to answer the questions that are asked. We will return to this in Chapter 7, which provides a more in-depth analysis of the user support assessments.

ASSESSMENTS OF BENEFITS

A final set of questions concerning the overall services provided by the Norwegian Directorate of Elections looked at the benefits of the different parts of these services. Those questioned were asked to assess how beneficial or non-beneficial the different tools or services were for conducting the election in their own municipalities or county councils. The responses were given on a 6 point scale from "absolutely no benefit" to "very beneficial" and the average score on this scale is shown in Figure 3.6. The higher the average score, the more beneficial the services were considered to be. Note that it was also possible to answer that the service had not been used.

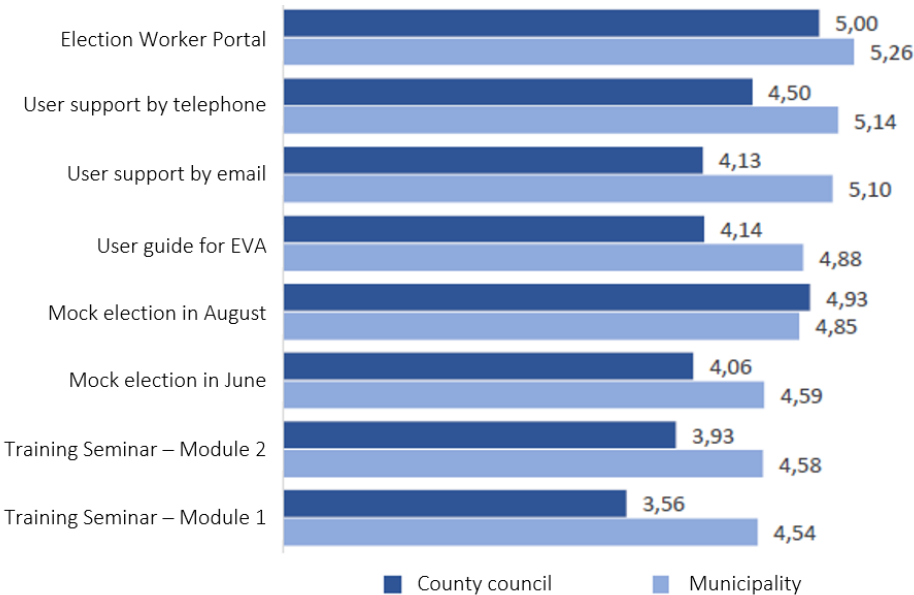|	County council	Municipality
Election Worker Portal	5,00	5,26
User support by telephone	4,50	5,14
User support by email	4,13	5,10
User guide for EVA	4,14	4,88
Mock election in August	4,93	4,85
Mock election in June	4,06	4,59
Training Seminar – Module 2	3,93	4,58
Training Seminar – Module 1	3,56	4,54

Figure 3.6: Assessments of benefits with regard to the different parts of the services provided by the Norwegian Directorate of Elections (average on a scale from 1 to 6).

The principal impression is that the different parts of the services provided are considered beneficial, particularly by the municipalities. Among the municipalities, the Election Worker Portal and the user support were considered particularly beneficial, with average scores of well of 5. The training programme, with the two seminars and mock elections, was considered somewhat less beneficial, with average scores of just over 4.5.

The county councils were also somewhat less positive than the municipalities when concerning assessing the benefits. The differences were particularly significant for the training seminars and user support. For example, an average score of 3.56 for the Module 1 training seminar means that about the same number of people who considered this seminar beneficial found it to be of no benefit. In other words, this also confirms to us that both the training programme and the user support were better adapted to the expectations and needs of the municipalities than those of the county councils.

It is otherwise worth noting that the ranking of the different services according to benefit is somewhat different to what was observed for the 2015 election. The Election Worker Portal was also considered most beneficial in 2015. However, while the training seminars made up the subsequent placings in 2015, they were at the bottom of the rankings in 2017. On the other hand, user support ranked significantly higher in 2017 than in 2015.[17]

QUALITATIVE ASSESSMENTS

In addition to the assessment questions, the heads of election administration were also given the opportunity to further express their views in open comment fields. Among other things, we asked what the users were *most satisfied with and least satisfied with* when concerning the services offered by the Norwegian Directorate of Elections in connection with the 2017 election. They were also asked what they perhaps considered to be the most important *areas of improvement* in the services offered by the Norwegian Directorate of Elections up until the 2019 election. The comment fields were used by many and provide a great deal of information about how the services were considered and rated.

With regard to the question of what the users were most satisfied with, the actual user support was cited the most. Of a total of 156 comments, the user support was referred to in a positive manner in about half of these. The EVA system was mentioned in barely a third of the comments, while the training was mentioned in 24.
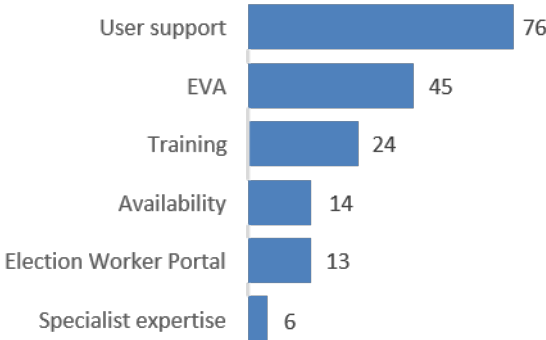

Figure 3.7: Responses in open comment fields regarding what the users were most satisfied with (number of times mentioned).

When concerning the user support, both the courtesy and low response times were emphasised as being positive, but the quality of the answers was also mentioned to some extent. Many found that it was easy to ask questions and that they received the help they required. The comments regarding EVA were often about the improvements and simplifications that were made since the previous election.

It is also worth noting that *availability* is a constant word used in many comments, both generally and in connection with the user support. The two quotes below are both examples of this:

> *"It was easier to get in contact with experts at the Norwegian Directorate of Elections than it was at the Ministry in previous years."*

> *"The Norwegian Directorate of Elections was considered closer, more accessible and less arrogant that the Ministry was in previous elections."*

In other words, it can appear as if some found the threshold for making contact to be lower following the establishment of the Norwegian Directorate of Elections. It should also be noted that some of the

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[17] Oslo Economics (2016): Evaluering av gjennomføring av kommunestyre- og fylkestingsvalgene i 2015, page 48.

comments made mention of the specialist expertise of the employees at the Norwegian Directorate of Elections.

The descriptions of what the users were least satisfied with in terms of the services provided by the Norwegian Directorate of Elections were generally more specific and detailed. There were also a long list of different issues that were highlighted. Most of the comments (38) made note of weaknesses associated with the training. Among other things, this concerned the time used at the seminars not always being considered to be as efficient, that there was a need for greater differentiation in the services provided between the experienced and less experienced users, and that speakers and group teachers were not always able to answer the questions they were asked. There were also a number of comments regarding the location of the training seminars (22). These partly concerned the fact that many wanted to have regional seminars with shorter travel times for the participants and the fact that many would have preferred a hotel closer to the airport at Gardermoen instead of Alna.

Figure 3.8: Responses in the open comment field regarding what the users were least satisfied with (number of times mentioned).

There was also a relatively high number (30) who made mention of inadequate or unclear information from the Norwegian Directorate of Elections. Several of these comments were general in nature, but a significant part were linked to two specific issues: the Sami parliamentary election and the special circumstances concerning security and the regulations relating to manual counting. It was the view of many that the Sami parliamentary election was inadequately described in the information materials in the Election Worker Portal and the information provided at the training seminars was only found to have satisfied existing information requirements to a limited extent. The comments concerning security and the Regulations relating to manual counting partly concerned the information about the need for extra security measures being inaccurate and partly that the requirement for manual counting was made so close to polling day.

Some comments also concerned user support (11). A few of these dealt with availability and response times, but the majority were in relation to the quality of the responses. These were often linked together with comments about the lack of expertise at the Norwegian Directorate of Elections in general and the user support apparatus in particular. A few selected comments illustrate this:

"I felt that the level of expertise of those who answered the telephone
was low - particularly on the polling days."

"The specialist expertise of the employees from the Norwegian Directorate of Elections at the training seminars was at a much lower level than at previous seminars."

"The expertise of the employees from the Norwegian Directorate of Elections was also not at the same level as that of the Ministry (2015)."

"Not enough specialist election expertise among employees. Quality control of information. Lack of clarity in the information provided to the municipalities. I think this will gradually improve as the employees at the Norwegian Directorate of Elections develop their expertise. Should spend more time out in the municipalities and attain more practical expertise."

When concerning the issue of areas of improvement up until the 2019 elections, comments regarding training also dominate (62). Many of these (20) also concern the need for a training programme that differentiates between experienced and less experienced users. A joint programme for everyone is a poor use of training time and does not meet the needs of individual participants. There were also a significant number of users (22) who requested that a larger part of the training be done digitally, for example, via instructional videos, e-learning modules and webinar solutions. Some linked this to the need for differentiation, while others linked it to costs and time use associated with centralised training seminars. There were also a few who maintained that these types of digital training solutions will be able to make it easier to train election workers in the municipalities.

In addition, there were also many who wanted regional seminars or that a different training location and hotel than Alna be selected. Several were also of the view that the training seminars could be made shorter for individual participants, either with the assistance of more differentiated and specialised programmes or by the training seminars being supplemented with e-learning services.
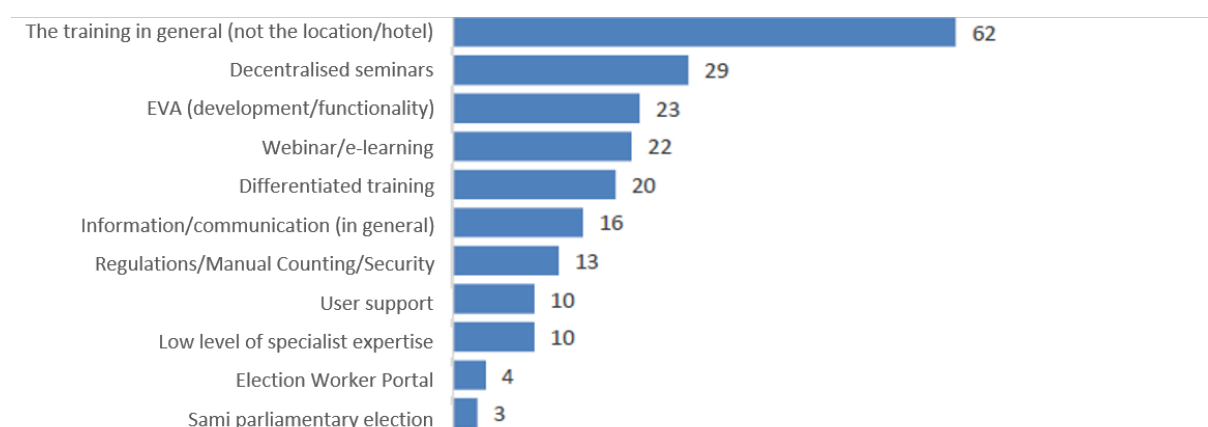

Figure 3.9: Responses in open comment fields - areas of improvement up until the elections in 2019 (number of times mentioned).

A comparatively large number (23) also wanted further improvements to EVA. This principally concerned simplifying the user interface and making the dialogue with users more intuitive. With the exception of one request to simplify and streamline the administration of user rights, no specific functions were highlighted in these comments.

One group of comments concerned user support, the information work and need for improving the expertise of both the user support apparatus and the Norwegian Directorate of Elections in general. These are comments that are similar to those we summarised under the issues that the users were most dissatisfied with. This also relates to whether the accuracy of the information provided must be improved and that in certain areas there is a need to strengthen the expertise of the Norwegian Directorate of Elections. More practical experience with conducting elections was particularly requested.

For example, a head of election administration in one of the counties stated the following:

> *"They should hire people with expertise in actually conducting elections in the municipalities and county councils in order for them to obtain a better understanding of the actual election process."*

Examples of equivalent comments from heads of election administration in the municipalities:

> *"It is extremely important that those holding the courses have all the necessary expertise, including of the legislation, and that answers can be provided during the course day when questions/problems arise."*

> *"More insight into practical election work. The training and knowledge of the employees are based on theory. Little election experience among the employees."*

SUMMARY

On the whole, the users were well-satisfied with the services offered by the Norwegian Directorate of Elections. This particularly applied to the EVA system and the Election Worker Portal. The assessments were more complex when concerning the training and user support. The users in the municipalities were well-satisfied with the user support, but somewhat less satisfied with the training. All in all, the users in the county councils were less positive about the majority of services, and the user support and training programme in particular received much more criticism from the heads of election administration in the county councils. In certain areas, including with regard to the user support, we also find that smaller municipalities were generally more satisfied than the larger municipalities.

The Norwegian Directorate of Elections was praised for its availability and courtesy. Several found that the distance and threshold for being able to make contact had improved in comparison to when the services were handled by KMD. At the same time, there were several who questioned the quality of the information that was provided through the training and user support and whether the expertise in both the user support apparatus and more generally was good enough. Something that was particularly sought after was more practical experience with conducting elections in the municipalities and county councils.

As mentioned in Chapter 2, few of the experienced KMD employees transferred to the Norwegian Directorate of Elections and the new organisation was also only given a very short amount of time in which to develop new expertise before the practical work with training and election preparations were to begin. It is most likely the results of this that we now see signs of in the survey. This is

supported by the fact that the county councils in particular, but also the more experienced election workers from the larger municipalities, were the most critical.

In interviews, the employees at the Section for Elections and Local Democracy placed strong emphasis on the need for assigning responsibility to the municipalities. The objective was that the municipalities would be able to build up as much local expertise as possible and find their way using the information that had been made available rather than calling the Ministry and asking the for help every time there was something they were unsure about. It is perhaps for this precise reason that, as stated in the comments quoted above, the Ministry was considered less accessible. The Norwegian Directorate of Elections was found to be more open and accommodating, but was also criticised for providing answers that were not always subject to adequate quality controls.

MANAGEMENT OF THE ISSUES RELATING TO SECURITY PRIOR TO THE ELECTION

As mentioned in Chapter 2, there was a great deal of media focus on security in connection with the election process in the weeks prior to polling day. This particularly applied to the software and equipment that is used for machine counting (scanning) and therefore primarily concerned municipalities and county councils that make use of this option. This applied to 213 municipalities and all county councils for the 2017 elections.

In order to address some of the criticism regarding security arrangements, the Norwegian Directorate of Elections issued several new recommendations to the municipalities in the weeks prior to the election. Among other things, these recommendations included the re-installation of software, disconnecting from networks and manual transfer of the result data on encrypted disks. Eleven days before the election, regulations were also issued for all votes to be counted manually. Due to the media attention also being directed at the municipalities and because extra recommendations and instructions interfered with the workflow and workload of the municipalities, there is reason to examine in more detail how the municipalities and county councils rated the Norwegian Directorate of Elections' handling of this matter. It is also relevant to ask the extent to which the incidents (which were, in a sense, extraordinary) also influenced the assessments by the municipalities of the work and services of the Norwegian Directorate of Elections in other areas.

The survey of the heads of election administration included a question about how satisfied they were with the information work of the Norwegian Directorate of Elections in relation to the municipalities and county municipalities during this situation. The results are shown in Figure 3.10. Note that only responses from municipalities that used machine counting, either alone or in cooperation with others, are included in this figure.
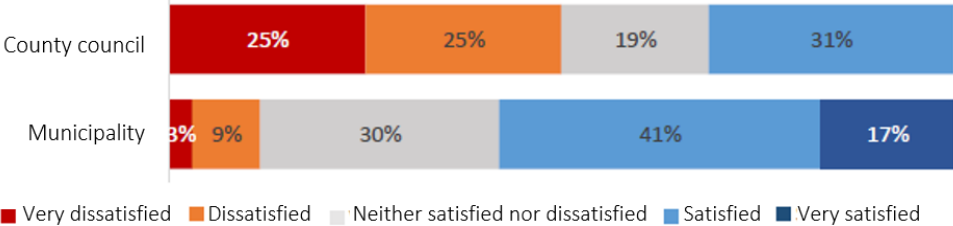

Figure 3.10: Assessments of the Norwegian Directorate of Elections' information work when concerning matters relating to security.

When concerning the municipalities, just under 60 per cent of those surveyed said that they were satisfied with the information from the Norwegian Directorate of Elections, while 17 per cent were dissatisfied. However, the election workers in the county councils were far more sceptical. Only one-third stated that they were satisfied, while half were dissatisfied.

Those surveyed were also given the opportunity to elaborate on their responses in an open text field. Many were concerned about the decision to conduct manual counting being taken at a late stage and that the municipalities were therefore not given enough time to prepare for this change. Some were also of the view that the Norwegian Directorate of Elections should have been prepared for questions about security and should have planned for this in advance. For example, Oslo Municipality stated the following:

> *"Information and measures relating to security came at far too late a stage. Oslo Municipality had requested this information early in the election year, but this was not provided until after summer. There was also no communication with us before guidelines were issued that, in our case, were not considered to be good. The Norwegian Directorate of Elections should have involved us much more in this process."*

However, there were very few that questioned whether the decision to have manual counting was correct, and the majority appear to have been satisfied with the information they received when the decision was first made. A head of election administration in an urban municipality stated the following:

> *"Straightforward and precise information when the decision was finally made for a manual count and very good assistance and follow-up in connection with the necessary reconfiguration of EVA. However, there was not enough info prior to the shock decision. Did this really also come as such as surprise to the Directorate?"*

Several other comments confirm this:

> *"Happened a little abruptly both for them and for us. This resulted in us receiving some conflicting responses from the Directorate. There was a little back and forth. Not 100 per cent there and then, but the result was good in the end."*

> *"When the situation arose I was contacted by the Directorate twice by telephone, as well as by email. That was very good."*

> *"The Directorate did a good job in a difficult situation!"*

There were also those who felt that the information provided to the municipalities and county municipalities was handled better than the external information work:

> *"The information provided to us by the Norwegian Directorate of Elections was good. It was the external information that the Norwegian Directorate of Elections did not do a good enough job with."*

The Section for Elections and Local Democracy and the communications department at KMD were also important contributors to the ongoing communication and information work during the most hectic period prior to the election. This applies, not least, to the days around the time of the publication of the Regulations relating to manual counting.

There is little that indicates that the events surrounding the extra security measures influenced the municipalities' assessments of the work done by the Norwegian Directorate of Elections in other areas. This is illustrated in Figure 3.11 which shows differences in assessments of the services provided by the Norwegian Directorate of Elections between municipalities with and without machine counting (scanning). In other words, the municipalities affected by the extra security measures were just as satisfied with the work of the Norwegian Directorate of Elections as those that were not affected.
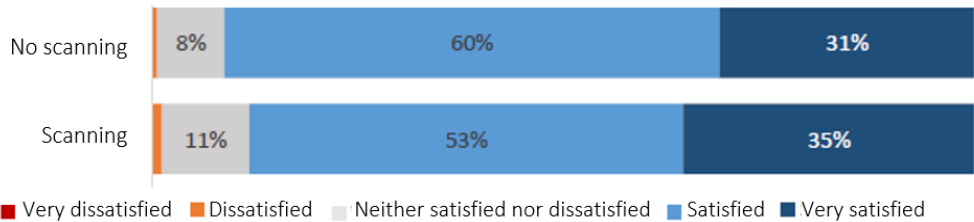

Figure 3.11: Assessments of the services provided by the Norwegian Directorate of Elections divided into municipalities with and without machine counting.

The only area in which we find significant and systematic differences in assessments between municipalities with and without machine counting is the user support. While the average score for all questions that assess user support was 5.3 for municipalities that did not use machine counting, it was 5.0 for municipalities with machine counting. This can be due to the fact that municipalities with machine counting have somewhat more advanced requirements than other municipalities and that they therefore placed greater demands on the user support system. However, it may also be due to the fact that much of the dialogue with the Norwegian Directorate of Elections during the hectic days following the publication of the regulations took place through the user support system and that it is the assessments of the quality of this dialogue that are reflected in the data.

It can also be noted that a majority of the municipalities and county councils considered EVA Scanning and the routines linked to the system to be adequately protected against hacking. In the survey, 60 per cent of those surveyed stated that they considered the system and routines to be secure, while the remainder did not have a clear opinion on this. None stated that they considered the system to be unsecure.

COST-BENEFIT CONSIDERATIONS

STARTING POINT

It is difficult to measure the value (or benefit) of the elections being conducted in the correct manner in terms of money spent. It is about fundamental public trust and the legitimacy of the political system. Despite this, it should always be assessed as to whether the funds allocated for conducting elections are used in a relevant and cost-effective manner and that the same results in terms of quality and trust could not have been achieved with fewer resources being used.

The four tasks or services we look at in this evaluation, i.e. the EVA system, the information materials, training and user support, have a unique cost structure.

The costs associated with the EVA system are, to a significant extent, long-term investments. The Norwegian Directorate of Elections took over a system that had been under development for several years. The Directorate could focus on necessary, but defined, simplifications and improvements that will also be of benefit for future elections. Even though a computer system will never be "finished" due to, among other things, user expectations, the tasks that have to be performed and changes in the technological surroundings, it will eventually reach a maturity level at which the marginal utility of further development efforts will subside. Therefore, before the need for a more fundamental technological change arises, it can be expected that the costs of EVA will decrease and will apply more to operation and maintenance rather than further development.

Some of this also applies to the information materials. The Norwegian Directorate of Elections took over a comprehensive and content heavy Election Worker Portal and could concentrate its efforts on updates and more incremental improvements. Even though there is scope for further development both in terms of content and design, much of the basic investment has already been made.

Both the training and user support differ from the two services referred to above. These are labour-intensive and time-limited projects that must be carried out for every election and for which the outcomes of investments and transferable value from one election to the next are more limited. This at least applied to how these services have been organised and performed until now. If one was to look for areas in which the work with conducting elections can be made more efficient, it must therefore principally apply to these two services.

ESTIMATED COSTS

The work with the four services crosses over among these services. This also takes place within an organisation that has other duties and also expenses that are difficult to allocate among each of the services. It is therefore difficult to provide exact estimates of costs. The figures in Table 3.1 for the 2017 election were calculated for us by the Norwegian Directorate of Elections. The objective of the calculations was, insofar as possible, to obtain figures that are comparable with the calculations that were made by Oslo Economics in connection with the evaluation of the 2015 election. However, it is reasonable to look at these figures as rough estimates rather than exact and directly comparable amounts.

	KMD 2015[18]	Norwegian Directorate of Elections 2017[19]
Information	NOK 10 million	NOK 7 million
Training	NOK 6 million	NOK 5.6 million
User support	NOK 5 million	NOK 4.3 million
EVA	NOK 42 million	NOK 19.1 million

Table 3.1: Estimated costs of the four services.

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[18] The figures have been obtained from Oslo Economics (2016): Evaluering av gjennomføring av kommunestyre- og fylkestingsvalgene i 2015, page 48.
[19] Calculated by the Norwegian Directorate of Elections and commissioned by ideas2evidence.

The biggest differences in the costs listed apply to the development and operation of EVA, for which the calculated expenses halved from 2015 to 2017. The proportion of the overall expenses also fell from two-thirds to about one-half. As we have noted, this was most likely due to much of the investment already having been made and that the need for further development and improvements was more limited. At the same time, this reflects the fact that the work with EVA has been reorganised. While the development work at KMD was largely carried out by contracted consultants, the work at the Norwegian Directorate of Elections is performed to a larger extent by permanent employees. The Norwegian Directorate of Elections reported that salaries and personnel expenses for own employees were not included in the amount stated. The actual differences in costs are therefore probably lower than what the figures in the table above would indicate.

Expenses for the information work were also noticeably lower in 2017 than in 2015. It is reasonable to assume that this was also due to much of the investment required to develop the Election Worker Portal already having been made prior to the 2015 election and that the need for further development and improvements was therefore more limited.

With regard to training costs, the differences that we perhaps should expect are significantly lower. This is despite the fact that the training programme in 2017 was reduced from three to two seminars. The Norwegian Directorate of Elections reported that the amount of NOK 5.6 million includes the Directorate's own costs of NOK 1.4 million in addition to the participation fees from the municipalities and county councils that were used to pay for accommodation and meals.[20] With 1,040 people who have received training, this gives an estimated cost per participant of approximately NOK 5,400.[21]

However, from a socioeconomic perspective, the costs associated with the centralised training seminars also include the municipalities' travel expenses and possibly other expenses relating to participation at these seminars. In the survey of the municipalities and county councils, we asked the heads of election administration to state their approximate combined expenses in connection with their participation at the two training seminars.[22] The average costs for the municipalities were NOK 26,785 and this varies from an average of NOK 6,906 for the municipalities in Akershus to NOK 40,973 for the municipalities in Finnmark. The expenses for the county councils are largely in accordance with this, with an average of NOK 26,969. If we assume that the municipalities that have not responded had costs close to the average for all municipalities in the same county,[23] this gives a total cost for all of the municipalities in the country of approximately NOK 11.3 million. If the expenses for the county councils are added, the amount increases to approximately NOK 11.8 million.[24] The total expenses of the Norwegian Directorate of Elections and the municipalities were therefore NOK 17.4 million, but because the expenses for the participation fee were probably

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[20] The Norwegian Directorate of Elections used a fee per participant per training seminar of NOK 2,865 (seminar plus accommodation and dinner) and NOK 1,190 (only seminar with lunch).
[21] Calculated by the Norwegian Directorate of Elections.
[22] Most of those who responded to the survey provided an estimate of these costs.
[23] In other words, we have undertaken an interpolation whereby the municipalities that have not responded to the entire survey or this one question, have been assigned the average score of all of the municipalities that have reported costs from the same county.
[24] It should be noted that this is a significantly lower amount than the NOK 25 million estimated by Oslo Economics in the evaluation from 2015. However, this estimate was based on as assumption of a flat cost per person per seminar of NOK 8,000. It is reasonable to assume that the method of calculation used here provides a more accurate estimate than this.

included in the costs the municipalities have reported, these must be deducted. This gives a total amount of NOK 13.2 million and a cost per participant of NOK 12,962.[25]

With regard to the user support, the Norwegian Directorate of Elections' cost estimate for 2017 was also just under the corresponding estimate for 2015. While KMD purchased the first line service from the Brønnøysund Register Centre, the Norwegian Directorate of Elections managed this function itself. The user support was also staffed by a somewhat smaller and more compact team than that which was used in 2015. It is most likely these organisational differences that are reflected in the cost estimates in Table 3.1.

As mentioned in Chapter 2, employees at the Section for Elections and Local Democracy at KMD also contributed to the work on conducting the election in 2017. It has also been suggested that this work was more extensive than expected and that this division of work will not be sustainable for future elections. If the actual costs of KMD's efforts are added, it is reasonable to assume that the user support costs in particular would increase significantly.

FURTHER DEVELOPMENT OF EVA

One of the most important issues that the Norwegian Directorate of Elections must address in the period up to the next election is the amount of continued development that is still required when concerning the election administration system EVA. In order to obtain a better overview of what the
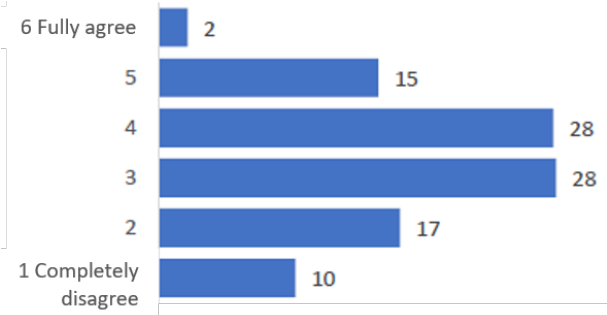

Figure 3.12: Assessments of the need for further development of EVA Admin (as a percentage).

users of the system think about this issue, we asked the heads of election administration to respond to the following claim: *EVA Admin has reached a "maturity level" at which I do not see a major need for further development and improvements* (cf. Figure 3.12).

As this shows, the users are rather evenly divided in their assessments of this issue. However, there is a slight majority of users who believe that it is still desirable to further develop EVA. If we focus on the scores at the opposite ends of the assessment scale, around 17 per cent agree that the system has reached a maturity level at which there is little need for further development, while 27 per cent disagreed with this position.

However, on the whole, these responses do not send a strong and clear signal that there is a need for extensive further development of EVA. This is particularly the case when we take into consideration that it will always be natural to want a better tool when you yourself are not bearing the costs associated with further developing this tool. The assessments from the municipalities show a significant degree of restraint and weigh up the benefit of further development in relation to the costs of this development work. As we shall see in the next chapter, the users were largely very satisfied with the system. It performs the tasks it was assigned to perform in a good and assured manner, even if it is still possible to make the system easier and more intuitive to use, particularly for users without much experience. In connection with this, it is worth noting that the proportion who

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[25] It should also be noted that costs associated with people who participated at the training not being at work and unable to perform their normal duties in the municipalities and county councils were not included in these calculations.

are of the view that there is still a need for further development is higher among users without previous experience with EVA, i.e. 33 per cent.

As mentioned above, a computer system will regardless never be able to be characterised as "finished". For example, the discussion concerning security prior to the 2017 election shows that it will be necessary to take this matter seriously. It is reasonable to assume that this discussion will again be raised at the next election and it will therefore be necessary to be able to demonstrate that potential security flaws have been rectified. There is also an impending amendment to the Election Act which will, in all likelihood, require that EVA is adapted to a new set of rules. This will also probably require significant changes and expansions of the system. It must also be taken into consideration that further simplifications to EVA may result in costs savings in other parts of the "chain of actions", first and foremost when concerning the training and user support.

FURTHER DEVELOPMENT OF THE TRAINING PROGRAMME

If we also include own expenses for the municipalities and county councils, the training is probably the area which has the best opportunities for more efficient use of these funds. In order to obtain an overview of how the municipalities and county councils themselves assess this use of resources, we asked the heads of election administration to respond to the following claim: The benefit of the two training seminars justifies the municipality's/county council's use of resources (cf. Figure 3.13).

Despite this being an area in which the largest part of the cost is born by the municipalities and county councils, a significant majority of respondents were of the view that the benefit justified the use of resources. If we also concentrate on the two response alternatives at opposite
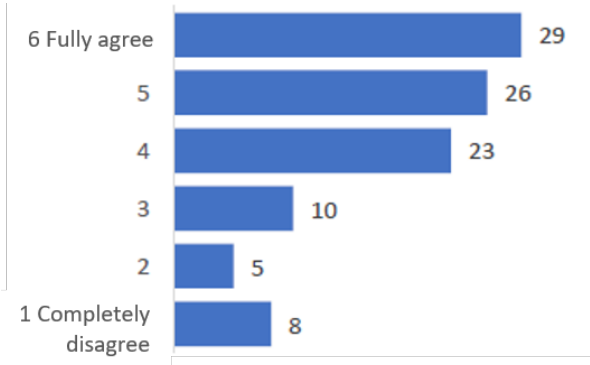

ends of the assessment scale, well over half agreed that the benefit justifies the use of resources, while only 13 per cent disagreed.

Figure 3.13: Assessments of whether the benefit of the two training seminars justifies the use of resources (percentage).

We have also tested the extent to which these assessments are dependent on the actual costs of the municipalities and county councils. This appears to be of lesser importance than what one would perhaps expect. It is true that we find a negative correlation between the municipalities' reported expenses and the assessment of benefit, however this correlation is weak.[26] For example, the assessments from the municipalities in Akershus were at about the same level as the assessments from the municipalities in Finnmark, despite these being at opposite ends of the cost spectrum. On the whole, this is therefore significant justification for the training programme that is offered, including in situations in which the municipalities' own costs are high.

However, this does not mean that the Norwegian Directorate of Elections should not look for means of further developing this programme and making it more efficient. As mentioned above, the training is perhaps the area in which most users see potential for improvements. Among other things, this involves greater differentiation and more e-learning. E-learning modules adapted to the needs of
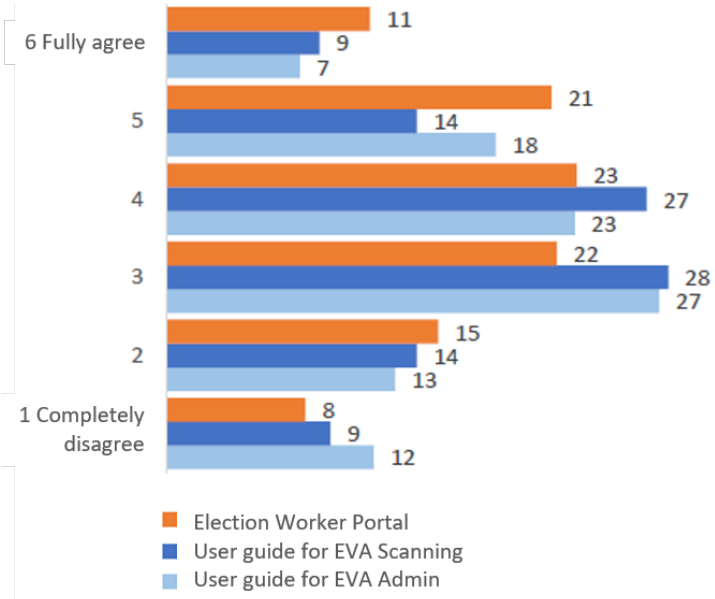
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[26] Pearsons r =-. 1

users with different experience and training requirements would not only reduce the need for centralised training seminars, but would also be able to provide training that is better tailored to individual needs. In addition, it may be able to meet some of the needs of the municipalities in terms of further training of personnel who do not have the opportunity of participating at the seminars. An investment in e-learning modules would also increase the opportunities for reuse from election to election. Instead of starting from scratch every second year, libraries of quality-controlled modules could be gradually built up, which would, over time, provide a complete training service.

However, in the short-term we do not believe that the training seminars would be able to be fully replaced by e-learning. As we will examine in more detail in Chapter 6, the users also see a great deal of value in the physical meetings and the opportunities for building contacts that the training seminars provide. This applies both to contacts with election workers from other municipalities and county councils and contacts with the employees at the Norwegian Directorate of Elections. However, we are still of the view that the amount of centralised training may be able to be reduced and replaced by other means of assistance.

SPILLOVER EFFECTS

When assessing the relationship between costs and benefit, it is important to consider that the different areas and services are linked together (cf. Figure 1.2 in Chapter 1). For example, an improvement in the information materials may reduce the need for both training and user support. In other words, an investment in one area may result in savings in another.

We presented the heads of election administration with several questions in which they were asked to assess these types of links. The first three questions relate to the information materials and the extent to which improvements in the user guides for EVA Admin and EVA Scanning and in the Election Worker Portal in general may reduce the need for training and user support. The responses to these questions are summarised in Figure 3.14.

Figure 3.14: Assessments of the potential for reducing the need for training and user support by improving the information materials (as a percentage).

The results are particularly interesting when concerning the Election Worker Portal in general. If we focus on the two response categories that express the most agreement, we find that one-third of those surveyed believe that *it will be possible to reduce the need for training and user support by further developing the content and functionality of the Election Worker Portal*. In other words, despite the fact that a great deal has already been invested in the Election Worker Portal and the users are also well-satisfied with the existing service, there is still potential for improvement.

The results were somewhat less clear when concerning the user guides for EVA Admin and EVA Scanning. 25 per cent of those surveyed were of the view that *an improvement may reduce the need for training and user support*. There are also almost just as many who fully disagree that such savings are possible. Irrespective of this, the results demonstrate that it may still be sensible to improve the information materials and that this may result in savings in other parts of the chain of actions.
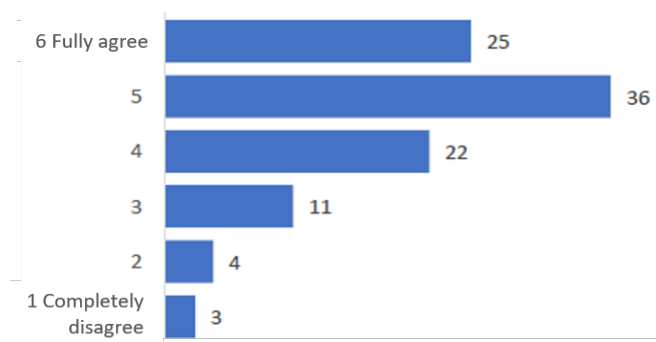
Figure 3.15: Assessment of whether the training reduced the need for user support (as a percentage).

The heads of election administration were also asked whether they were of the view that the training they received in 2017 had *reduced the need for user support during the election process*. A full 60 per cent of those surveyed considered this to be the case. The user support is the final link in the chain of actions. This is the service that users resort to when the information materials and training do not provide answers to the questions they may have. In other words, if user support traffic is to be reduced, the measures must be initiated elsewhere.

The responses in Figure 3.15 demonstrate that there is major potential for reducing the need for user support by focussing even more on developing a good and targeted training programme.

SUMMARY

While expenses associated with the further development of EVA and the Election Worker Portal are long-term investments for which it is reasonable to assume that resource needs will abate over time, the training, and to an even greater extent the user support, are time-limited projects which often require one to start from scratch for each election.

When concerning both functionality and user-friendliness, EVA has most probably reached a level at which the benefit of extensive further development is decreasing. However, it should be assessed as to what extent further simplifications of the user interface may reduce the need for training and user support and therefore provide savings in other parts of the chain of actions. However, decisions regarding this should be based on detailed cost-benefit assessment in each instance. In addition, requirements for increased security, a new Election Act and comprehensive changes in the municipal structure up until the next election, will set requirements for adaptations of the system.

The Election Worker Portal has also reached a maturity level whereby the need for further investments is limited. However, prudent further development of content and functionality will also be able to reduce the need for training and user support.

The training costs are high, both for participants and the Norwegian Directorate of Elections, and alternative formats should be sought which can reduce the need for centralised training seminars. This can probably be achieved through a gradual accumulation of solutions for e-learning which will also make it easier to differentiate the training services and facilitate more suitable continued

training of election workers in each municipality and county council. This could also be seen as a long-term investment that may gradually reduce the overall training costs for future elections.

Chapter 4
The election administration system EVA

INTRODUCTION

The electronic election administration system (Elektronisk valgadministrasjonssystem (EVA)) is the IT solution that is used for the technical implementation of the elections. The system was once developed and operated by KMD, but from and including the establishment of the Norwegian Directorate of Elections in January 2016, the administration and operation of the system have been assigned to the Directorate. EVA is used by all of the municipalities and county councils in the country.

In this chapter, we evaluate the design, functionality and user-friendliness of the system from a user perspective. The evaluation is based on findings from the survey and interviews, as well as our own assessment of the system in the form of a "user test", also referred to as a "usability" analysis.

The results from the survey and interviews demonstrate that the heads of election administration in municipalities and county councils are generally very satisfied with EVA. There is a great deal of agreement that the system has the functionality that municipalities and county councils require for conducting elections. The majority also stated that EVA has improved since the previous election.

However, EVA still has potential for improvement. In short, this relates to the user interface being able to be more intuitive and logical and better adapted to the various steps in the election process. The user interface for EVA Scanning can also be simplified. In addition, there is also scope for improving certain control functions and deviation messages. We believe that a "smarter" EVA may contribute to reducing the risk of errors, while at the same time reducing some of the need for training and user support.

THE EVA SYSTEM

EVA has two principal modules:

EVA Admin: The election administration system.

EVA Scanning: The system for machine counting and interpretation of ballot papers.

In addition to this is EVA Result, a forecast-based system that obtains election results from EVA Admin and prepares election forecasts for distribution. The election results are published at *valgresultat.no*, which is a separate website for the neutral presentation of the election results.

The development of EVA commenced in 2010, with trials in a smaller number of municipalities for the 2011 election. EVA Admin commenced full scale use in all municipalities and county councils

from and including the 2013 elections. EVA Scanning was used by about 100 municipalities in 2013. The figure doubled in 2015, and at the 2017 election scanning was used by 213 municipalities and all county municipalities.

The actual programme package for EVA is free of charge, but municipalities and county councils must themselves cover all costs associated with the use of the system. This can be everything from licences, hardware and scanners to technical assistance from providers and training of election workers.[27]

EVA ADMIN

EVA Admin contains functions that assist municipalities and county councils in conducting elections. The specific functions that are available will depend on the role one has in the system. The system divides the election up into four phases:

Preparations: This includes entry of basic data, searches in the electoral register and processing of list proposals.

Voting: Registration of advance votes, polling station voting, test voting (no role for the county council).

Counting: Preparations for scanning, provisional counting, final counting and processing of rejected votes.

Election results: Function for determining the election results (carried out by the county electoral committee/county council).

EVA SCANNING

EVA Scanning is used by municipalities and county councils for machine counting of ballot papers. In principle, the use of machine counting is optional, however the system is used by most municipalities of a certain size, either individually or in cooperation with another municipality or county council. EVA Scanning consists of four different applications:

♦ EVA Job Management
♦ EVA Set-up
♦ EVA Scan
♦ EVA Verify

The tasks of EVA Job Management and EVA Set-up are to define what is to be counted, administer the counting process and transfer counts to Eva Admin. EVA Scan is the primary programme that is used for conducting the scanning process, while the third-party tool ReadSoft Forms is used "under the hood" to actually read the ballot papers. If the programme is not able to clearly read the ballot paper, the ballot is marked and must be approved manually using EVA Verify. When the count is

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[27] For the 2017 election, the Norwegian Directorate of Elections entered into framework agreements with three providers of scanning services (Evry, Idox and Indra). In principle, it is optional for the municipalities to use the providers, however is strongly recommended by the Norwegian Directorate of Elections.

approved, the results are transferred to EVA Admin which makes the figures available to the general public via EVA Result.

ASSESSMENT OF EVA IN CONNECTION WITH THE 2015 ELECTION

In the evaluation from 2015, the EVA system was referred to as a "good and reliable ICT system for conducting elections".[28] Emphasis was placed on the fact that significant improvements had been made since the 2013 election. At the same time, the evaluation underlined the fact that the system had not been fully developed in all areas. The evaluation outlined the following areas of improvement:

- ♦ EVA Scanning: Improve user-friendliness and reduce the need for verification.
- ♦ EVA Admin: Improve functionality for being able to register corrections, adjust roles, improve reporting functionality and reduce number of clicks.

The evaluation also noted that the costs of operation and further development of the system are comparatively high and that it may be possible to achieve more cost-effective operation. When viewed in light of the positive responses from municipalities and county councils in connection with the 2015 election, the evaluation recommends that specific cost-benefit assessments be carried out before costly further developments are initiated. It was also recommended to establish a user forum with a mandate to influence the system's development process, as well as a system administrator who can follow-up and implement prioritised changes.

ORGANISATION OF THE WORK AT THE NORWEGIAN DIRECTORATE OF ELECTIONS

Prior to the establishment of the Norwegian Directorate of Elections, the development and operation of EVA were a sub-project at KMD. The work was carried out by a significant project organisation that consisted principally of contracted consultants. When the Norwegian Directorate of Elections was established, the contracts of 7-8 of these consultants were extended and they continued their work partly from an office at KMD and partly from Tønsberg. At the same time, the Norwegian Directorate of Elections commenced the establishment of a new team of permanently employed developers and operations personnel and the contracted consultants were later phased out. At present, this team consists of eight permanently employed developers and one contracted consultant. In addition to this are a few principal positions such as a product owner and a system architect. Compared with the project organisation that was in place at KMD during the years prior to the 2015 election, this is a significantly smaller organisation.

Prioritising the further development of EVA Admin and EVA Scanning up until the 2017 elections had largely been arranged before the Norwegian Directorate of Elections took over. Attention was focussed on the areas of improvement that were identified in the external evaluation from 2015, as well as the other feedback from municipalities and county councils. Among other things, a review was conducted of the user interface for the basic data, where the user receives better guidance through the entire process. The installation process for EVA Scanning has also been simplified and EVA Result has been given a more robust set of basic data. According to the Norwegian Directorate of Elections, these changes have contributed to reducing the risk of user errors. A "legality test" was also carried out during 2016 to ensure that EVA was in compliance with legislation and some adjustments were made. On the whole, this was still a limited development programme compared

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[28] Oslo Economics (2016): Evaluering av gjennomføring av kommunestyre- og fylkestingsvalgene i 2015.

with the scope of the new and continued developments that were necessary prior to the 2013 and 2015 elections.

The Norwegian Directorate of Elections also followed up the recommendations to formulate a product owner and system architect role. However, the recommendation to establish a user council in which the system users could be given more influence over the direction of the development work was not followed up.

USABILITY ANALYSIS

In order to conduct a thorough evaluation of EVA, we have carried out our own user test of the system in the form of a "usability analysis". In this analysis, EVA was evaluated in accordance with the system's design, functionality and usability from a user perspective. The analysis did not take into consideration detailed technical assessments that are not immediately relevant to the individual end-user. Among other things, the security aspect was not considered. The analysis of the EVA system was conducted by a usability expert at Sonat Consulting. Parts of the testing were carried out at the premises of the Norwegian Directorate of Elections in Tønsberg. Below is a summary of the principal findings from this analysis.[29] The full report can be found in Appendix 1.

ASSUMPTIONS

The analysis used the following assumptions: Target group for the system:

1. The system is used by a limited group of people who are responsible for conducting elections.
2. The system is used for a defined period of time (6 months every second year).
3. Not all users are repeat users who are responsible for multiple elections.
4. The users have either received direct training or are being trained via super users.
5. There are varying levels of computer skills among the user group.

This is a relatively unusual usage pattern that sets guidelines for the development of the user experience:

1. The design must be intuitive because it is rarely used.
2. The design must be efficient, because the various tasks in the election process must be performed within short and absolute deadlines.
3. The design must prevent errors because the election is of major national importance.

CONCLUSION

The review demonstrates that the system is generally well developed. There is little doubt that EVA both simplifies the ability to conduct elections and removes many potential sources of errors. This applies both to formal requirements for the conduct of elections and the final result.

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[29] "Retention" (the ease at which one can remember how to use the system the next time it is to be used) and "number of errors and severity" were not included.

Table 4.1 shows a summary of the analysis in relation to the most important evaluation criteria: *Intuitive design, ease of learning and efficiency*.

Criterion	Explanation	Conclusion
Intuitive design	Navigation and understanding of the site should occur without effort.	**Good** The principal idea behind the navigation of the site is that it is easy to understand. It is a negative that the "Back" logic is not implemented in accordance with standard internet protocols. Some sub-pages are not very intuitive in terms of use (for example, Polling station and electoral lists).
Ease of learning	The speed at which a user who has never seen the user interface can learn how to use this.	**Average** The evaluation will no doubt vary strongly depending on the specialist election expertise of the user. The rating drops from good to average because all help information is in a separate portal. It would be beneficial for this to be integrated into the actual EVA system, either in the form of prompts, pop-ups or "wizards" with necessary information.
Efficiency	How efficient the system is when used by an experienced user.	**Good** There are some exceptions, such as electoral lists, but the system is generally considered to be efficient.

Table 4.1: Summary of results from the usability analysis.

If one were to select a change that would have had an overall positive effect, it would be to obtain and display more status information on EVA's front page. This is currently a statistics page, i.e. it only includes links to other sites where status information and functionality are located. By updating the front page with information from the rest of the system it will be possible to obtain quick answers about the tasks that have been performed and those that remain. The screen images "Determine election result" and "Enter basic data" are good examples of how well this can be done (see pages 7 and 12 of the appendix). If information regarding deadlines was also included, this could provide an indication of whether there were any urgent tasks that needed to be performed. In municipalities with several employees who work in EVA, there will probably also be a positive effect from displaying the actions that have most recently occurred in the form of a news feed on the front page.

The system's user guide is generally detailed and informative. However, a negative factor is that this is not completely standardised and that parts of the documentation are strongly centred around the functionality of EVA Admin without describing the specialist election background. For example, a few pages provide good and visible information about what the different roles do, while on other pages, this is buried in the text.

This usability analysis was carried out by an expert on the design of good user interfaces. An equivalent analysis where actual users are observed while they perform specific tasks would probably provide a great deal of new insight and a basis for improvements to the user interface.

When conducting this type of analysis, a group of users with varied IT skills and experience from previous elections should be selected.

RECOMMENDED AREAS OF IMPROVEMENT

On the whole, the system appears to be user-friendly and efficient. However, the analysis still provides a basis for listing the following potential areas of improvement:

1. Display status information on the front page and design this more like a "dashboard".
2. Add a news feed (i.e. the most recent actions by EVA Admin) on the front page, preferably with the possibility of making comments.
3. Make the documentation more integrated in EVA in the form of prompts, wizards and hints about what to do if the mouse passes over a button or text box.
4. Ensure that back/forward is implemented in accordance with web standards and functions equivalently in all supporting web browsers.
5. All changes that cannot easily be reversed should have an approval step (ok/cancel). For example, this does not appear when selecting "Approve basic data" and if one selects "Establish list proposal".
6. Ensure that there are concise error messages.
   Example: If a change is made to the text for an advance voting location, the change does not appear if the polling cards are sent for printing. No message is given that this is the reason.

FEEDBACK FROM SURVEY AND INTERVIEWS

Municipalities and county councils reported a high level of satisfaction with EVA Admin and EVA Scanning. In the Norwegian Directorate of Elections' own survey, a full 96 per cent of the municipalities stated that EVA covered their needs for conducting the election. The municipalities were also asked whether the framework agreement that the Norwegian Directorate of Elections had with different providers satisfied their needs for scanning services. 98 per cent answered this question in the affirmative.

Most of the respondents in our survey stated that they had experience with the EVA system from previous elections, either as a head of election administration or an election worker. A full 63 per cent stated that they were an "experienced EVA user" who had used the system for multiple elections, while 31 per cent had "some experience" and had used the system in 2015 and for the most recent election. Only 6 per cent stated that they had "little or no experience" beyond the most recent election. Use of the system requires both specialist knowledge and a certain level of technical skill. As expected, those who were most experienced with the system also tended to be the most satisfied.

SATISFACTION WITH EVA COMPARED WITH THE 2015 ELECTION

It is clear that the development of EVA has progressed in the correct direction and that the changes and improvements that have been implemented since 2015 have been both noticed and appreciated. For example, one user stated the following in an open comment field in the survey:

"[EVA Admin] has come a long way. It is a good programme and has always been progressing."

Another user simply stated that:

"EVA Admin and EVA Scanning have become excellent."

With regard to both EVA Admin and EVA Scanning, most respondents were more satisfied with the system in 2017 than they were in 2015 (cf. Figure 4.1). Both the municipalities and county councils agreed that EVA Admin has become a better system since the previous election, even though there was a small percentage among the county councils who were less satisfied with the system in 2017 than they were in 2015. With regard to EVA Scanning, the majority of municipalities were of the view that the system had improved, while the county councils were more of the opinion that the system had not changed.
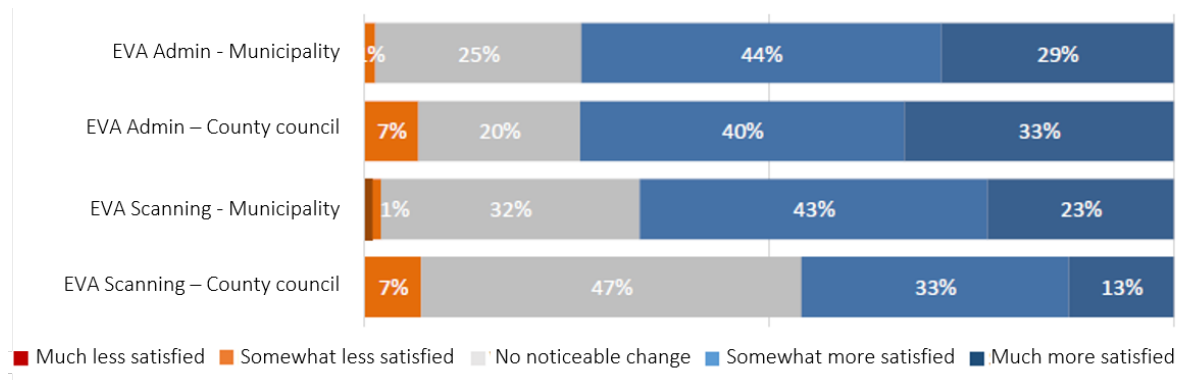
Figure 4.1: Satisfaction with EVA Admin and EVA Scanning at the 2017 election compared with the 2015 election.

FUNCTIONALITY, EFFICIENCY AND SYSTEM TRUST

EVA ADMIN

Like the system, the feedback on EVA Admin was consistently excellent. This is illustrated in Figure 4.2, which shows the average scores on a 6 point response scale ranging from *fully disagree* (1) to *fully agree* (6). The average scores for all of the questions were between 5 and 6, i.e. near the maximum score on the assessment scale. There are no major differences between how the municipalities and county councils consider the functionality and efficiency of the system. Both municipalities and county councils stated that EVA Admin functioned without noteworthy problems during the 2017 election and that they have trust in the system performing the tasks in a precise, assured and secure manner.
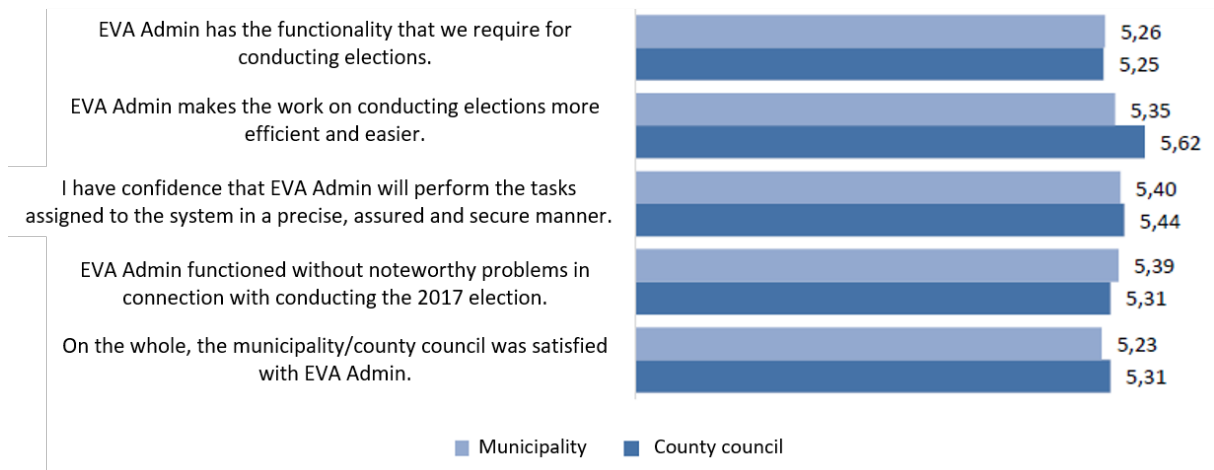
	Municipality	County council
EVA Admin has the functionality that we require for conducting elections.	5,26	5,25
EVA Admin makes the work on conducting elections more efficient and easier.	5,35	5,62
I have confidence that EVA Admin will perform the tasks assigned to the system in a precise, assured and secure manner.	5,40	5,44
EVA Admin functioned without noteworthy problems in connection with conducting the 2017 election.	5,39	5,31
On the whole, the municipality/county council was satisfied with EVA Admin.	5,23	5,31

Figure 4.2: To what extent do you agree or disagree with the following claims regarding EVA Admin? (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The majority were therefore of the view that EVA Admin is an effective tool that has the functionality required for performing the tasks of the municipality or county municipality in a secure and assured manner.

The principal impression is that municipalities and county municipalities were satisfied with EVA Admin, with total scores of 5.2 and 5.3 respectively. This is in line with the 2015 election, when the corresponding averages were 5.1 and 5.4.

EVA SCANNING

Like the assessments of EVA Admin, the feedback for EVA Scanning was generally excellent, with average scores of between 5 and 6 (cf. Figure 4.3).

	Municipality	County council
EVA Scanning has the functionality that we require for counting votes.	5,37	5,31
EVA Scanning makes the work on conducting elections more efficient and easier.	5,53	5,69
I have confidence that EVA Scanning will perform the tasks it is assigned in a precise, assured and secure manner.	5,32	5,12
EVA Scanning functioned without noteworthy problems in connection with conducting the 2017 election.	5,40	5,12
On the whole, the municipality/county council was satisfied with EVA Scanning.	5,39	5,44

Figure 4.3: "To what extent do you agree or disagree with the following claims regarding EVA Scanning?" (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The county councils and municipalities that use scanning are positive about a system that significantly eases the work burden of the election workers when compared with manual counting. Naturally enough, the Regulations relating to manual counting created some challenges for the affected municipalities and county councils, but this does not appear to have noticeably influenced the user assessments of EVA Scanning. However, we observed that the two lowest average scores in

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Figure 4.3 apply to the confidence of the county councils in EVA Scanning performing the tasks in a precise, assured and secure manner and that the system functioned without noteworthy problems in connection with the conducting of the 2017 elections.
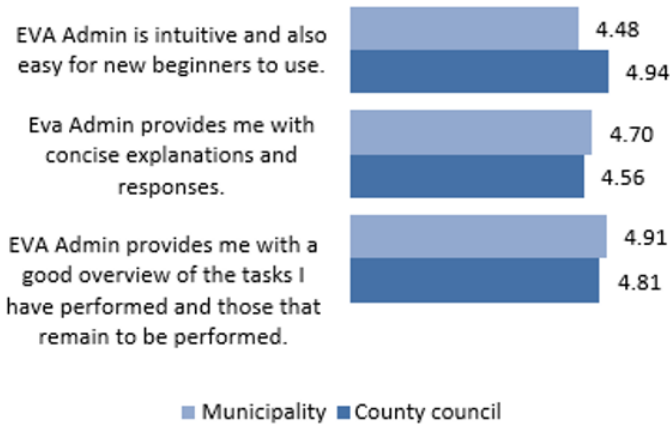
Both municipalities and county councils gave high total scores of 5.39 and 5.44 respectively. There are no comparative figures from the 2015 elections.

Both municipalities and county councils are generally in agreement with regard to their assessments of EVA Scanning. There are also no noteworthy differences in how different sized municipalities or heads of election administration with different levels of experience rated either EVA Admin or EVA Scanning in terms of functionality, efficiency and system trust.

USABILITY

EVA ADMIN

The feedback regarding the usability of EVA Admin was largely also positive. However, as shown in Figure 4.4, the scores were somewhat lower when compared with the scores for functionality and efficiency. In this instance the average scores were between 4.5 and 5.0.

EVA Admin is intuitive and also easy for new beginners to use. — 4.48 / 4.94

Eva Admin provides me with concise explanations and responses. — 4.70 / 4.56

EVA Admin provides me with a good overview of the tasks I have performed and those that remain to be performed. — 4.91 / 4.81

■ Municipality ■ County council

Figure 4.4: "To what extent do you agree or disagree with the following claims regarding EVA Admin?" (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The municipalities consider EVA Admin to be somewhat less intuitive for new beginners, compared with the county councils. This is most probably due to the level of expertise among the users in the municipalities being slightly more varied than in the county councils. It is important that the EVA system minimises the possibilities of errors occurring in connection with the conducting of elections. Those who operate the EVA system must maintain both an overview of the tasks that have been performed and those that remain, while also verifying that everything is done correctly. There are undoubtedly expectations that the system must help users to avoid errors. However, comments from heads of election administration demonstrate that there are many who consider the lack of notifications in connection with discrepancies or incorrect entries to be a weakness in the system. Two comments are particularly illustrative:

"When late arriving votes are registered, there should be a field for municipalities with hardcopy electoral registers that must be crossed off when it is confirmed that the voting has been cross-checked against the hardcopy electoral register. In my role as head of election administration I found that I was making incorrect registrations that the system should have averted."

"The warning that a voter has already cast a vote if he/she attempts to vote once more has to be much bigger. Preferably covering the entire screen."

Our own usability analysis of the system confirms that the system has potential for improvement in this area, while the overall impression still remains positive. As we have seen, there is a very high level of support among heads of election administration that the system performs the tasks that it is assigned in a precise, assured and secure manner.

Correct use of EVA Admin requires both specialist election experience and some technical proficiency. As expected, there is a certain tendency for heads of election administration with experience from previous elections to consider EVA's functionality to be better compared with those who are less experienced (cf. Figure 4.5). Not surprisingly, the difference is greatest when concerning clarity, i.e. the tasks that have been performed and those that remain (difference: 0.58). As noted in the *usability analysis*, people with less election expertise will most probably find the user interface to be less intuitive when compared with those who have been using it for a while and who already know the ins and outs of the system.
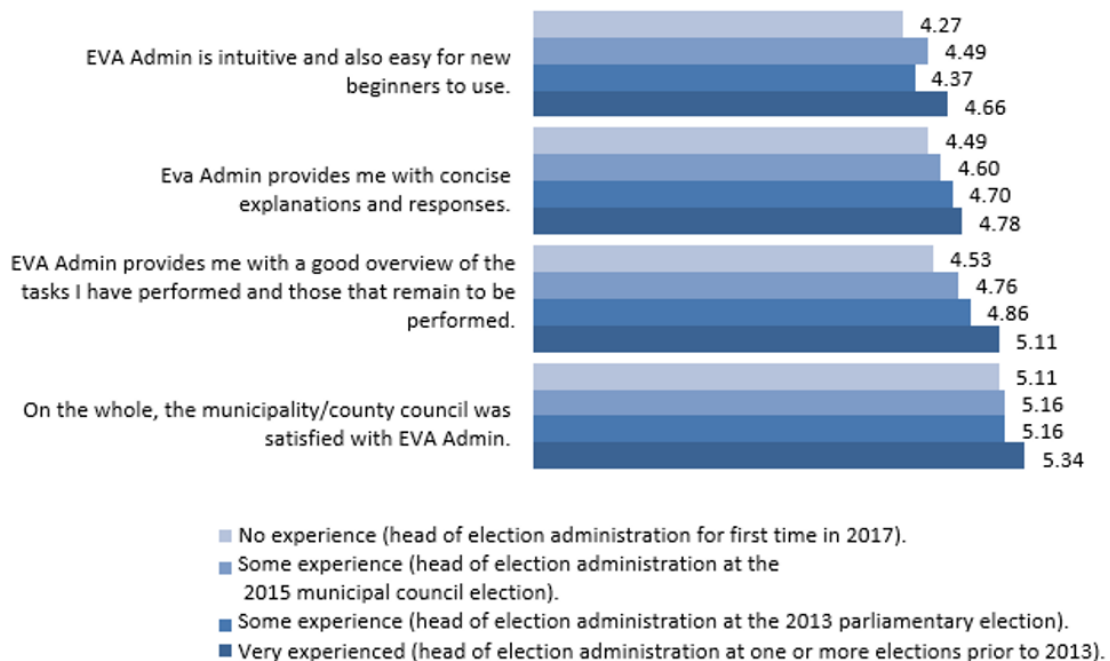
Figure 4.5: "To what extent do you agree or disagree with the following claims regarding EVA Admin?" Claims divided according to the head of election administration's level of experience. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Some heads of election administration were of the view that use of EVA Admin could be more intuitive. They principally requested a clearer and more logically constructed user experience. In their opinion, the system should be better at guiding the user through the entire process – "Step by Step":

"Request that the election tasks in EVA Admin for both advance voting and polling day are presented in a clearer manner. Step by step."

"EVA Admin is not an intuitive programme. There are a great many details involved, you really have to concentrate, and there many ways of making errors due to all the things you have to remember. This

It is important to emphasise that the overall impression is positive and that most consider the usability to be good. The learning curve can still be considered steep, especially for users with no experience. User satisfaction could probably have been even higher if the parts of EVA Admin's user interface were made "smarter" and more intuitive. If the system becomes easier to use, even by individuals without much prior knowledge, we see potential for this being able to reduce some of the need for user support and training.

EVA SCANNING

The assessments of the usability of EVA scanning were generally very good, and overall slightly better than the assessments of Eva Admin (Figure 4.6). The county councils consider the system to be slightly more intuitive than the municipalities, which may be due to the fact that the county councils generally have more experience and expertise with regarding to scanning.
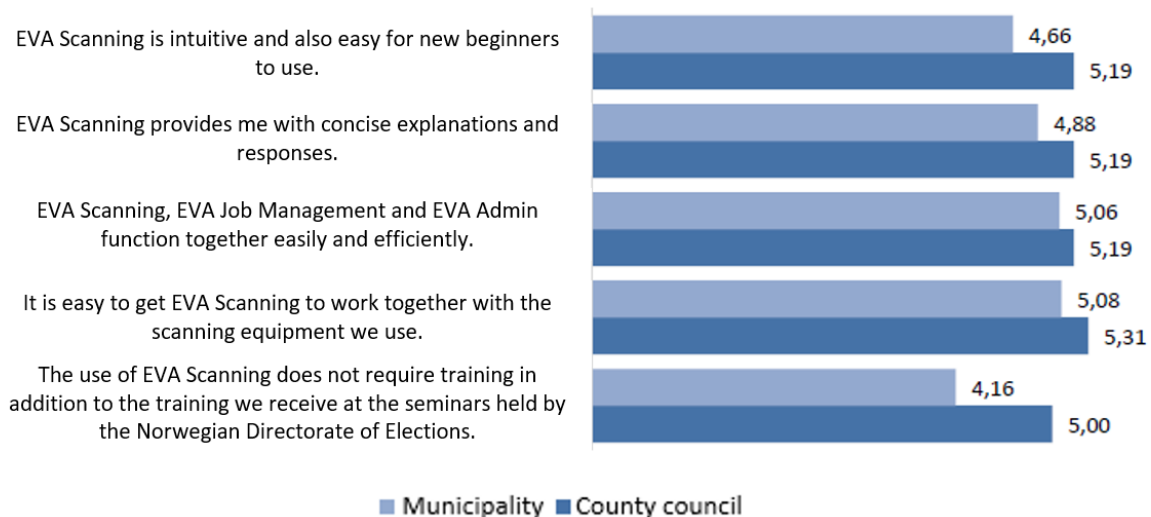
Figure 4.6: "To what extent do you agree or disagree with the following claims regarding EVA Scanning?" (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The county councils also stated that they were confident in their own ability to operate EVA Scanning and were generally in agreement that the seminars provided by the Norwegian Directorate of Elections are sufficient. The municipalities agreed with this to a lesser extent and several made mention of local training with the provider as being of particular importance. An election worker in one of the municipalities wrote the following in the comments field:

"There is definitely a need for training in addition to the user guide for EVA. It is particularly through training (physical presence of an instructor) that it is easy to ask questions and get tips about the system!"

The most common objection to EVA Scanning concerned the technical complexity of having to operate three different programs. This was also the most important proposed improvement that emerged from the 2015 evaluation. A head of election administration in a municipality expressed

dissatisfaction with this solution and was of the view that all functions should be combined into one programme:

"It was inconvenient that in 2017 we had to use 3 different programmes to conduct the election. One programme should be enough. The Norwegian Directorate of Elections should work on this!"

The comments from the county councils regarding EVA Scanning largely related to specific technical details, for example, "not much space in the stamp field" or "difficult to transfer with memory stick." This most probably relates to the county council's role as the final verifier of the ballot papers after the municipalities have completed their counts. The final count also registers corrections voters have made on the ballot papers - laborious work that undoubtedly places high demands on both software and scanning equipment.

FURTHER DEVELOPMENT AND USER INVOLVEMENT

As mentioned in Chapter 3, users were divided on their views as to the extent to which EVA needs to be further developed. There is a very slight majority of users who still consider further development to be desirable, while the remainder are of the view that the system has reached a maturity level at which there is no longer such a major need for this. There are minor differences between the municipalities and county councils in this area.
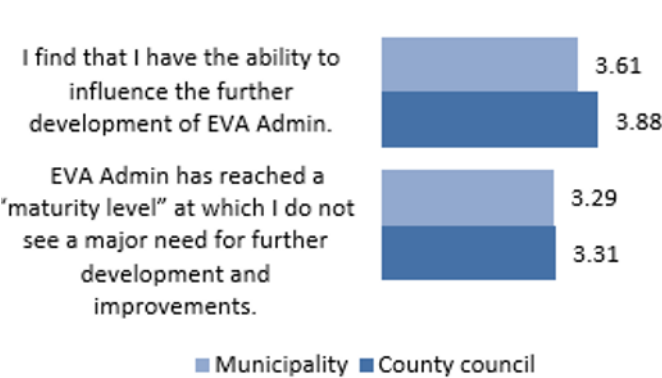
Figure 4.7: "To what extent do you agree or disagree with the following claims regarding EVA Admin?" (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

It is always difficult to assess the benefit of continued investments in a system that works and that the users are largely satisfied with. Further simplifications, among other things, in the areas suggested in the usability analysis, will definitely make the system easier and more intuitive to use, especially for the least experienced users. In the next round, this may reduce the need for training and user support and thereby result in savings in other areas. Several heads of election administration also had very specific suggestions about things that they believed should be continued (see below).

However, the marginal utility of further simplifications will always be decreasing and will perhaps not be in proportion to the investments that are required. The Norwegian Directorate of Elections should therefore carefully consider the development tasks that have to be prioritised and what the benefit of these improvements will be.

The heads of election administration gave a score that was about "mid-range" for the following claim relating to user involvement: *"I find that I have the ability to influence the further development of EVA Admin."* Therefore, the view of the municipalities and county councils is that they only partly have the ability to influence the further development of the system. It is also worth noting that the users found that there have been fewer opportunities to influence the process since the Norwegian

Directorate of Elections assumed responsibility. It is correct that the difference for the municipalities is only 0.2 per cent, but is it 0.8 per cent for the county councils.

This is not surprising when considering that user involvement has thus far not been a priority of the Directorate. Oslo Municipality made the following comment about how they experienced this:

> *"It is our experience that our input is not taken as seriously as it was previously (2014/2015) after the Norwegian Directorate of Elections took over responsibility for EVA. We were previously part of a user group in which we could influence the process through our involvement in this... We are still of the view that EVA can develop into an even better system."*

USERS' PROPOSED IMPROVEMENTS

EVA ADMIN

In the survey, the users provided a number of proposals for how EVA Admin can be improved. We have conducted an in-depth review of this text material and categorised the contents. Below is a list of the most frequent proposals in descending order:

- A more modern user interface with logical progression — "step by step." Harmonization between the system and the order in which the tasks shall actually be performed.
- Reduce the need for having to frequently click back and forth.
- Better function for cross-checking against the electoral register and deviation messages.
- Better function for showing discrepancies between counting by the municipalities and verification checks by the county councils.
- Simplified access control, more seamless log-in.
- Improved minute book function.
- Better reports of the election result.

It is clear that many have very specific opinions on how the system can be improved. While the first two issues concern dialogue and usability, the others concern functionality. A recurrent theme is that the system should be "smarter", more "modern" and better adapted to the workflow of the heads of election administration. According to the users, the system should be better able to identify or reduce the possibilities of errors on the part of the users. Several of these areas of improvement also appeared in the evaluation from 2015.

EVA SCANNING

Many of the comments regarding EVA Scanning, and scanning in general, concern issues surrounding the Regulations relating to manual counting and not the system as such. Other comments were relatively technical, for example, concerning the design of the ballot papers. However, the review of the responses still revealed that there was agreement that certain things could be improved:

- Too many programmes and log-ins to have to deal with. Should be combined at one location.

- ♦ Better overview in job management. Status of counting in the individual constituencies was unclear.
- ♦ Better functionality for verification of votes.
- ♦ Challenges with transferring to EVA Admin. Should be clear error messages when access is not granted.

As previously mentioned, the most frequent criticism was that it should not be necessary to have to log onto three programmes in order to use EVA Scanning. Several heads of election administration expressed the view that this was a "cumbersome", "confusing" and "old-fashioned" solution. The same feedback was also given in the 2015 evaluation.

OVERALL ASSESSMENT

The results from the questionnaire and interviews show that heads of election administration in municipalities and county councils are well-satisfied with EVA. Both EVA Admin and EVA Scanning received excellent ratings from the majority of respondents. There is general agreement that the system has the functionality that the municipalities and county councils require for conducting elections and that enables heads of election administration to do their work quickly and efficiently. The majority also stated that they found the system to have improved since the previous election.

EVA users have a high level of trust in the system performing the tasks it should perform in a secure, precise and assured manner. Nobody was of the opinion that the system is not secure.

However, EVA can still be improved, something that is emphasised in both the responses from the heads of election administration and our own analysis of the system. With regard to EVA Admin, many request a "smarter" and more streamlined user interface that is built around the steps involved in conducting the election - "step-by-step." Like the 2015 evaluation, the users reported that they still have to frequently click back and forth in order to find what they are looking for. With regard to EVA Scanning, there is also some dissatisfaction about having to use multiple individual applications at the same time. In other words, there is scope for modernising and simplifying the user interface, something that will also make it easier for new beginners to commence using the system.

There is also scope for improving certain control functions and deviation messages. Heads of election administration described situations in which they wanted the system to provide more notifications when errors were made. For example, there were requests for an improved control function for showing discrepancies between counting by the municipalities and verification counts by the county councils. We recommend that these types of control functions are prioritised in the development work.

The survey shows that both municipalities and county councils have a desire to become more involved in the further development of EVA. Our impression is that user involvement is a field that the Directorate also wishes to strengthen. However, it is not the case that all proposed changes should immediately be implemented.

The Norwegian Directorate of Elections must obviously make priorities that weigh up the benefits of new development in relation to both costs and possibilities of introducing new weaknesses. The development window between elections is brief and warrants a moderate and controlled development tempo.

Chapter 5
Information and communication

INTRODUCTION

KMD and then later the Norwegian Directorate of Elections prepared extensive information materials to assist the municipalities and county councils during preparations for and the conduct of the elections. This includes rules and routines for correct and effective conduct of elections, as well as guidelines for the use of the election administration system EVA. In addition, this also includes more sporadic and ongoing information and notices to the municipalities during the period in which elections are being conducted. All relevant information materials are gathered together at the Election Worker Portal, which is an extensive online portal that is also closely, and in part, seamlessly integrated with the opening pages of the EVA system.

In this chapter, we look more closely at how county councils and municipalities assess these information materials in the form they took both before and during the 2017 elections. Much of this material had already been developed before the Norwegian Directorate of Elections took over responsibility in 2016. However, necessary updates have been made, as well as some extensions and simplifications that users have noticed. The chapter addresses user assessments of the Election Worker Portal in general and also looks more closely at the assessments of the user guides for EVA Admin and EVA Scanning. In addition, we also discuss the ongoing information and communication work by the Norwegian Directorate of Elections.

The evaluation of the information provided by the Norwegian Directorate of Elections is generally positive. Users considered the Election Worker Portal to be of great benefit and found that it provided the information they required during the election process. It is considered precise, correct and updated. It is also considered reasonably user-friendly, even if the quantity of information is overwhelming. There is a great deal that indicates that a somewhat better structure could have made it easier for users to navigate and be certain that all important information had been obtained. Such simplification would most likely also reduce some of the need for training and user support.

The Norwegian Directorate of Elections has given time-critical and important information a more prominent position on the opening page of the Election Worker Portal. In addition, several rounds of telephone calls were made in connection with particularly important announcements. This was appreciated, but the county councils in particular were critical of the ongoing information that was provided in connection with the extra security measures prior to the election.

ASSESSMENT OF INFORMATION FOR THE 2015 ELECTION

The evaluation from the 2015 election shows that the heads of election administration were largely satisfied with both the information provided through the Election Worker Portal and with the user guide for EVA. This is due, not least, to both information tools having been strongly improved since the 2013 election. Oslo Economics concluded that the Election Worker Portal functioned well during the 2015 election and that no new extensive changes should be made to the portal. However, it was still noted that there is a large quantity of information and that it should be assessed as to whether it is possible to remove some of this without impacting on quality. Among other things, it should be assessed whether the same issues need to be mentioned at multiple locations.

ELECTION WORKER PORTAL IN 2017

The information gathered at the Election Worker Portal is extensive and multifaceted. The portal provides an overview of laws and rules, practical information on how the work is to be organised and technical information about how the election administration system EVA shall be used to perform the different tasks. Information relating to the use of EVA is combined in a separate user guide, but is otherwise well-integrated into the other information.

The version of the Election Worker Portal that was used at the 2017 election was based on the same platform as in 2015, but had some functional changes, such as EVA Guidance becoming a separate function in the top menu line. Information boxes were also included with questions and answers and important information that are clearly visible on the portal's opening page. In order to simplify the preparation phase in EVA and thereby reduce the possibilities of errors by the user, a review of the interface for basic data has been conducted, which entails that the user is only confronted with completely necessary choices in a more guided process in one and the same screen image. The functional changes were primarily made as a result of the recommendations from the evaluation in 2015.

Figure 5.1: Election Worker Portal in 2017. Screenshot of start page.

The screenshot in Figure 5.1 shows the start page of the Election Worker Portal as this appeared at the 2017 parliamentary election.[30] The two arrows point to EVA User Guide and the gateway to where the user can access information about conducting parliamentary elections. The information concerning the conduct of parliamentary elections is arranged chronologically in four boxes from "Preparations" until "Election Result". Each of the boxes contain menus adapted to the role the user has in conducting the election and whether it is a municipality or county council that is using the system. The bottom part of the start page contains graphics concerning *deadlines, important information and questions and answers*. The *Important information* column is used for messages that are important for all municipalities and county councils to be aware of. These messages were previously only available in a closed area that required extra log-in access.

The screenshot in Figure 5.2 shows EVA User Guide as this appears to a head of election administration at a municipality in connection with a parliamentary election. Information regarding the use of EVA Admin for this user role is divided into three sections or modules: *preparations, voting* and *counting*. A head of election administration from a county council would not have had access to the *voting* section.

Figure 5.2: Screenshot showing EVA User Guide as this appears to a head of election administration at a municipality for parliamentary elections (not complete).

USER ASSESSMENTS

The review in this section focusses on user assessments of the Election Worker Portal, including the user guide for EVA.

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[30] Screenshot taken 8 January 2018.

PERCEIVED BENEFIT

There is little doubt that the Election Worker Portal and the user guides are considered beneficial (cf. Figure 5.3). This particularly applies to the Election Worker Portal, where 84 per cent of the municipalities and 69 per cent of the counties selected the two most positive alternatives on the assessment scale. he county councils were more measured in their assessment of the user guide for EVA. Only 35 per cent selected the two most positive alternatives.
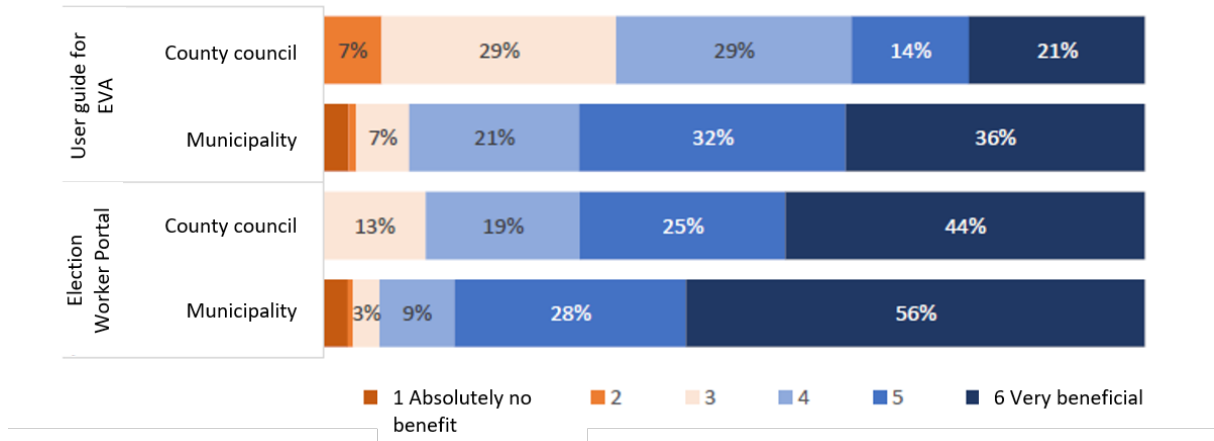

Figure 5.3: Assessment of the user guide for EVA and benefit of the Election Worker Portal.

As shown in Chapter 3, the Election Worker Portal is rated as being of most benefit among the elements in the Norwegian Directorate of Elections' portfolio of initiatives. The user guide for EVA is somewhat further down this list for both the municipalities and county councils.
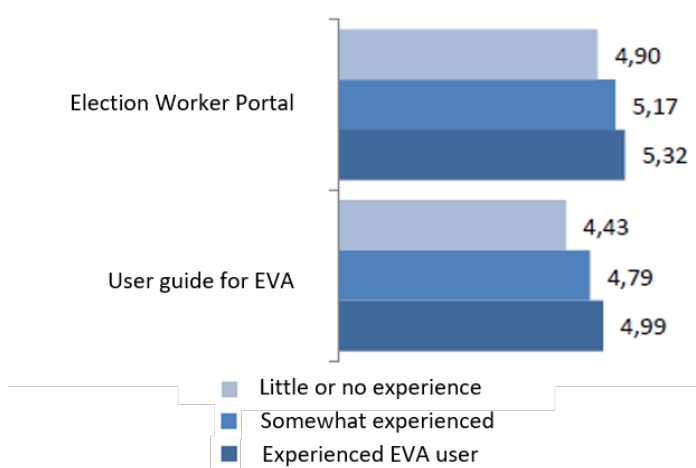

Figure 5.4: Assessment of the benefit of the Election Worker Portal and the user guide. Based on experience with using EVA. (Average on a scale from 1 to 6 where 1 = Absolutely no benefit and 6 = very beneficial).

We found no systematic variations in the assessment of benefit between small and large municipalities. However, it is clear that the most experienced users have the greatest benefit from the information that is offered. This applies both to the Election Worker Portal in general and the user guide for EVA. This may indicate that a certain amount of experience is required to fully benefit from the information provided. This is possibly due to the fact that the information is not prepared and presented in an optimal manner.

RELEVANCE

An important aspect of the quality of the information materials is whether it is perceived as relevant to the user group. Among other things, this concerns whether the guides provide the users with all of the information they require when they are to perform the tasks they are assigned.

In Figure 5.5 attention is focussed on the user guide and whether this contains all of the information required for using EVA Admin and EVA Scanning in an optimal manner. The assessments are consistently positive. The municipalities rated the relevance in terms of the use of EVA Admin and EVA Scanning at about the same level. However, the county councils found that the user guide provides more complete and relevant information when concerning the use of EVA Scanning.

The user guide provides me with all of the the information I need concerning the use of EVA Scanning — 4.80 / 4.44

The user guide provides me with all the information I need regarding the use of EVA Admin. — 4.13 / 4.37
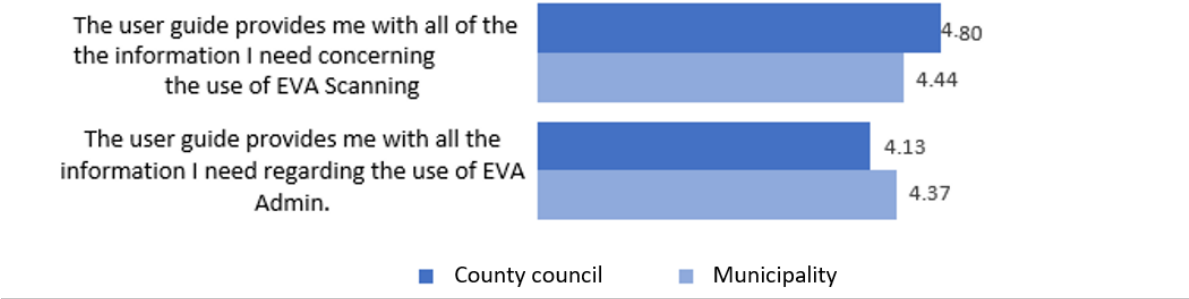
■ County council   ■ Municipality

Figure 5.5: Claims regarding the user guide for EVA. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The distribution of responses most likely reflects the different roles the two entities have during the election process. Due to their role as count verifier for municipal election results, the county councils have a more complex scanning responsibility than the municipalities and may therefore have acquired knowledge through experience that makes it easier to understand and use the information about EVA Scanning that is provided.

On the whole, the survey demonstrates that the users generally find correlation between the information that is provided in the user guides and the tasks they have to perform in connection with the election.

USABILITY

In this context, usability concerns several different aspects of how the information is formulated, disseminated and structured. It is about whether the language used and the information are organised in a manner that makes it easy to locate the information that is required. To some extent it is also about the quantity of information that is presented. Even though a complex and multifaceted area of knowledge requires considerable explanation and information, it can also be excessive. This is particularly the case if the quantity of information is considered so overwhelming that it is not used in an effective manner.

Figure 5.6 below shows assessments by heads of election administration of how clear and easy it is to navigate the Election Worker Portal and the user guides for EVA Admin and EVA Scanning. All three received relatively positive scores and are therefore considered reasonably clear and easy to navigate.

The Election Worker Portal received the most positive assessments from both municipalities and county councils and the county councils were in fact the most positive in this case. The county councils were also more positive than the municipalities regarding the user guide for EVA Scanning, but were markedly less positive when concerning the user guide for EVA Admin.
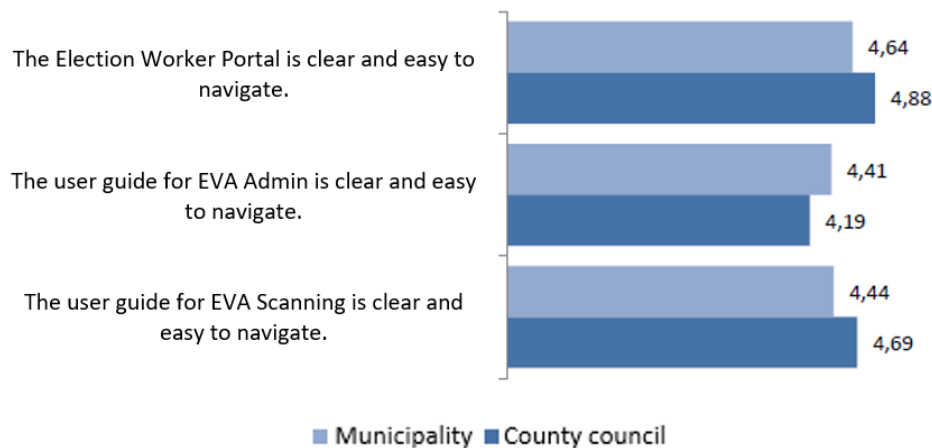
Figure 5.6: Clarity and ease of navigation of the Election Worker Portal and in the user guides for EVA Admin and EVA Scanning. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The assessments of the quantity of information are at the same level and largely follow the same patterns as the assessments of clarity. Figure 5.7 shows that, on average, the heads of election administration were reasonably satisfied with the quantity of information in the Election Worker Portal in general and when concerning the user guides for EVA Admin and EVA Scanning. The user guide for EVA Admin also scored lowest here, particularly among the county councils.
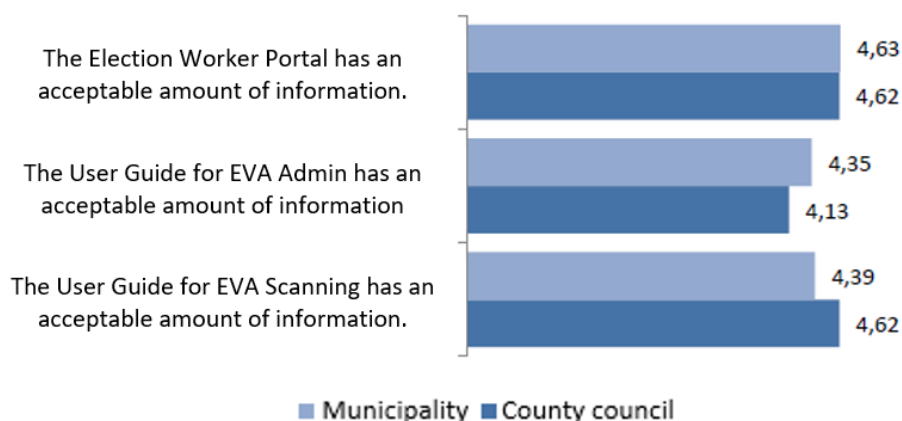

Figure 5.7: Assessment of the quantity of information in the Election Worker Portal and the user guides for EVA Admin and EVA Scanning. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Even though the municipalities and county councils were generally positive about both the clarity and the quantity of information, there were several who stated in the open comment fields that there is a lot of information to deal with and that the structure of parts of the portal and user guide gives the impression that there is more information than there actually is. Among other things, there are many examples of several different paths leading to the same information. This creates uncertainty about whether the user has received all of the important information and has not missed out on any important information. For example, a head of election administration from a municipality stated the following:

"When you shall obtain an overview [of a specific topic] the same things are repeated three times after one another in the user

guide...There is an entire page at the bottom where it states 'election results' three times".

Some of this was also observed in our own analysis of EVA's usability and the associated user guides. Because the structure is complex, it is almost impossible to know whether all relevant pages have been visited.

A third aspect of usability relates to the actual language used: Is the information presented in language that is clear, legible and easy to understand? Figure 5.8 shows assessments by the heads of election administration of the language in the user guides for EVA Admin and EVA Scanning and how clear and easy this was to understand. Municipalities and county councils also gave relatively high scores for the language in the user guides for both EVA Admin and EVA Scanning.
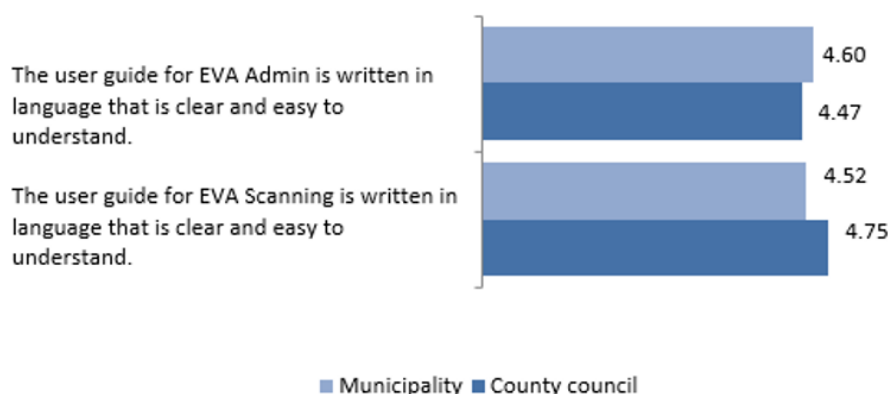

Figure 5.8: Assessment of language used in the user guides for Eva Admin and Eva Scanning. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

On the whole, we can conclude that the heads of election administration find both the Election Worker Portal and EVA user guide to be reasonably user-friendly sources of information. With regard to the Election Worker Portal in general and the user guide for Eva Admin we also find no systematic differences between experienced and less experienced users. However, this does not apply to the user guide for EVA Scanning, for which the least experienced users were significantly less positive than experienced users. This is also the part of the election work that is technically the most complicated, with several different interacting programmes and installation on external hardware. This is no doubt work that is seldom performed by people without previous experience with EVA Admin.

UPDATED INFORMATION AT THE RIGHT TIME

It is crucial for municipalities and county municipalities that the information from the Norwegian Directorate of Elections is provided at the right time and that the information is always updated in accordance with rules and routines.

The Election Worker Portal must be updated at all times with the most recent information. In addition, the "Important information" column must provide the municipalities and county councils with all important notices relating to the election process.

The heads of election administration were asked to respond to two claims that were both relevant to this issue*: (1) that they can always trust that the Election Worker Portal is updated and provides*

accurate information, and (2) that the "Important information" column ensures that they are always updated about important aspects relating to the election process. Figure 5.9 shows that, on average, the heads of election administration were largely in agreement with both these claims. Assessments of the "Important information" column were marginally more positive than the assessment of the Election Worker Portal in general. The county councils were also somewhat more reserved in their assessments than the municipalities.

We can always trust that the Election Worker Portal is updated and provides accurate information. — 4.64 / 4.31

The "Important information" column ensures that we are always updated about important aspects relating to the election process. — 4.91 / 4.56
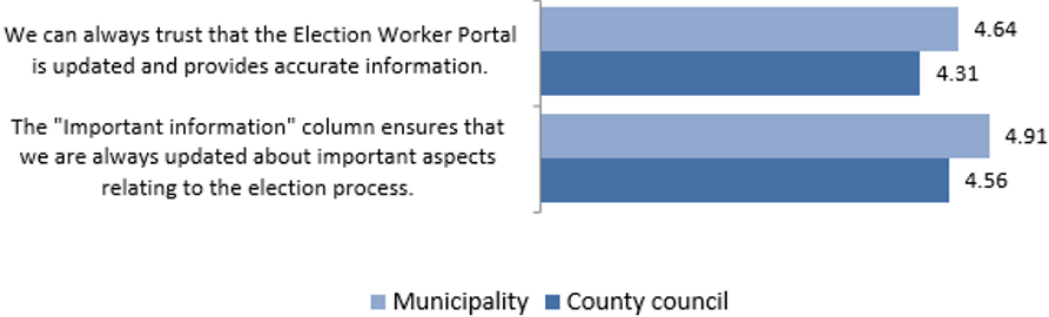
■ Municipality ■ County council

Figure 5.9: Assessment by the heads of election administration of the timeliness of the information provided in the Election Worker Portal. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Several county councils stated in the open comment fields that the information from the Norwegian Directorate of Elections did not always arrive at the correct time. The following comments are an example of this:

"We found there was inadequate and not up-to-date information in the Election Worker Portal. At the previous election in 2015, we found that the Ministry was particularly conscious of sending out reminders and information to the municipalities and county councils, something that was very much lacking at this election."

The somewhat hectic decisions in the final stages of the election regarding security and manual counting may have been an important reason for these observations. This was a period in which developments were occurring very rapidly and it was necessary to send out new and updated information to municipalities and county councils on multiple occasions. The Norwegian Directorate of Elections reported that, in addition to notices in the "Important information" column, there were also several rounds of telephone calls made during this period to ensure that everyone received the information that was sent out. As shown in Chapter 3, the county municipalities were rather dissatisfied with the information they received from the Norwegian Directorate of Elections concerning these matters. The scanning municipalities were somewhat more positive, even if a minority of these were of the view that the information work of the Norwegian Directorate of Elections could have been better during this phase.

INFORMATION CONCERNING VOTERS WITH PHYSICAL OR MENTAL DISABILITIES

As mentioned in Chapter 2, there were several appeal cases relating to the parliamentary election that concerned the right of blind and visually impaired people to have someone assist them inside the polling booth. The Preparatory Credentials Committee's recommendation deemed this to be serious, not least because incorrect information regarding the rules was provided by the Norwegian Directorate of Elections' user support service.

The information provided in the Election Worker Portal is correct and in accordance with Section 9-5, paragraph five of the Election Act which stipulates the rules that apply when the voter requires practical assistance. Reference is made to Section 26 "Polling Stations" in the Election Regulations which states that blind and visually impaired voters shall be able to cast their votes without having to ask for assistance. The Norwegian Directorate of Elections also highlighted information relating to these questions in the "Important information" column, where a notice was published dated 14 July regarding the provision of ballot papers for the blind and visually impaired. In addition, the issue of assistance for casting votes was highlighted in the "Questions and answers" column as shown in Figure 5.10.

▶ Kan velgere få hjelp inne i valgavlukket?

Dersom en velger har behov for hjelp til å avgi stemme, har vedkommende krav på hjelp fra stemmemottakeren. Velgere med alvorlig fysisk eller psykisk funksjonshemning kan i tillegg peke ut en ekstra hjelper - etter eget valg - blant dem som er til stede (valgloven §§ 8-4 og 9-5). Det er velgeren selv som skal peke ut den ekstra hjelperen. For å beskytte velgere mot utilbørlig press skal det alltid være en valgfunksjonær til stede når velgere mottar hjelp ved stemmegivningen. Eventuelle medhjelpere skal gjøres oppmerksom på at vedkommende har taushetsplikt. Valgfunksjonæren har også taushetsplikt.
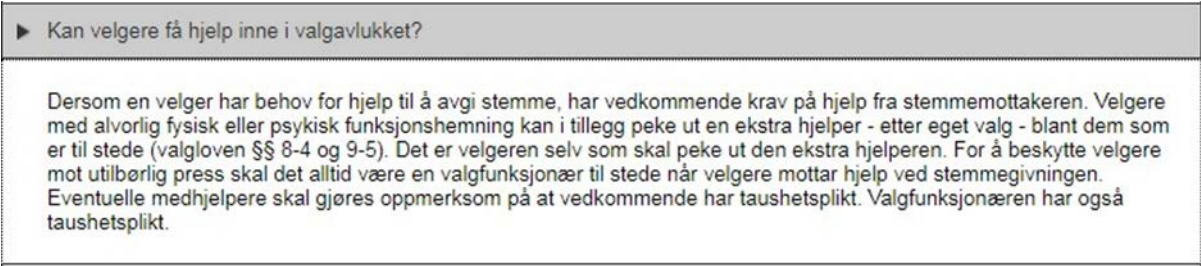
Figure 5.10: Screenshot showing information regarding assistance in casting votes taken from the "Questions and answers" column in the Election Worker Portal. The screenshot is incomplete.

On the whole, this should indicate that the information from the Norwegian Directorate of Elections was correct and sufficiently visible. The heads of election administration in the municipalities and county councils were also largely in agreement with this (cf. Figure 5.11).

Figure 5.11: Information concerning voters with physical or mental disabilities. Only municipalities (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The municipalities were asked whether they considered that sufficient and accurate information had been provided about the rights of voters with physical or mental disabilities and about what the municipality is obligated to do to assist such voters. With average scores of close to 5 on a 6 point assessment scale, the municipalities confirmed that they generally considered the information from the Norwegian Directorate of Elections to be both sufficient and accurate.

However, it was noted in the open comments fields that these are important issues that the municipalities struggle with and that these issues must therefore be assigned greater attention by the Norwegian Directorate of Elections in both guides and training. For example, one comment concerned how the election workers have to manage situations in which the voter is not able to make him/herself understood in terms of what he/she wants to do:

"There may be a need to specify in training and guides that the voter him/herself must be able to communicate how he/she wishes to vote. Situations may arise in which the voter's "helper" wants to control how the voter will vote. In some instances the voter will have to be turned away because it is not possible to understand what he/she wishes to do. This issue should be raised during the training, since this can be difficult to manage."

Other heads of election administration identified specific instances in which there was no universal design, for example, a lack of braille.

"This is one of the areas in which a lot time should be devoted until the next election. We have received many complaints from voters, the Norwegian Association of the Blind etc. regarding universal design and the treatment of voters who are vision impaired. The municipalities need to have clear guidance on this issue and the Norwegian Directorate of Elections must, in cooperation with the municipalities and different organisations that work with this, look at the tools we use for conducting elections and managing voters. The Norwegian Directorate of Elections must take the lead on this, but must also ensure that all stakeholders are heard."

It is our assessment that the Election Worker Portal provides accurate and easily visible information on the rules that apply for voters with physical or mental disabilities. However, given the importance of this issue and the fact that correct decisions require a considerable degree of discretion on the part of workers at the polling station, it must be asked whether these issues have to be assigned a higher priority in other parts of the Norwegian Directorate of Elections' chain of actions, principally in the training provided. Furthermore, it must of course be ensured that the different levels of user support have been given adequate training to ensure that guidance during the election process is correct.

OVERALL ASSESSMENTS

The evaluation shows that the Norwegian Directorate of Elections' most important information channel to the municipalities and county councils, i.e. the Election Worker Portal, is viewed in a positive manner by its users.

The Election Worker Portal is of great benefit, contains the information that users require for performing their tasks and is considered reasonably user-friendly and easily accessible.

The information that is presently found on the portal is the result of a long development process and has been improved and perfected from election to election. The changes that were made prior to the 2017 election appear to have been well-received and also appear to be sensible.

However, there is a large volume of information and both the Norwegian Directorate of Elections in general and the user guides for EVA Admin and EVA Scanning may appear overwhelming, particularly to new users. Even better organisation and structuring of the information would most likely make it easier to navigate and, not least, provide a greater degree of certainty about whether all of the pages that are relevant for the different topics have been located. The present method of organising

information appears a little too much like a labyrinth where the information that is presented in each room is correct and relevant, but where there are many paths that lead the same room and it is difficult to know whether all of the relevant rooms have been visited.

The option of highlighting important and time-critical information under separate graphics on the front page appears to be a sensible choice. It increases the relevance of the Election Worker Portal, not just as a website for statistical information, but also as a dynamic communications channel that goes directly to the users. The "Important information" column was frequently used during the most hectic weeks of the election process, not least in coping with the need for information in connection with the issue of increased security and manual counting. The fact that the Norwegian Directorate of Elections also conducted a round of telephone calls to ensure that the most time-critical information reached the relevant recipients appears to have been a correct action that was also appreciated by the users. As shown in Chapter 3, the county councils were still rather dissatisfied with the information work of the Norwegian Directorate of Elections during this phase.

The rights of people with physical and mental disabilities were assigned extra attention at this election, particularly due to a series of appeals concerning the right of blind and visually impaired people to have someone assist them inside the polling station. However, the information in the Election Worker Portal regarding this issue was correct and was assigned the necessary prominence. Nevertheless, there still appears to be a need for assigning greater attention to this issue in other parts of the Norwegian Directorate of Elections' chain of actions, principally the training and user support that are provided.

Chapter 6
Training

INTRODUCTION

Training of the most important election workers in the municipalities and county councils is an important element in the services provided by the Norwegian Directorate of Elections. The objective of the training is to enable the municipalities and county councils to conduct the elections in a good and effective manner and in accordance with election laws. This includes both training in election routines and introduction to the use of the election administration system EVA.

From a wider perspective, the training is based on a "learn-the-learners" model whereby the Norwegian Directorate of Elections has taken on the task of training the most important election workers, while the further training of the approximately 30,000 election workers who are engaged in conducting the elections is the responsibility of the municipalities and county councils.

The Norwegian Directorate of Elections chose to continue the model with centralised training seminars that had been used by KMD. The principal idea behind this programme is to ensure that the quality of the training is as similar as possible for everyone. However, the programme was reduced from three to two seminars, among other things to reduce the time used and the costs to participants. In addition to the training seminars, the overall training programme also consists of two mock elections in which the election process is tested in practice.

The Chapter is primarily based on assessments from the municipalities and county councils as these were expressed in the survey and in interviews. The assessments were largely positive and a significant majority of election workers were more satisfied with the training seminars in 2017 than the corresponding seminars in 2015. However, we still see that, also in this area, the county councils are somewhat more measured in their assessments than the municipalities. The same applies to the largest municipalities.

The assessments also show that there is scope for improvement. Many desire a more differentiated training programme that is better adapted to the different needs of new and more experienced users. In addition, there is some support for the idea of replacing parts of the training programme with different methods of e-learning. However, the centralised seminars still provide additional value to the training that is provided. This applies, first and foremost, to the possibilities for establishing contacts with election workers in other municipalities and county councils and with the employees at the Norwegian Directorate of Elections.

AREAS OF IMPROVEMENT FROM THE 2015 ELECTION

The evaluation report from the 2015 elections shows that, on the whole, the municipalities and county councils were well-satisfied with how the training was conducted (Oslo Economics, 2016). The majority of municipalities and county councils considered both the content and implementation of

the training seminars to have improved since 2013.

The evaluation report from the 2015 election identified the following areas of improvement:

1. Resource intensive: The programme was very resource intensive, both in terms of the time used by KMD and resources used by the municipalities. It was recommended that the training be reduced at the next election.
2. Differentiated training: Experienced and inexperienced election workers have different training needs. Differentiated training seminars should be considered.
3. Different restrictions on number of participants: There should be differentiation between municipalities such that large municipalities and municipalities that are scanning centres or have special requirements can participate with more than three employees.
4. Mock election: The mock election in June was of little value to the county councils since they did not have necessary data from the municipalities. In future, it should be ensured that the county councils can perform their tasks independently of data from the municipalities.

ORGANISATION AND IMPLEMENTATION OF THE TRAINING IN 2017

FORMAT AND ORGANISATION[31]

While the training in 2015 consisted of three modules, where municipalities and county councils had joint seminars for Module 1 and 3, the training in 2017 only consisted of two modules. These were both held in Oslo and separate seminars were arranged for both modules for the municipalities and county councils. This was done because the administrative levels have such different tasks for parliamentary elections. Each module consisted of a seminar held over two days, with plenary lectures and group work.

Each municipality was able to send up to three participants to the seminars. The five largest municipalities were permitted to send five participants.

MUNICIPALITIES

Module 1 for the municipalities dealt with basic data and voting and was offered on four different dates that the municipalities could choose from. Module 1 involved lectures prior to lunch and practical exercises in group rooms after lunch. Up to 300 participants could attend each seminar.

As a pilot project, Module 1 was also offered as a webinar. The purpose of this was to provide the election workers with the opportunity to receive the same specialist training from their office as they would through physical participation at the seminar. The lectures were streamed and the opportunity was also provided for asking questions via a chat window. The questions from the webinar participants were passed on to the lecture hall by one of the web classroom leaders. Since this was a pilot project, a "webclass" with a maximum of 30 participants was offered.

Module 2 dealt with counting, both for municipalities that scan and those that count manually. For this module, there were lectures on day one and practical exercises on day two. Up to 150

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[31] Information relating to the training programme is based on the memo " Opplæringsopplegg 2017" from the Norwegian Directorate of Elections. Undated.

participants could attend each seminar. However, because the seminars partly overlapped there could be up to 300 participants in attendance at the same time.

COUNTY COUNCILS

Module 1 dealt with basic data and list proposals and was held over two days in February. *Module 2* was arranged in June and dealt with counting, scanning and election results. For both modules there were lectures on day one and practical exercises on day two.

PARTICIPATION

Participation at the training seminars for the municipalities and county councils is voluntary, however the majority have traditionally chosen to attend. According to statements from the Norwegian Directorate of Elections, 16 of the 427 municipalities were not physically present for Module 1. However, three of these still attended via webinar. There were 15 municipalities that did not participate in Module 2. This applies to 11 of the municipalities that did not attend Module 1, plus four others. The webinar for Module 1 was followed by 14 municipalities. Therefore, three of these were among those that decided not to attend, while the remainder were municipalities that used the webinar as a supplement to physical participation.

COSTS AND PERCEIVED BENEFIT

The Norwegian Directorate of Elections[32] stipulated costs for training per election worker for the 2017 election, (which included participation at two modules, accommodation and dinner), of NOK 5,730. For a municipality that sent three election workers for training, this would give a cost of NOK 17,190. These costs were covered by the municipalities themselves in the form of a participation fee.[33] In addition, the municipalities had travel and meal expenses (in addition to meals at the hotel) and any temp expenses to replace staff who were participating at the training seminars.

Since both the travel expenses and need for accommodation depend on the part of the country where the municipality is located, these expenses may vary significantly between municipalities. We therefore asked the municipalities to provide an estimate of the expenses they had for travel and accommodation for all course participants in 2017. Most responded to this question.

The municipalities included in the survey spent an average of NOK 26,969 for travel and accommodation in connection with the training seminars. The stated amounts vary from NOK 600 to NOK 108,000 and must be viewed in relation to both the number of participants and travel expenses. The average costs per county for the municipalities are shown in Figure 6.1.

The costs are primarily divided according to a centre-periphery axis relative to Oslo.

The costs are moderate for the municipalities around Oslofjord, where the distances are short and many therefore did not require overnight accommodation. For all other counties, the average costs exceeded the total amount for full participation fees for three participants at two seminars. We see that the three northernmost counties are all at the top of the rankings.

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[32] Source: 2016 Annual report. Page 14.
[33] A participation fee of NOK 1,190 per seminar was set for participants who did not stay the night and also did not eat dinner at the hotel where the course was held.
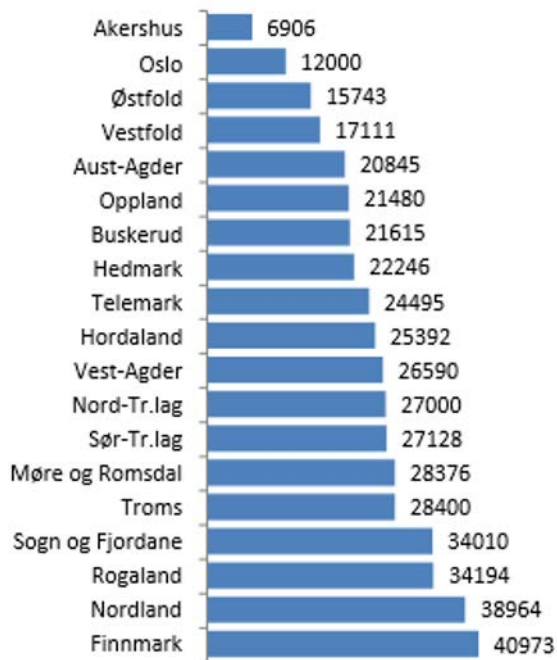
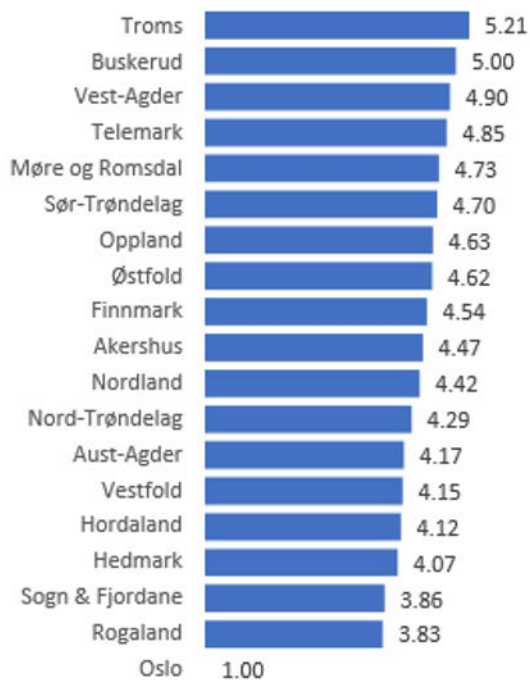Figure 6.1: The average costs of the municipalities divided by county (NOK)

Figure 6.2: Assessments of whether the benefit of the two training seminars justifies the use of resources, divided according to county. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

For example, the average costs for the municipalities in Finnmark were almost six times higher than for the municipalities in Akershus. Of the counties in southern Norway, Sogn og Fjordane and Rogaland had the highest costs. For Sogn og Fjordane, this was most probably due to the long distances to the closest major airport. It is somewhat more difficult to explain why Rogaland is so high on the list.

These are regardless considerable costs for the majority of the country's municipalities and county councils. It also means that the benefit of the training seminars should be considered high in order to justify the use of resources. As shown in Chapter 3, this is generally the case. A clear majority of municipalities have stated that the benefit of the two training seminars justifies the use of resources. However, the county councils were more reserved in their cost-benefit assessments.

While the average on the 6-point scale was 4.4 for the municipalities, it was only 3.6 for the county councils. The latter is close to the midpoint of the assessment scale and indicates that the county councils are divided on this issue.

It would be reasonable to expect that the municipalities that have the highest expenses are also the most sceptical about whether the benefits justify these costs. As mentioned in Chapter 3, this is not the case. Even though we find a weak negative correlation at municipal level, the results in Figure 6.2 show a picture that is more unclear. For example, the municipalities in Troms considered there to be the most benefit in relation to the resources used, while the municipalities in Finnmark and Akershus, which are at opposite ends of the cost scale, considered the relative benefit to be about the same. However, it is worth noting that the municipalities in both Rogaland and Sogn og Fjordane stand out in terms of having low cost-benefit assessments when considering that these are two counties that have unquestionably the highest average costs in Southern Norway.

We also asked the municipalities and county councils about the benefit of the training seminars, irrespective of own costs. The responses to these questions were given on a 6 point scale ranging from *absolutely no benefit* to *very beneficial* and the average scores are shown in Figure 6.3.

We see that on average the county councils had different views on the benefit of the training seminars. While the municipalities considered the benefit of the training seminars for both Modules 1 and 2 to be reasonably good, with average scores of 4.5 and 4.6 respectively, the county councils scored the benefit of the seminars much lower. This particularly applies to Module 1, where the average score of the county councils is much closer to the midpoint of the assessment scale. This means that there were about the same number of responses at the negative end of the assessment scale as at the positive end. In comparison, the training seminars for the municipalities in connection with the 2015 election had average scores of 4.8 and 4.9, i.e. marginally better than the most recent seminars.

We also see that the benefit of the video footage from Module 1 was rated somewhat lower than physical attendance at the seminars.
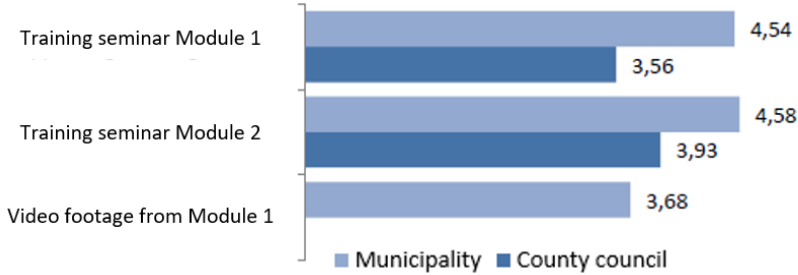
Figure 6.3: Assessment by the municipalities and county councils of the benefit of the training seminars, irrespective of own costs. (Average on a scale from 1 to 6 where 1 = absolutely no benefit and 6 = very beneficial).

QUALITY OF THE TRAINING

The learning content provided at the training seminars was both extensive and complex. High demands are set for those who have the job of disseminating this learning content. The Norwegian Directorate of Elections chose to use its own specialist staff as speakers and group room teachers. None of these have a pedagogic background and training in dissemination techniques was provided prior to the seminars. However, it was stated in interviews that a great deal of internal work was expended in ensuring the quality of the programmes and that they worked together to provide a good service.

We asked the heads of election administration at the municipalities and county councils to provide their assessment of the expertise and teaching skills of both the speakers and the group room teachers. This was done using claims that those surveyed could agree or disagree with. The assessments of the speakers are shown in Figures 6.4 and 6.5. The average scores on the assessment scale are shown. The closer to the maximum score of 6, the more the respondents on average agree.

The municipalities were relatively satisfied with the quality of the speakers for both modules. The speakers received relatively good scores for their expertise, knowledge and teaching skills and their ability to answer questions. However, average scores of about 4.5 are still lower than for many of the other questions we asked in this survey. The assessments of the county councils were also more

reserved. This particularly applied to the assessments of the ability to answer questions. Scores of around 3.5 would indicate that about the same number of responses were given on the positive side as on the negative side of the response scale.
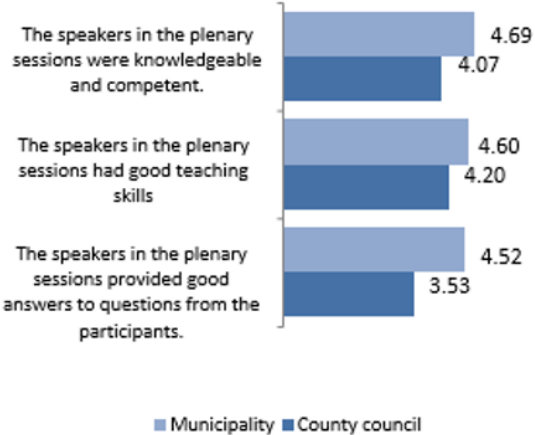

Figure 6.4: Module 1 – Assessment of claims regarding speakers. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).
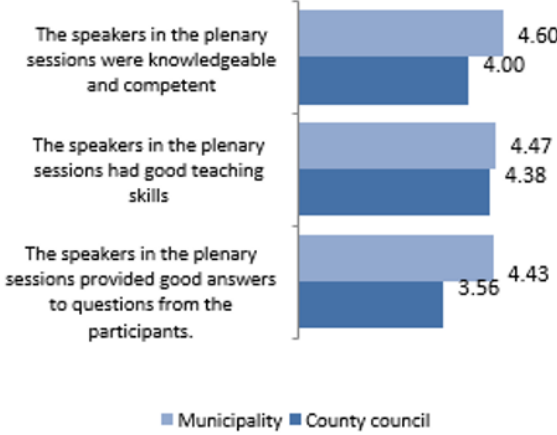
Figure 6.5: Module 2 – Assessment of claims regarding speakers. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Although the speakers generally received good assessments from the municipalities, there were also some critical comments. This particularly applies to comments concerning specialist election expertise and that the speakers lacked professional gravitas, particularly with regard to laws and regulations.

"Most of the speakers at this year's training were new and were a little hesitant - particularly in terms of specialist election knowledge. There was a lack of in-depth knowledge in relation to the legislation and more emphasis should be placed on this."
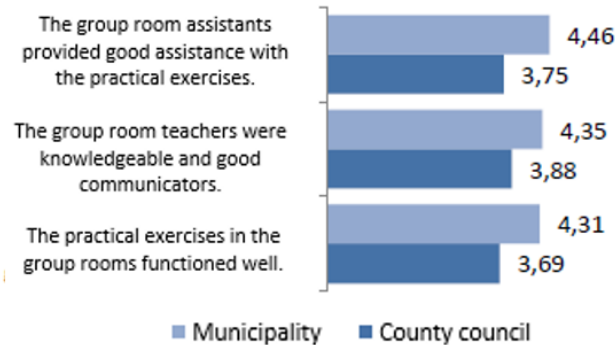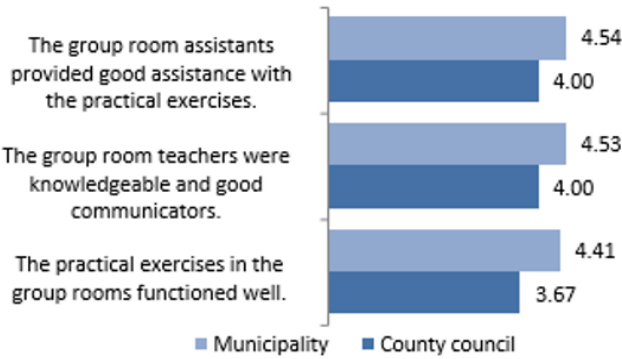

Figure 6.6: Assessments from the municipalities and county councils of claims regarding the group teachers for Module 1. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The group room assistants provided good assistance with the practical exercises The group room teachers were knowledgeable and good communicators. The practical exercises in the group rooms functioned well.

The assessments of the group room teachers and group room assist assistants were at about the same level as the assessments for the speakers (cf. Figures 6.6 and 6.7). The county councils were also somewhat more measured than the municipalities on this issue. The same applies to the assessments of the practical exercises in the group rooms.

In the open comment fields there were several who stated that they found that the practical exercises worked well. However, there were also some who noted that there was not enough time to

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review the tasks afterwards and that this was perhaps of particular importance to new election workers:

Figure 6.7: Assessments from the municipalities and county councils of claims regarding the group teachers for Module 2. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

"The seminars in Oslo were good, although not every question could be answered. As a completely new head of election administration, it was frustrating to be uncertain about whether I had obtained correct answers to the questions. This must be done differently next time!"

Another important point is that several election workers with experience from previous elections commented that the practical tasks they should work with did not provide an accurate depiction of how the situation unfolds on the actual polling day:

"The practical tasks do not provide a picture of how things occur on the actual polling day. It is also very irritating to have to look up voters because we are not given a set of names/national ID numbers that we can register votes for. We have to look to find voters to register. This does not happen on polling day. I did not have any benefit from the practical tasks."

RELEVANCE OF THE TRAINING

The heads of election administration were also asked to give an overall assessment of the extent to which they found the specialist content to be relevant. There was also a significant difference between the municipalities and county councils on this issue. The county councils considered the specialist content to be much less relevant than the municipalities.
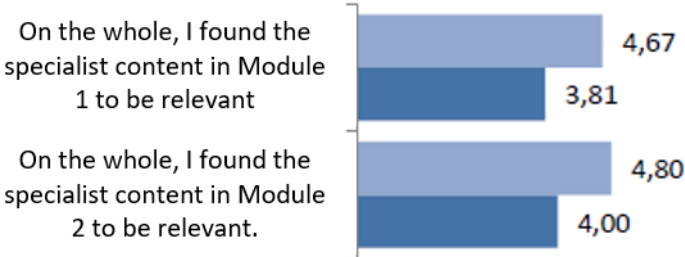

Figure 6.8: Assessment by the municipalities and county councils of the specialist content on the training seminars. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The survey shows that the election workers from the municipalities considered the content in both modules to be professionally relevant, with an average score of 4.7 for Module 1 and 4.8 for Module 2. The corresponding averages for the county councils were 3.8 and 4.0. The Norwegian Directorate of Elections therefore appears to have met the needs of the municipalities much better than those of the county councils. It should also be noted that the participants from the county councils normally have much more experience from election work and therefore set higher demands for both the quality, and the professional relevance of, the training.

Training based on physical seminars is resource-intensive, both for those who provide the training and for the municipalities. Participants have significant costs associated with the seminars and must also be away from their daily work. For the Norwegian Directorate of Elections, the training seminars are a proper service that involve more or less the entire organisation. It was reported that virtually all employees were present in Alna during the periods in which the training was taking place.

It is therefore important to assess the extent to which the format is optimal and provides the greatest possible benefit. This applies to the choice of training venue, scope of the training and how the training is organised.

GOOD BALANCE BETWEEN THE DIFFERENT ELEMENTS OF THE TRAINING?

The seminars for both Module 1 and 2 consist of a *combination of plenum lectures and group wor*k. The plenum lectures review the various topics dealt with in the training, while the group work is used for practical exercises. For Module 1, the day is divided in two with lectures in the morning and group work in the afternoon. For practical reasons, a model was chosen for Module 2 whereby the entire first day was set aside for plenary lectures, while day two was used for practical exercises in groups.
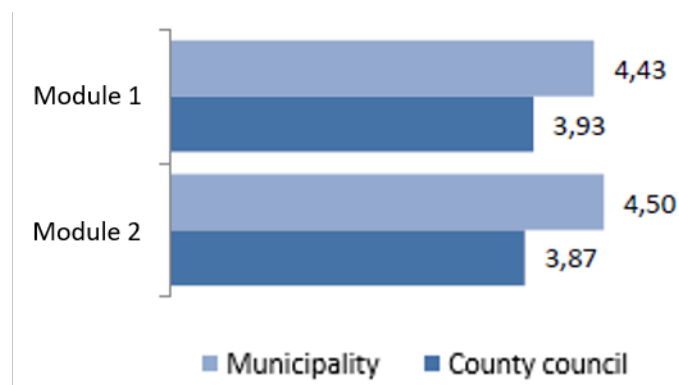

Figure 6.9: Assessments of the claim: "There was a good balance between plenary lectures and group work at this seminar." (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Figure 6.9 demonstrates that, on average, the municipalities were reasonably satisfied with the balance between the two formats, while the county councils were again more reserved in their assessments. Even though there was a relatively large degree of support from the municipalities that the practical exercises worked well, several of the municipalities commented that the manner in which the plenary lectures and group work were organised was not optimal:

"Absolutely hopeless having a heap of plenary lectures and then group seminars - should have had more of a mix of these."
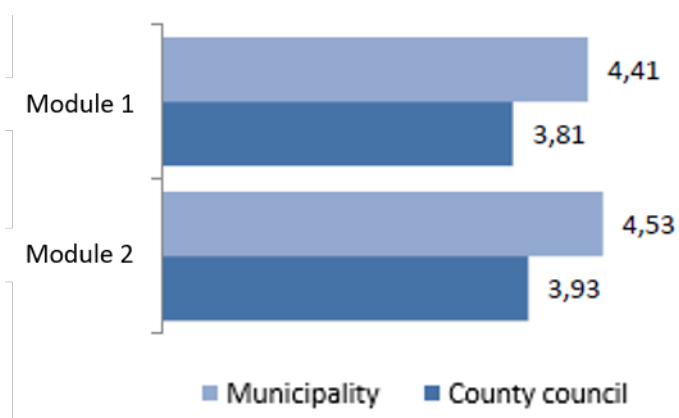

Figure 6.10: Assessment by the municipalities and county councils of the claim: "There was a good balance between the specialist election and technical systems training at this seminar." (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The objective of the training was to enable municipalities and county councils to conduct the elections in a good and effective manner in accordance with election laws. This includes training in election-related routines and training in the practical use of the election administration system EVA.

Figure 6.10 shows the assessments by the municipalities and county councils of the balance between the specialist election and technical systems training at the seminars. Once again the municipalities were, on average, more satisfied with the balance between the two topics than the county councils. The assessments of the balance in Module 2 were somewhat more positive than for Module 1.

UTILISATION OF TIME

The heads of election administration were also asked whether they considered the time at the seminars to have been well-utilised. Considering the travel and accommodation costs of participants, good utilisation of time is of course an important factor. Figure 6.11 demonstrates that, on average, the municipalities were reasonably satisfied with how the time was utilised, while the county councils were again significantly more critical about the time use. The average of 3.13 is below the mid-point of the scale and indicates that there were more negative responses than positive responses.
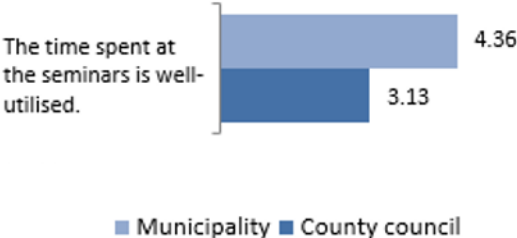

Figure 6.11: Assessments of the claim by the municipalities and county councils. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

There were also many comments from the county councils regarding the use of time at the seminars. The majority concerned there being inadequate time at the seminars in relation to the tasks that were to be performed and that this was more due to downtime rather than the extent of the programme. The two quotes below illustrate this point:

"Poor use of time. There are too many unnecessary breaks. We were unable to complete the exercises."

"It is important to participate, but I still think they are wasting our time a bit. There is not enough content for two days. There is also too much downtime."

EFFECT AND BENEFIT IN TERMS OF THE WORK THE PARTICIPANTS WILL BE DOING

The objective of the training was to provide the participants with enough expertise to conduct the election in each municipality in a good and assured manner. Therefore, it is designed to provide participants with the necessary expertise for being able to conduct elections in their respective municipalities and counties and to reduce the need for user support during this process. The goal is to enable those who participate at the training seminars to pass on the relevant parts of this knowledge to the other election workers in the municipality. While there were about 1,000 election workers who participated at the centralised training seminars in Alna, there were, as mentioned, approximately 30,000 who were engaged in some manner with conducting elections in the municipalities and county councils. Enabling participants to provide relevant training to this large

group of election workers is therefore a vital part of the Norwegian Directorate of Elections' training programme.
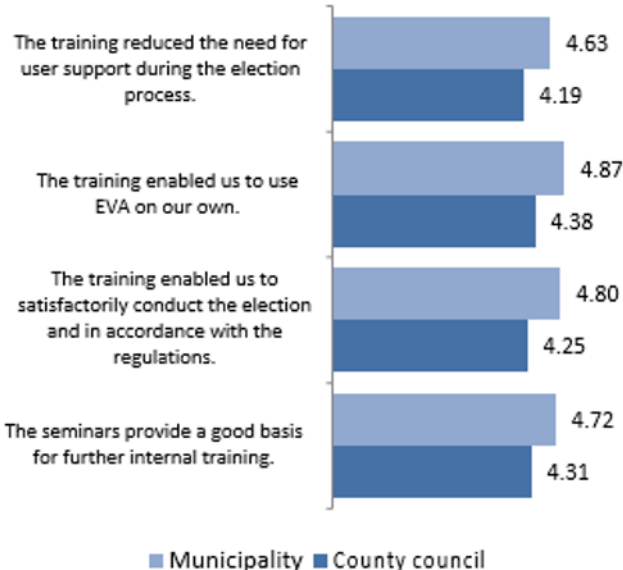

The training reduced the need for user support during the election process.
Municipality: 4.63
County council: 4.19

The training enabled us to use EVA on our own.
Municipality: 4.87
County council: 4.38

The training enabled us to satisfactorily conduct the election and in accordance with the regulations.
Municipality: 4.80
County council: 4.25

The seminars provide a good basis for further internal training.
Municipality: 4.72
County council: 4.31

■ Municipality ■ County council

Figure 6.12: Assessments of the claims regarding the effect of the training programme for own expertise. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Figure 6.12 shows assessments by the municipalities and county councils of various claims regarding the effect of the training for their own expertise. The results show that both municipalities and county councils consider the training to have provided them with increased expertise in both conducting elections and internal training. However, the municipalities consistently showed more support for the claims than the county councils, even though the differences were slightly less than for a number of the other training-related questions.

On the whole, this can be viewed as a sign that training had an effect. It very much enabled the participants to conduct the elections and to use EVA on their own. It also reduced the need for user support and thereby provided a basis for savings in other areas. The fact that there was such a large consensus that the training provided the participants with sufficient expertise to conduct further internal training in their own municipalities is also reassuring. This is, in principle, one of the weakest and most "risky" parts of the entire training programme.

SHARING EXPERIENCES AND NETWORK BUILDING

The opportunity to speak to and establish contacts with the employees at the Norwegian Directorate of Elections is just as important as the actual training.
Municipality: 4.20
County council: 4.56

The opportunity to speak to and establish contacts with the election workers in other municipalities and county councils is just as important.
Municipality: 4.67
County council: 4.94

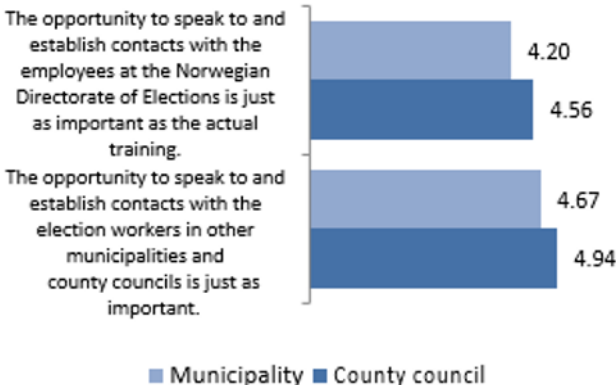■ Municipality ■ County council

Figure 6.13: Figure 6.13: Assessments of claims relating to informal functions in comparison with the formal training. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

An argument for continuing the physical training seminars is that, in addition to the formal training programme, the seminars also provide the municipalities and county councils with an arena for informal sharing of experiences with other municipalities and county councils. It is also an arena for establishing contacts with employees at the Norwegian Directorate of Elections.

In order to obtain a better idea of how the municipalities and county councils assess the importance of the training seminars as an arena for network building and sharing experiences, we asked the heads of election administration to assess the importance of this more informal function in comparison with the formal training.

Figure 6.13 shows that there is relatively strong agreement that the training seminars have a network building function and that this is equally important to the training that is received. We also note that the significance of being able to establish contacts with the election workers in other municipalities and county counties is also considered to be somewhat more important than establishing contacts with the employees at the Norwegian Directorate of Elections.

We also see that the county councils place somewhat more emphasis than the municipalities on sharing experiences and network building. This can of course be due the county councils being more sceptical about the quality and benefit of the actual training and that the more informal sharing of experiences is therefore more important. However, the county councils are also dependent on having close contact with the municipalities in their own counties and it is also possible that this opportunity is emphasised as being a positive factor.

Some of the largest urban municipalities also stated that the formal training is of lesser benefit, but that they participate in order to consult with other heads of election administration and employees from the Norwegian Directorate of Elections. This must probably be viewed in light of the fact that both county councils and larger municipalities will generally have a higher level of professionalism in connection with the conducting of elections than smaller municipalities. For example, Oslo municipality stated the following in an open comment field:

> *"Oslo municipality has little benefit from the training seminars because we have employees with a good level of expertise when concerning elections. The seminars are very general and provide few details. We believe this is a challenge for many municipalities. We participate primarily to speak with other heads of election administration and employees at the Norwegian Directorate of Elections."*

Oslo is in a special position in terms of its high level of election expertise and a permanent department with responsibility for elections. One of the other large cities stated that the Directorate's EVA training was beneficial, but not as beneficial as the informal conversations with heads of election administration from the other large cities. It was stated that these conversations were more beneficial for them in connection with the practical election process than the formal training. However, other municipalities, including larger urban municipalities, stated that they benefitted both from the formal training and the informal professional "mingling" that takes place at the seminars. It was important to be there. The following comment illustrates this view:

> *"When there are elections every second year, you should not trust your memory. You need a refresher course. For that reason, training during the seminars is also important. There are also minor changes that take place in-between each election than mean your knowledge has to be updated. And, not least, it is important to have the formal and informal sharing of experiences that occurs during the seminars."*

ALTERNATIVE MEANS OF ORGANISING THE TRAINING

Given the high costs that the centralised training seminars entail for both participants and the Norwegian Directorate of Elections, it should always be considered as to whether the training can be arranged or organised in a different manner. In the survey, we asked the heads of election

administration to assess of two possible changes. These included a programme with *greater differentiation between experienced and less experienced users* and a programme in which parts of the training period during the seminars were replaced by different *e-learning* models. We see that the same two topics are frequently mentioned in the open comments field where we asked the heads of election administration to propose possible areas of improvement (cf. Chapter 3).

DIFFERENTIATED TRAINING PROGRAMME?

20 of the comments regarding areas of improvement dealt with the need for a more differentiated training programme. There is a significant gap in expertise between the most experienced heads of election administration and the new beginners and it is therefore a major challenge to offer a programme that is considered focussed and relevant by both groups. For example, a head of election administration from a county council stated the following:

> *"Modules 1 and 2 could probably be a "rough" start for those with no experience, while those who are more experienced could have benefited from a more targeted programme."*

Even though the evaluation report from 2015 recommended differentiating the training in order to cover the requirements of groups with different levels of experience, little consideration was paid to this in the Norwegian Directorate of Elections' training programme for 2017. This was no doubt due to such differentiating placing greater demands on those who have to organise the training in terms of both logistics and preparing parallel training programmes.
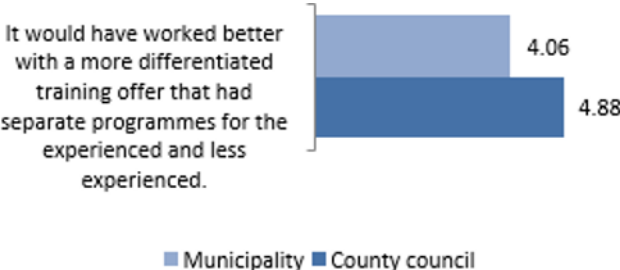

Figure 6.14: : Assessments of the claims by the municipalities and county councils. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Figure 6.14 shows the assessments by municipalities and county councils of the claim that differentiated training with separate programmes for experienced and less experienced users would have worked better than the programme from 2017. The possibility of greater differentiation is something that is particularly endorsed by the heads of election administration from the county councils, with an average score of 4.9. Support from the municipalities was somewhat lower, but there was still a majority of positive responses. In other words, the municipalities and county councils were generally positive towards such a change.

However, there is was relatively large spread in the responses from the municipalities and there were also those who believe that there is value in a joint training programme for all participants. For example, a head of election administration from a municipality stated the following:

> *"There should be joint training for new beginners and experienced election workers at the seminars (as there is now). There is a fair bit of informal information/knowledge sharing at the seminars and it is therefore important that participants with different levels of experience can meet together."*

However, on the whole there is much that indicates that differentiation may be sensible and will better utilise the time at the seminars for each participant. This may reduce the need for long seminars, or possibly provide a basis for a more flexible model in which some are offered more training than others.

PHYSICAL SEMINARS OR E-LEARNING

In the comments in the open text field regarding potential areas of improvement there were also many who made mention of the opportunities for supplementing the physical training seminars with different digital solutions and e-learning. The following comments were largely illustrative of this viewpoint:

"Training prior to elections is important and we are delighted that the Norwegian Directorate of Elections organises this. However, the current programme is enormously resource-demanding (for the municipality and the Directorate) when viewed in relation to e-learning and other web-based alternatives, which we consider to be at least equally beneficial. How about webinars/e-learning and work tasks linked to services for a time-limited telephone response or chat service for assistance with the tasks? The benefits of being present in person and establishing contacts at the seminars are minimal in relation to the time spent on this."

However, we see that the heads of election administration in the municipalities and county councils are divided on this issue. The average score for the municipalities is just under the mid-point of the assessment scale. This indicates that a slight majority of respondents do not want to replace the training time at seminars with e-learning. However, the county councils were somewhat more positive, with a slight majority of positive responses. This also correlates well with the other variations in assessments between the municipalities and county councils. Given that the county councils are more critical in their assessments of the benefit, quality and use of time, it is natural that they are also more positive to alternative means of organising the training.
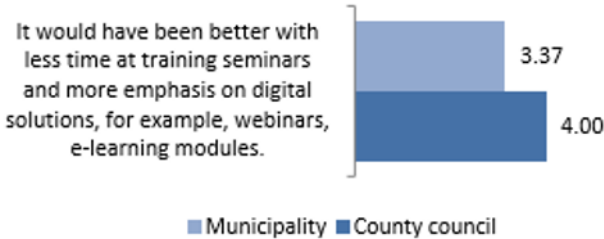

Figure 6.15: Assessments of the claim by the municipalities and county councils. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

The question regarding the possibilities of replacing the training seminars with digital solutions and e-learning was also asked in the Norwegian Directorate of Elections' survey. A full 66 per cent of those surveyed wanted this type of change, while 29 per cent stated that they would like a model with fewer seminars in combination with digital solutions. Only 5 per cent envisaged that the training seminars could be fully replaced by different forms of e-learning.

Even though views on this issue are divided, we are still of the opinion that it would be sensible of the Norwegian Directorate of Elections to test different e-learning models as a supplement to the ordinary seminars. It is often difficult for a user to assess the benefit of a programme he/she has not

yet seen. Tentative testing in the period until the next election may therefore provide more knowledge about the extent to which such solutions will work.

We are also of the view that this should be viewed in connection with the opportunities for greater differentiation. It will be easier to offer differentiated training programmes that are adapted to the individual needs and prerequisites of the users if there is a library of e-learning modules that the users can select from. Such a library will also satisfy one of the biggest challenges that the current training model faces, i.e. the further training of the almost 30,000 election workers who do not participate at the seminar. Such e-learning modules will not only be a supplement for those who otherwise participate at the seminars, but also function as aid in the further training of election workers in the individual municipalities and county councils.

However, the strong emphasis on the seminars as arenas for sharing experiences and building networks would indicate that it would not be appropriate to completely change the training to a digital platform in just one step. The different options should rather be tested as a supplement and preferably in combination with shorter or fewer seminars.

THE MOCK ELECTIONS

The mock elections are a practical exercise in which attempts are made, insofar as this is possible, to simulate the different steps of an actual election.

The purpose of the mock election was to test that[34]:

- ♦ The municipalities are able to register advance votes and polling station votes.
- ♦ The municipalities are able to conduct their counts.
- ♦ The county councils are able to conduct their counts.
- ♦ Results are reported correctly and transferred to the election night database and to the media.

Two mock elections were held; one in June and one in August. The mock election in June focussed on exercises involving the use of EVA, voting and manual counting. The mock election in August focussed particularly on municipalities and county councils that use scanning of ballot papers, even though other municipalities were encouraged to participate.

The mock elections are considered to be an important test and a necessary "dry run" before the actual election, something that is illustrated by the following comments:

"The mock elections are the most important tests to be involved with! The Norwegian Directorate of Elections must order all municipalities to participate, because it is not until then that the county municipalities will have a good dry run."

"Provides good opportunities for testing that everything functions as it should."

"Useful! Enables good testing of routines and procedures."

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[34] Based on the document "Prøvevalget 2017" (undated) issued by the Norwegian Directorate of Elections.

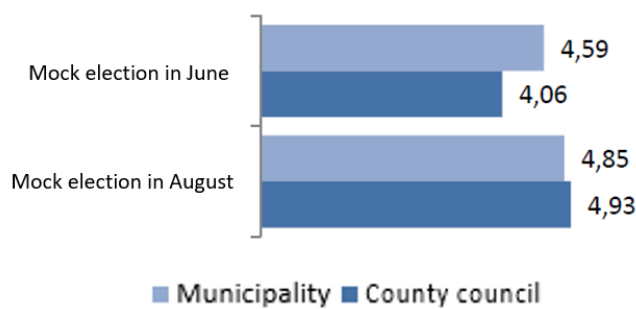Both the municipalities and county councils considered the mock election in August to be somewhat more beneficial than the mock election in June (cf. Figure 6.16). The differences in the assessments of benefit are particularly sizable for county councils, which gave the mock election in June a score of about 4 on the 6 point assessment scale. We also find that the mock elections are considered to have the most benefit in the largest municipalities. The assessments of the different aspects of he election process were also generally positive (cf. Figure 6.17).

Figure 6.16: Assessments by the municipalities and county councils of the benefit of the mock elections. (Average on a scale from 1 to 6 where 1 = absolutely no benefit and 6 = very beneficial).

This also applies to the learning benefits, the technical programme and information and organisation. The county councils were generally more measured in their assessments than the municipalities, particularly with regard to the mock election in August.
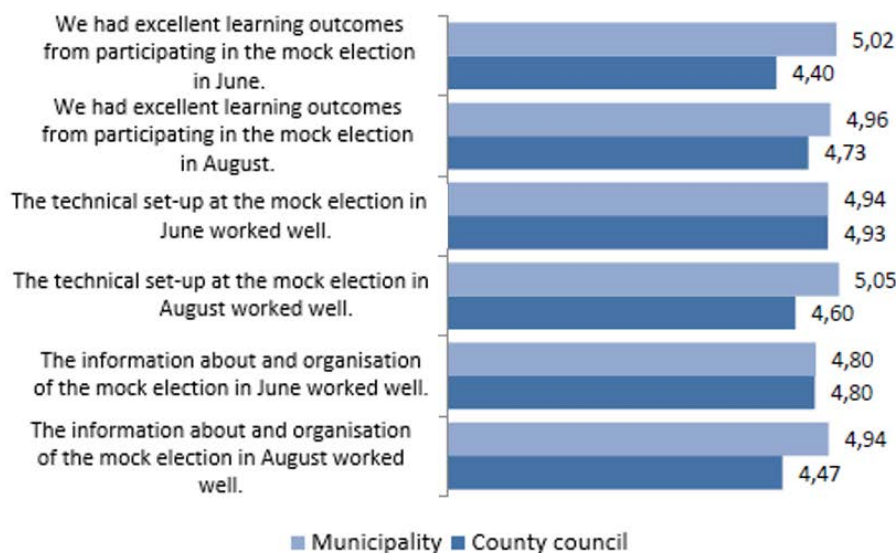
Figure 6.17: Assessments by the municipalities and county councils of the learning outcomes, technical set-up and information about the mock elections. (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

However, certain areas of improvement were listed in the open comment fields. The county councils were particularly focussed on the realistic conduct of the election requiring that all municipalities be involved and that the municipalities provide what is necessary for the county municipalities to be able to test their functions. There were some from the municipalities who wanted an arrangement with more specific tasks and preferably mock elections that take place over multiple days in order for more functions to be tested. There were also some comments about the technical set-up not always functioning in an optimal manner.

However, on the whole, the mock elections appear to be a service that is valued by the municipalities and county councils and one that, despite certain areas of improvement, they are reasonably satisfied with.

OVERALL ASSESSMENT

The evaluation of the training paints a somewhat complex picture. We generally find that the municipalities were reasonably satisfied with the training that was provided. The county councils were somewhat more sceptical, both when concerning the assessment of the benefit of the training and quality of this. They were particularly concerned about the poor use of time at the seminars and that the training was not always considered relevant. While there was a reasonably high level of agreement from the municipalities that the benefit of the two training seminars justifies the use of resources, there was unexpectedly much less support from the county councils. At the same time, most of the participants, particularly those from the county councils, valued the opportunities that the training seminars provided to share experiences and build networks.

The evaluation also shows that there is significant scope for improvement. The present training seminars are resource-demanding for both the Norwegian Directorate of Elections and the participants. It is therefore logical to search for alternative models and means of improvement. A very large number of participants, both in the municipalities and county councils, requested more differentiation and programmes that are better adapted to experienced and less experienced users respectively. A joint programme for everyone reduces the relevance to individual participants and can undoubtedly give the impression that time is not being used effectively. Even though differentiation of the training is challenging, we still believe that this is something that should be tested out for the next election.

The need for differentiation can also be viewed in connected with the possibilities of supplementing some of the time at training seminars with different e-learning models. This can result in programmes that are better adapted to the needs of different user groups and also form the basis for more effective training of the election workers in the municipalities who are not able to participate at the seminars. However, in the short-term it would be a much too drastic measure to fully replace the training seminars with e-learning. These possibilities should rather be tested out as a supplement, and preferably in combination with a further reduction in the time that is used at the seminars.

The mock elections largely appear to function as intended and are considered a useful and necessary dry run prior to the actual election. However, the evaluation shows that there is also scope for improvement, particularly with regard to the coordination of the tasks performed by the municipalities and county councils.

Chapter 7
User support

INTRODUCTION

User support is the final element in the Norwegian Directorate of Elections' chain of actions. The purpose is to offer guidance and assistance in situations in which the information materials and training are inadequate. The job of user support is to answer questions regarding rules and routines for conducting elections, as well as more technical questions relating to the use of EVA. The Norwegian Directorate of Elections offered user support by telephone and email during the period from January until the start of October and the objective was for users to receive prompt and relevant answers to the questions that were raised.

In this chapter we present user assessments of the user support as these were expressed in interviews and in the survey. Among other things, the review sheds light on the organisation, response times and quality of responses and identifies challenges relating to the service that is offered.

The results show that municipalities and county councils were generally satisfied with the user support. The response time was consistently low and cases were resolved within a reasonable period of time. Some of the organisational weaknesses from 2015 therefore appear to have been rectified. However, the county councils and the largest municipalities were less satisfied than the small and medium-sized municipalities and this gap has widened somewhat since the previous election. The analysis identifies challenges relating to the quality of responses to questions of both a specialist election and technical nature. It is possible that the Norwegian Directorate of Elections placed too much priority on availability and quick response and that more cases should have been forwarded on to the second line where there was a higher level of expertise.

However, on the whole, we are of the view that the Norwegian Directorate of Elections succeeded in building an efficient user support organisation that did a good job in conducting the 2017 election. The potential for improvement is primarily associated with the training of employees in the first line and in fine-tuning the division of responsibilities between the lines.

ORGANISATION OF USER SUPPORT

THE ORGANISATION IN 2015

KMD was responsible for user support in 2015. The task of staffing the first line was shared between the Brønnøysund Register Centre and the Ministry, depending on what the questions concerned. However, the second and third lines were fully staffed internally. 20 temporary employees were recruited who were primarily political science students from the University of Oslo (UiO) and were used in KMD's first and second line services. The third line consisted of the Ministry's own employees and had both technical and specialist election expertise.

More than 65 per cent of the telephone enquiries went to Brønnøysund, of which 40 per cent were forwarded on to KMD. The evaluation from 2015 recommended the continuation of an external first line as a flexible and cost-effective solution.

The evaluation of the 2015 election demonstrated that the user support services all functioned well and that the municipalities and county counties were satisfied. The evaluation referred to two areas of improvement:

♦ **Long response times from the third line.** Only 63 per cent of registered cases were processed within 24 hours. Specialist election questions in particular took a long period of time.

♦ **Many temporary employees.** The evaluation noted that fewer temporary employees who instead worked more hours would have given a more efficient organisation. It is expected that this will simplify the training and better equip individual employees to answer questions.

THE ORGANISATION IN 2017

The user support was organised and operated by the Norwegian Directorate of Elections in 2017. Among other things, this was due to the Brønnøysund Register Centre not being able to perform first line service at this election. The Norwegian Directorate of Elections recruited 12 part-time employees to staff the first line.

This recruitment was more extensive than for the previous election. In addition to employees with political science expertise, people were also hired who had IT expertise and different types of work experience, including from other service industries. The organisation of the first line was based on the notion that more people with IT expertise and generally more varied expertise would be a benefit.

The 12 user support consultants were trained in stages during the year. The first stage consisted of training in January and then with participation at the training seminars in Alna. Following the summer, they were given training in, among other things, counting, in preparation for polling day.

Unlike previous elections, the second and third lines were almost exclusively staffed by permanent employees from the Directorate. The second line was divided into two sections for questions of a specialist election or systems character respectively. The *specialist election* section consisted of lawyers and political scientists - four employees in total. The *section for conducting elections* had a total of five employees, consisting of "super users", a product owner and a technical architect. These were primarily people with technical backgrounds, but also some political scientists with good technical understanding.

The third line only responded to questions relating to technical aspects of the election process and did not deal with specialist election questions. This line consisted of a total of seven highly competent system developers and operations personnel. In special instances, KMD could act as an ad hoc third line for specialist election questions.

The use of the telephony system "TRIO" was not continued from 2015 because this was the system used by Brønnøysund Register Centre. The cloud-based telephony solution "Puzzel" was selected

instead. Unlike previous elections, the caller was sent directly to the first line without first having to select from a list of menu options. The exception was the Sami parliamentary election, which had a separate telephone number which made callers select from two menu options. Questions relating to the election system were handled by the first line, while questions relating to specific Sami issues were sent directly to the Sami Parliament.

The user support was operational from January, with two people staffing the first line. From week 16 to week 35, the user support had opening hours within normal office hours, with expanded hours during election week. On polling day, the 12 employees worked according to a shift arrangement where six people worked during the day time and were then relieved by six others in the evening.

ENQUIRIES, CASES AND RESOLUTION TIMES

NUMBER OF ENQUIRIES AND CASES

User support responded to a total of 5,600 telephone enquiries and dealt with about 10,600 email enquiries.[35] The number of telephone enquiries was at the same level as for the 2015 election, but represents an increase of about 40 per cent compared with the previous parliamentary election in 2013. There are no directly comparable figures for emails.

In principle, a case must be opened in OTRS for all user support enquiries. Questions that are answered directly are registered at a later time. In 2017, 5,500 user support cases were registered in OTRS, of which 1,900 were subsequently registered.[36] If we look at all enquiries as a whole, this means that about every third enquiry to user support resulted in the establishment of a case. 33 per cent fewer cases were registered in 2017 compared with the municipal council election in 2015. This could mean that more enquiries were resolved with basic answers from the first line without a formal case being established in OTRS.

Type of enquiry	Percentage	Resolution time
Login, users and certificate	15.2%	4H 12M
Voting	14.5%	7H 57M
Training	9.2%	3H 2M
Counting/Result	9.2%	4H 49M
Basic data	8.5%	12H 39M
Scanning	8.3%	7H 18M
Election materials	8.0%	10H 21M
Electoral register	5.3%	11H 30M
Sami parliament election	4.2%	7H 52M
List proposals etc.	3.4%	13H 16M
Miscellaneous	14.1%	6H 52M

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[35] A total of 20,500 registrations were made in OTRS during the period in which user support was operational, i.e. from January until the start of October. However, OTRS includes all user support-related communication, including internal and external emails, as well as "test" cases and other cases of a technical nature.
[36] The subsequently registered cases have a stipulated resolution time of 0 minutes. These largely concern telephone enquiries that were resolved relatively quickly. As a matter of form, the subsequently registered cases are excluded from the other calculations.

TOTAL	100%	

Table 7.1 provides an overview of the proportion of cases that were registered with user support, divided into different categori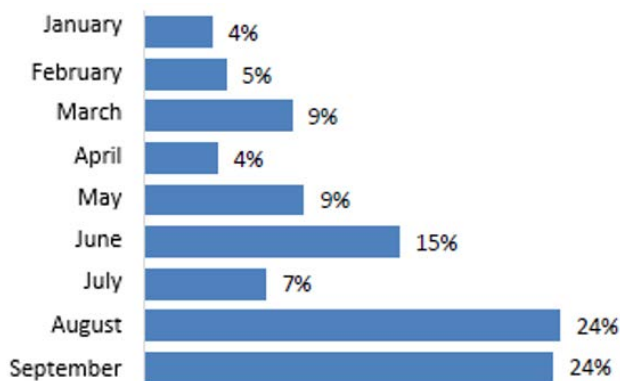es, and the average length of time it took to resolve these.[37] The division of enquiries by category is relatively similar to the division from 2015.[38] The most time-consuming cases were cases relating to the preparatory phase of the election - *including basic data, electoral registers and list proposals*. The topics that had the most questions i.e*. log-in*, *users and certificate*, were resolved relatively quickly by user support, while the second most common topic, *Voting*, was somewhere in the middle with an average response time of about eight hours.

Figure 7.1: The proportion of registered cases per month (Source: OTRS)

The user support was open from January until and including September. As expected, there were significant variations in terms of when the cases were registered. As Figure 7.1 demonstrates, about half of the cases were registered in August and September. Other peaks, for example in June, can be viewed in connection with the mock elections, among other things.
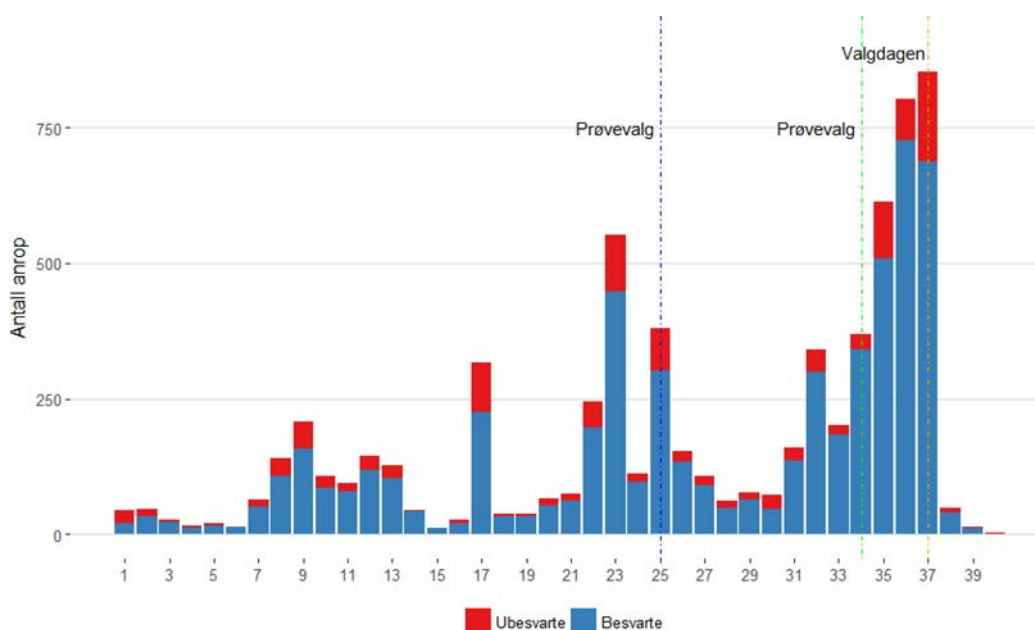
Figure 7.2: Enquiries to the user support telephone service per week (Source: OTRS/Puzzel)

Figure 7.2 shows the number weekly enquiries to the user support's telephone service up until the election. Like Figure 7.1, we see that the enquiries are concentrated to a certain extent on specific election-related events and these gradually increase as polling day approaches. Over 1,400 calls, approximately 25 per cent of the total calls, were made in weeks 36 and 37. A prerequisite for

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[37] Created based on the categories used by the Norwegian Directorate of Elections.
[38] The exceptions are "Training" which was not listed in the previous evaluation and "Routines and legal issues" which is no longer a separate category.

efficient user support is therefore that the staffing is adequately scaled in relation to the expected demand.

RESOLUTION RATE AND RESPONSE TIME

Data from OTRS shows that an entire 81 per cent of the cases were resolved by the first line. This is a significant change from the previous election when only about half of the enquiries were resolved by the first line.

Since a large percentage of the enquiries were resolved by the first line, the percentage of cases resolved by the second and third lines was low in 2017, i.e. 13 and 4 per cent respectively. The corresponding figures for 2015 were 40 and 12 per cent. Part of the explanation for a larger percentage of the enquiries being resolved by the first line in 2017 could be that it is

Figure 7.3: Percentage of cases resolved by the 1st, 2nd and 3rd lines (Source: OTRS)

somewhat less complex to conduct a parliamentary election than a municipal and county council election. The threshold for forwarding on cases may also have been lower for the Brønnøysund Register Centre, which had a defined area of responsibility and limited specialist expertise.[39]

The resolution time, i.e. the length of time it takes from when a case is opened until it is closed, provides some insight into the efficiency of user support. As it states in Figure 7.4, the first line used an average of 5 hours and 43 minutes to resolve a case. In comparison, it took almost three times as long to resolve the cases that ended up with the second and third lines.

However, during the time-critical phases in weeks 36 and 37, the differences in resolution times between the lines are reduced. During these weeks, both the first and second lines use an average of 5 hours and 48 minutes to resolve their respective cases, while the system technical third line uses an average of just under 4 hours. In other words, the second

Figure 7.4: Solution time per line (Source: OTRS).

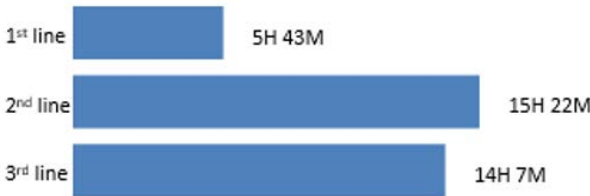and third lines resolved the cases significantly faster during these weeks than in the period as a whole.

In general, the cases were resolved within a short period of time. 96, 85 and 90 per cent of the cases were resolved within 24 hours by the first, second and third lines respectively. In comparison, only 63 per cent of the cases before the third line in 2015 were processed within the same period of time. Only 3 per cent of the cases took more than five days to resolve, compared with 18 per cent in 2015. On the whole, it therefore appears that the organisational weaknesses that were identified in the previous evaluation were largely remedied for the 2017 election.

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[39] Since the 2013 evaluation does not include data on the proportion of cases resolved by each of the three lines, we cannot draw any conclusions about whether this proportion has changed since the previous parliamentary election.

Telephone waiting times were consistently low. The average waiting time for the entire period was 14 seconds. The exception was the hectic election week (week 37), during which callers had to wait for an average of one minute before they received a response. The response rate, i.e. the number of incoming calls that were answered, was consistently high (83 per cent) and also remained so during election week (81 per cent). If we make an adjustment for very short calls of less than 10 seconds, the response rate rises to 96 per cent for the entire period and 91 per cent for election week.[40]

USER ASSESSMENTS

A full 90 per cent of those surveyed said that they had used the user support service at some point in connection with the 2017 election. 75 and 70 per cent respectively stated that they had used the email and telephone user support services. In addition, 18 per cent stated that they had contact with employees from the Norwegian Directorate of Elections without having gone through user support.

The majority of heads of election administration considered the user support to be beneficial. Figure 7.5 shows that a full 90 per cent of those surveyed provided a positive assessment[41], of whom close to half stated that they considered the user support to be "very beneficial". There were consistently small differences between the assessments of the email and telephone services.

| | 1 Absolutely no benefit | 2 | 3 | 4 | 5 | 6 Very beneficial |

Telephone: 5%, 12%, 32%, 48%
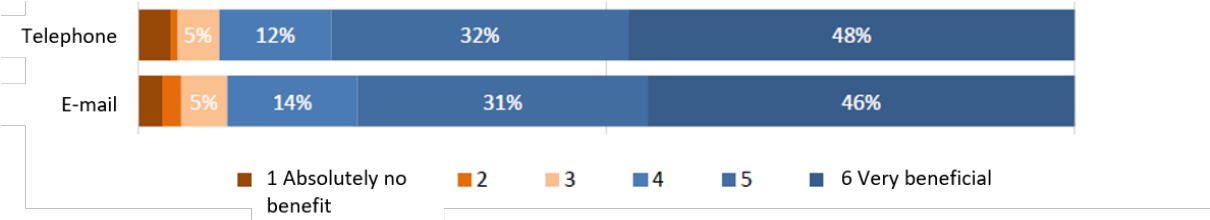E-mail: 5%, 14%, 31%, 46%

Figure 7.5: How beneficial or non-beneficial was the user support?

In open comment fields in the survey, many stated that they were satisfied with the user support. The following comments from one municipality were typical of the responses:

> *"Very quick and good user support with service-minded people. We used it a bit by email. On the whole, very satisfied."*

On average, user support by telephone and email achieved respective scores of 5.1 and 5.05 on a scale from 1 to 6. This is a marginal decrease from the municipal election in 2015 for which the corresponding scores were 5.3 and 5.2. There was also an increase from the previous parliamentary election when the corresponding scores were 4.7 and 4.8.

Municipalities that use scanning were marginally more satisfied with the user support than municipalities that do not use scanning. As mentioned in Chapter 3, this may be due to the fact that these municipalities have more advanced technical requirements that the user support apparatus was not fully able to handle. Alternatively, it may be the result of the order to use manual counting that most likely created some extra frustration in these municipalities.

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[40] The short calls can be everything from wrong numbers to situations in which the caller, for whatever reason, did not want to wait for an answer. Callers could choose to be called back when a user support consultant was available.

[41] On a scale from 1 to 6, where 1 is equivalent to absolutely no benefit and 6 is very beneficial, the scores of 4-6 are considered positive.

In line with the findings from the previous evaluation, we see that the county councils are significantly less satisfied than the municipalities. However, there is a slightly bigger difference between the municipalities and county councils when compared with the 2015 election.[42]

There were minor differences in the assessments by small and medium-sized municipalities, while the largest municipalities in the country, i.e. Oslo, Bergen, Trondheim, Stavanger and Bærum, gave somewhat lower scores (Figure 7.7).

Both county councils and the largest municipalities were therefore somewhat less satisfied compared with the small and medium-sized municipalities. This may be due to the county councils and the largest municipalities being more demanding users, and therefore having higher expectations and demands for user

Figure 7.6: Satisfaction with the user support. (Average on a scale from 1 to 6 where 1 = absolutely no benefit and 6 = very beneficial)
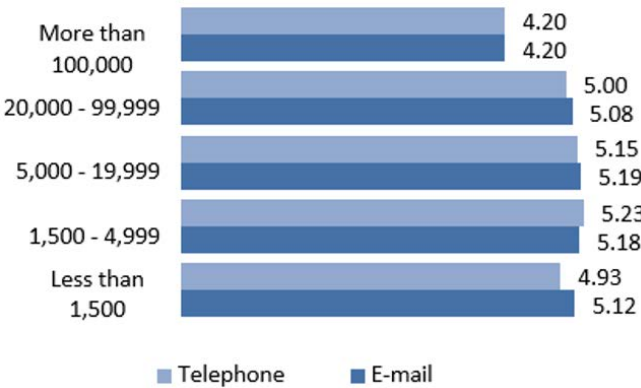

Figure 7.7: Satisfaction with user support by municipality size. (Average on a scale from 1 to 6 where 1 = absolutely no benefit and 6 = very beneficial)

support than what they receive. The county councils work continually with elections and the electoral apparatus in larger municipalities has to be more developed. The questions from these users will therefore often be more complicated, while those who are asking these questions will often also have a high level of expertise.

AVAILABILITY

The municipalities and county councils were equally well-satisfied with both the availability of the user support and the ability to provide quick answers.

Figure 7.8 shows the extent to which the users found the opening hours to cover their needs, i.e. how accessible the heads of election administration considered the user support to be. A full 90 per cent of the heads of election administration selected scores of 5 and 6 on a
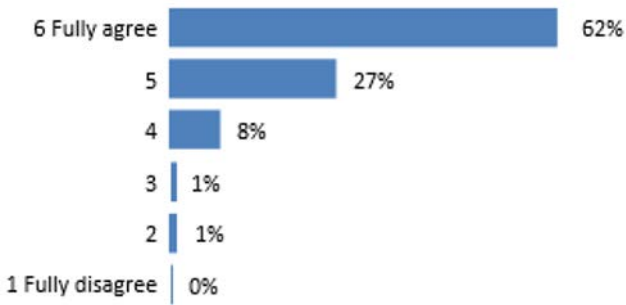

Figure 7.8: Assessment of the claim "The opening hours for telephone user support covered our needs".

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[42] In 2015, the county councils gave an average score of 4.9 for both email and telephone, while the municipalities gave respective scores of 5.2 and 5.3.

scale where 1 was "fully disagree" and 6 was "fully agree", something that means that they largely found that the opening hours covered their needs.

The users were also somewhat more satisfied than for the previous election. The proportion that "fully agreed" was 62 per cent, compared with 54 per cent at the 2015 election.

The heads of election administration were consistently satisfied with the speed at which they received a response. Figure 7.9 shows that a high percentage (77 per cent for telephone, 81 percent for e-mail) selected scores 5 or 6 on a scale where 6 was the user fully agreeing that a response was received within a reasonable time. The municipalities and county municipalities were somewhat more satisfied with the response time by e-mail than by telephone.

Figure 7.10 shows that the heads of election administration were considerably more satisfied with both telephone and e-mail response times than at the previous parliamentary election in 2013. The picture is more complex when making comparisons with the 2015 election. While the users in 2017 were marginally more satisfied with the response time by email, satisfaction with the response time by telephone decreased slightly.
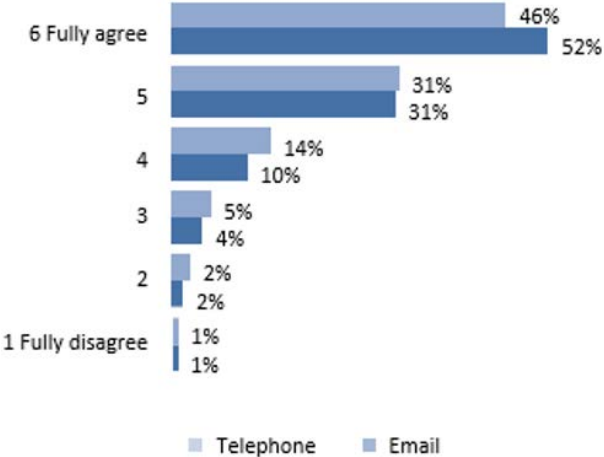

Figure 7.9: Assessment of the claim "We always received a response within a reasonable period of time".
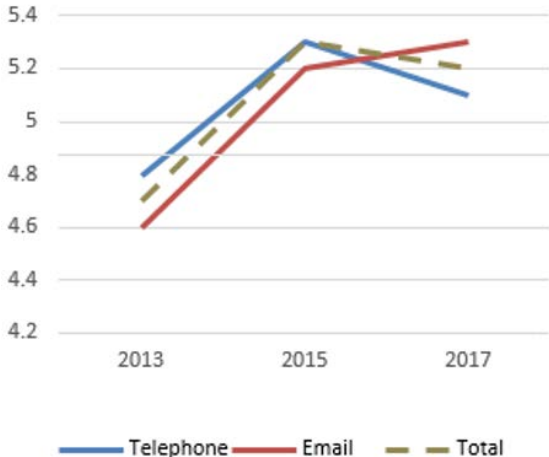

Figure 7.10: Average scores on a scale from 1 to 6 for the claim "We always received a response within a reasonable period of time" for telephone, email, and combined for 2013, 2015 and 2017.

QUALITY

A user support service should not only provide prompt responses, it should also provide responses that are correct and that solve the challenges users face. In other words, the quality of the responses is important.

One aspect of the quality of the service is the competence of the person who is the first line contact. An efficient first line should not only be able to provide immediate and correct answers to basic questions, but should also recognise the enquiries that are so difficult, critical or fundamental that these should be forwarded on to personnel with more expertise. This is important with regard to quality control of the advice provided by user support.
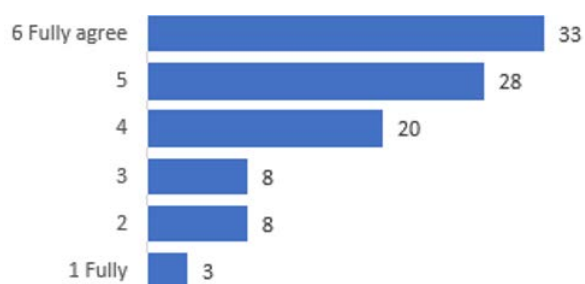
Figure 7.11: Assessment of the claim "The first person who answered always understood the question and could answer it him/herself or was able to forward me on to another relevant person who was able to answer it."

Figure 7.11 shows the assessments by the heads of election administration of the claim: *"The first person who answered always understood the question and could answer it him/herself or was able to forward me on to another relevant person who was able to answer it."*[43] A significant majority of the municipalities and county councils considered the first line to have lived up to this expectation. However, we see that almost 20 per cent were at the negative end of the response scale and an average score of 4.6 is slightly lower than for most other claims the respondents were asked to provide an opinion on. This can be taken as an indication that there is scope for improvement in this area.
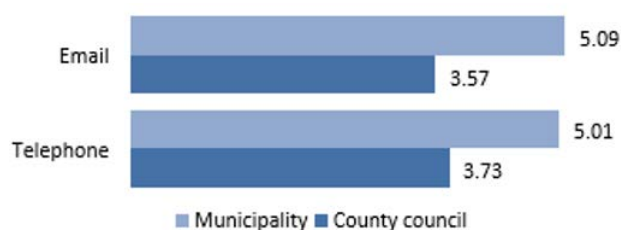

Figure 7.12: "The answer we received always gave a solution to the question." (Average on a scale from 1 to 6 where 1 = Fully disagree and 6 = Fully agree).

Another means of expressing *response quality* is whether the person asking the question receives a response that actually resolves the problem he/she was facing (cf. the results in Figure 7.12). Thus far in this chapter we have seen that the county councils were consistently less satisfied with the user support than the municipalities. This is particularly expressed in the assessments of this question. While the average scores given by the municipalities are high and indicate that they generally found that they received responses that answered the questions they had contacted user support about, on average the county councils were considerably more measured in their assessments. The difference was a full 1.5 points when concerning responses given by email and 1.3 for telephone responses. The inability to answer the questions from county councils is therefore probably an important reason why county councils were less satisfied with the user support service than the municipalities.

The ability to provide relevant and correct answers also applies to the expertise of those who staff the different lines in the user support service. For the first line, which is staffed by contracted personnel, the expertise is both a result of the precision of the recruitment strategy of the Norwegian Directorate of Elections and the quality of the training that the contracted personnel have received. For the second and third lines, this principally applies to the expertise among the employees at the Norwegian Directorate of Elections. As noted earlier in this report, the Norwegian Directorate of Elections was only given a short period of time in which to build up a competent organisation before the practical work with conducting the election then commenced.

In order to obtain an idea of how the heads of election administration in the municipalities and county councils assess the expertise of the user support apparatus, we asked two questions; one

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[43] This was a new question from and including 2017. In 2015, the claim the respondents had to assess was: "The first person I spoke to was always able to resolve my problem."
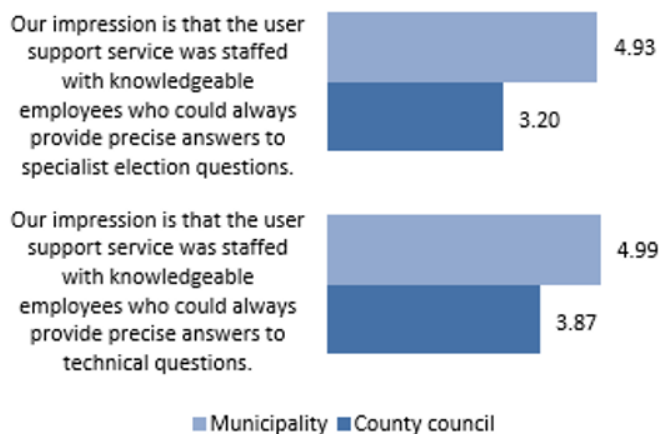
regarding the *specialist election expertise* and one regarding expertise when concerning more *technical issues*.

Figure 7.13 shows that the municipalities consider the expertise in both areas to be relatively good, while the county councils were also more reserved in their assessments of these issues. It is also worth noting that the heads of election administration in the county councils were particularly sceptical of the level of expertise when concerning specialist election questions. An average score of 3.2 would in fact indicate that there were a
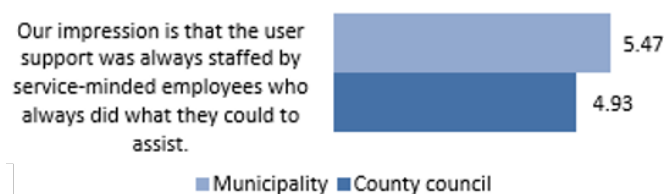
majority of responses at the negative end of the scale.

Figure 7.14: Average scores for the claim. Response scale from 1 to 6 where 6 = Fully disagree and 6 = Fully agree.

However, Figure 7.14 shows that the heads of election administration were generally well-satisfied with the service mindedness of those who staffed the user support service. In other words, those who contacted user support felt that they had made contact with pleasant and helpful employees who did their best to assist.

This also correlates well with the observations we made in Chapter 3. The Norwegian Directorate of Elections was praised for its availability and courtesy. The Norwegian Directorate of Elections was also praised for closely monitoring and contacting users who made obvious errors when entering information into EVA. A head of election administration from a municipality stated the following:

"I also experienced that user support called me when they discovered that I had made some errors. Fantastic that they monitor this."

At the same time, some users, particularly those in the county councils, did not always consider the expertise of the user support apparatus to be adequate. Several heads of election administration described situations in which the responses they received were not satisfactory. Among other things, some stated that they were referred to sections from laws when what they actually required was an answer to how the problem could be solved in practice. Many of the same respondents also requested "more knowledge" and "better training for the first line".

"I think there are many competent employees at the Norwegian Directorate of Elections, but often those in the first line do not understand the issue you are raising. You often get answers that are references to sections from laws when what you are asking for is guidance."

It is obviously problematic for a head of election administration to receive imprecise, conflicting or incorrect responses. In an interview with a larger municipality it was noted that the responses they received from user support were not always suited to their municipality. One county council stated that they received conflicting answers depending on who they spoke to in the first line. Another municipality noted that they were "misinformed" and this resulted in a delay in their work.

Incorrect answers from user support can also have serious consequences when evaluating the validity of the elections. As mentioned in Chapter 2, several appeals cases were lodged in connection with the issue of whether blind and visually impaired people have the right to have someone assist them inside the polling booth. Reference is made here to the fact that incorrect information had been provided from the user support at the Norwegian Directorate of Elections. The Preparatory Credentials Committee's recommendation identified this as being serious.

This underlines the need for good training of the employees, but also employees who know their limitations: If the employee in the first line cannot provide a precise and correct answer, the question must be forwarded on. When considering the percentage of cases that were resolved by the first line on this occasion, it is reasonable to question whether this was done to an adequate extent.

OVERALL ASSESSMENT

It is clearly a challenge to operate a user support service that is only required for a few hectic months every second year. Fluctuations in staffing requirements, particularly for the first line, will unavoidably result in the repeated loss of expertise and turnover of personnel. Demand is also very uneven and is particularly concentrated during the period around polling day. These prerequisites set requirements for good planning and efficient organisation.

The decision to administer the entire user support service internally at the Norwegian Directorate of Elections also appears to have functioned adequately. One of the obvious benefits is that, by doing so, the Directorate has more control over the entire process and is not dependent on an external operator. At the same time, it is even more important that the Directorate recruits competent personnel. When viewed in light of the positive responses, particularly when concerning service mindedness, we are of the view that the broad recruitment strategy was a success. The number of employees also appears to have been appropriate for handling demand.

The figures from OTRS indicate that the first line was able to resolve 81 per cent of all incoming cases, which is significantly higher than for the previous election. The cases were resolved within a relatively short period of time and the first and second lines were in accordance with 2015. The development was particularly positive for the third line, where cases were resolved relatively quickly on this occasion. The reorganisation of the service, with clear division of tasks and less use of contracted consultants, appears of have been a positive measure. On the whole, this indicates that the organisational challenges that were identified in the evaluation from 2015 have been rectified.

The responses from the municipalities were also generally positive. However, we see a noticeable divide between small and medium-sized municipalities on the one hand and the largest municipalities and county councils on the other. This gap in satisfaction had also widened somewhat in comparison with the previous election. The county councils also questioned the ability of user support to answer the questions they asked and also doubted whether the technical and, to even greater extent, specialist election expertise, of the user support apparatus was adequate enough.

It is clear that the largest entities required specialist and technical guidance that user support was unable to fully provide. It was also noted that conflicting and, at times, incorrect responses were given. The latter is serious and should never occur, particularly for questions that can be of importance to the validity of the elections. Therefore, it should also be questioned whether the training of the employees in the user support apparatus was good enough and whether enough emphasis was placed on quality control of both the routines and the answers that were produced.

With this starting point it is also reasonable to assess whether an excessive number of the enquiries were resolved by the first line instead of being forwarded on to more competent personnel in the second and third lines. This could have enabled more in-depth handling of a larger number of questions and better quality for the answers that were given. At the same time, this would undoubtedly have had a negative impact on efficiency and response times. In other words, the Norwegian Directorate of Elections faces a trade-off between quality and efficiency and it will probably be necessary to find a better balance in the period until the next election.

The Norwegian Directorate of Elections has continued the use of the case processing system OTRS. We consider the data from the system to be in-depth and detailed, with good options for further analyses that can contribute to improving the system, the training and the information materials.

The user support was emphasised as being an important service for many heads of election administration. Several made mention of the fact that being able to speak to another person and obtaining assistance "there and then" was of particular importance. In response to the question of what they were most satisfied with when concerning the services offered by the Norwegian Directorate of Elections, user support received the most mentions.

On the whole, we are of the opinion that the Norwegian Directorate of Elections succeeded in establishing an efficient user support organisation that did a good job in conducting the 2017 election. The potential for improvement is primarily associated with the training of employees in the first line and in adjusting the division of responsibilities between the lines.

Introduction

This document summarises the results of an exploratory user test (usability analysis) of the EVA system. The test was carried out by Kjartan Storli from Sonat Consulting.

The user test made the following assumptions:

Target group for the system:
1. The system is used by a limited group of people who are responsible for conducting elections.
2. The system is used for a defined period of time (6 months every second year).
3. Only a proportion of the users are repeat users who are responsible for multiple elections.
4. The users have either received direct training or are being trained via super users.
5. There are varying levels of computer skills among the user group.

This is a relatively unusual usage pattern that sets guidelines for how we define a good user experience:
1. The design must be intuitive because it is rarely used.
2. The design must be effective in order to efficiently conduct the election, since the actual election is conducted during a limited period of time.
3. The design must prevent errors because the election is of major national importance.

Prior to the evaluation, the evaluator familiarised himself with relevant background information (video footage from courses) relating to the conduct of the election to ensure he had adequate enough domain knowledge to conduct a realistic evaluation.

Evaluation criteria

The following table describes the criteria used during the evaluation of EVA.

Criterion	Explanation	Operationalisation
Intuitive design	Navigation and understanding of the site should occur without effort.	The evaluator does the following: ● Based on the first impression, notes how one believes the system should be used. ● Tests whether the navigation is in line with standard web design (back, forward, reload). ● After completing the first step "Ease of learning", the first impression is compared with the actual usage pattern.
Ease of learning	The speed at which a user who has never seen the user interface can learn how to use this.	The evaluator carries out each of the defined work processes and assesses: ● Is one able to familiarise oneself with use of the system? ● Is much trial and error required? ● Was there a risk of introducing errors? Especially noteworthy: ● Does the site follow standard web conventions? ● Are the command prompts descriptive? ● Are there good help pages? ● Are there links to relevant information? ● Search (how easy is it to find information). There are three levels of usability: 1. The process was conducted without having to reference help documentation. 2. It was necessary to use the help page but the information was found there. 3. The help page did not contain the help necessary for the user to be able to complete the task without assistance.
Efficiency	How efficient the system is when used by an experienced user.	After having completed "self-learning". Assess whether the page is effectively constructed: ● Is the editing function appropriate? ● What degree of support is available when using the system?
Retention	The ease at which one can remember how to use the system the next time it is to be used.	Relevant assessment point, but cannot be tested within the period because it is a requirement that the system is used after an extended period of non-use. This issue is therefore best examined through the survey.
Number of errors and severity	Frequency and consequence	Outside the mandate of this assessment.
Satisfaction		Falls under the survey.

Evaluation

Conducting the evaluation

The evaluation was largely conducted as exploratory testing. This means that the evaluator attempted to execute different processes in the system using supporting documentation and trial and error. One day was also allocated to testing at the Norwegian Directorate of Elections, where the same exercises that were used during the Directorate's training programme were carried out under the guidance of an employee from the Directorate.

The evaluator conducted an entire election in the system. This means that the preparations were completed first, then followed by the voting, counting and election results.

Screenshot of the EVA Admin front page. Here one can see the choices available for *a head of election administration* in a municipality. The choices available depends on one's role.

Preparations

The section for preparations in EVA Admin contains functions that shall be used during the election preparations. Here the user administers the basic data and electoral register as well as the administration of election workers.

It is naturally located in a separate column to the left of the main screen image in EVA. The column is divided into three main areas: Basic Data, Electoral Register and Reports. Under each of these are links to different pages for the administration of election preparations.

These pages appear to be somewhat randomly located. For example: "Overview of electoral

register discrepancies" is located under "Basic data" and not under "Electoral register" or "Reports". Administration of EVA users is also under "Basic data". This is no major issue, but makes the page less clear than it otherwise could be. It is worth noting that the screen image is determined by role, such that the user is only granted access to the functions that his/her role permits. This is positive and means that a user only has to deal with the sections of EVA that he/she has a use for. For a user with multiple access, the page receives an *average* score for intuitive design. The reason for this is that the user has to click a bit around until he/she determines what do in the different sub-menus. All the information is located on the pages that are further navigated to, and this part of the functionality therefore receives an *average* score for efficiency. An improvement would have been to place information regarding how far preparations have progressed on the front page.

- + Good gateway to functionality.
- + Clearly arranged, particularly if the user has good election expertise.
- + Division into phases is good.
- + Role management is good.
- + Comprehensive documentation.
- + Efficient when used.

- - No indication on the front page of how far the election preparations have progressed.
- - The menu elements are not in logical positions for a new user.
- - If you click on Help from the landing page, the filters on the help page are not already filled in (municipality/county etc).
- - Parts of the documentation are system-specific. This means that the documentation explains the use of EVA, but does not necessarily include an explanation of how this fits in with the election work. This therefore sets high demands for election expertise. The pages for counting advance votes are examples of good help pages that both explain the specialist election aspects and the use of EVA.

Basic data

Basic data consists of the menu points "Enter basic data", "Administer user", "Add committee members", and "Overview of electoral register discrepancies". Below is a screenshot of the "Enter basic data" page. This page has an excellent interface that provides a clear indication of the work tasks that have been performed and those that remain. It could be a consideration to add a function for "Electoral committees" and "Election proceedings" on the same page (as well as "Electoral lists" at county level). This would then provide a basic overview of the steps that remain in connection with the election preparations. This "wizard" gets a high score for intuitive design and for efficiency because a user is given a good overview of outstanding tasks and the menus are easy to work in.

The menu point "Administer user" provides an overview of all users with roles. Users can be added manually or an Excel spreadsheet can be uploaded. A plus mark is given for the Excel template being easily available for downloading on the page.

The menu point "Add committee members" works well.

A potential improvement would be to place all of the steps in the same, or equivalent, menu

as shown below. This would provide a better overview of how far the preparations have progressed.

This screenshot shows how the "Enter basic data" page provides excellent assistance in determining how far the preparations have progressed. This template could be used in several parts of EVA Admin.

+ Good status information.

- Back/Forward navigation gives different results on different browsers (in Chrome it gives no effect, in Internet Explorer you are taken back to "My page").
- No confirmation ("Ok"/"Cancel") if you click on "Approve basic data."
- Sometimes the user is not given an explanation for why a selection does not have an effect. For example: If a change is made to the text for an advance voting location, the change does not appear if the polling cards are sent for printing. No message is given that this is the reason.

List proposals

This section was used at county level in connection with the establishment of all electoral lists. The section has the potential to be good, but it is not very predictable or intuitive. The page has a function for establishing list proposals and for editing proposals. Candidates and signatures must be registered for each list.

- If one selects a party and then clicks on "Establish list proposal" the list is established without any form of confirmation. The user is transferred to a new screen for editing which does not have a "Cancel" option. There is no status information that provides an indication of how far the user has progressed or the status of incomplete lists. This means that one has to maintain an overview outside of EVA or search through the

lists.

Electoral register

This section contains functions for finding information about individuals from the electoral register, updating the electoral register, finding the change history for the entire electoral register and printing ballot papers. This page works well and is clearly arranged.

+ Clearly arranged and easy to understand.

- If one clicks on "Back" while searching, the incorrect page "Confirm form resubmission" appears.
- Search dates (particularly the "until" date) could have already been filled in.

Reports

If you press the "Reports" menu item, you are taken to a new page containing reports for all phases. This page is more of a start page for reports than a menu option. If, for example, the user is in the Voting phase, it would not appear intuitive to go via this menu option. The reports should either be presented as a permanent part of "My page" or that there is a selection at the top level for moving between "My page" and the reports.

Voting

After preparations for the election have been completed, the user is given access to the module for voting. This manages early votes, advance votes and normal votes. This function is in a separate column entitled Voting. There is a function for use during the advance voting period and the election, as well as for managing early votes.

Advance voting period

Registration of advance votes takes place through an intuitive user interface and the search in the electoral register is efficient and provides good alternative for search parameters. It is positive that the system automatically differentiates between advance and early votes, meaning that users only have to deal with one interface. The system takes into consideration people who are not in the electoral register and the different types of votes.

+ Integration with the electoral committee's minute book means that manual entry is avoided.
+ The system itself manages registration of early vs advance votes based on dates in order for this to be done consistently everywhere.
+ Integration with scanning in search (this was not tested).
- Nothing of note.

Election proceedings

In connection with the conduct of elections, EVA can be used by both municipalities with and without electronic cross-checking in the electoral register. For municipalities without electronic polling, EVA is only used for searches in the electoral register, creating new polling cards, reporting and the polling committee's polling cards.

Materials on display for inspection, such as the electoral register and the cross-check register can be printed out from the system (or possibly stored electronically and sent for printing). This is thereby taken from the updated data in EVA, something that ensures consistency between the electronic lists and hardcopy materials.

Registration of votes for election proceedings takes place through the same function as for advanced votes.

+ Election materials can be generated by the system, something that guarantees that the materials will be consistent with what is registered.
+ Uniform user experience with advance votes.

Counting

The function for counting is also in a separate column in EVA. In addition to what is found in EVA Admin, some others also use the system. This is software that is installed on PCs that are used for counting and scanning. Counting takes place either manually or with the assistance of the applications EVA Scan, EVA Job Management and EVA Verify.

The three systems that are used in addition to EVA Admin are:
- **EVA Job Management** is linked to the election administration system EVA Admin and is used to define what shall be counted and when and also maintains an overview during the process.
- **EVA Scan** is used when the ballot papers shall be read by the scanner and machine counted.
- **EVA Verify** is a tool dedicated to the effective correction and change of unclear or indecipherable ballot papers.

The counting is divided into three steps: Ballot box counting, preliminary counting and final

counting. The process is complete when a final count is approved. The purpose of these three programmes is to maintain an overview of where the user is in the counting process and that the ballot papers are automatically read and counted. If some ballot papers are not able to be read automatically, EVA Verify is used by the electoral committee to interpret (or possibly discard) the relevant ballot papers.

In connection with the election preparations, notes with barcodes are produced that are kept together with the boxes containing ballot papers. These contain information about the constituency the ballots belong to, which will enable the entire counting process to be carried out by machine. (At the 2017 parliamentary election, the verification count was done manually based on a threat assessment).

The documentation of this part of EVA is comprehensive and good. It covers both the specialist election aspects and use of EVA, something which makes it easy to use the system.
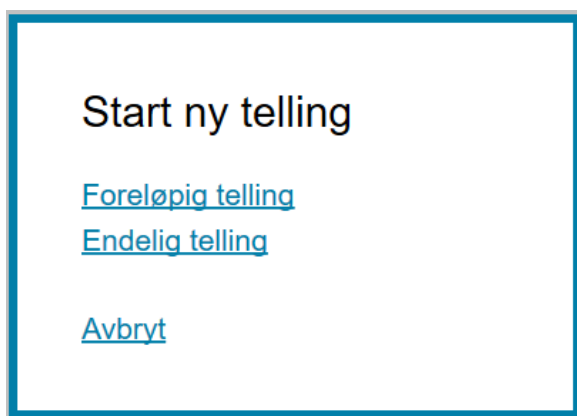
This screenshot shows how a count is started. As part of the counting process, a barcode is scanned that contains information about what is counted and thus enables this to be automatically registered in the system.

On the whole, the counting process is well implemented in EVA. Job Management provides a good overview of what stage one is at in the process and the scanning combined with reading of barcodes provides efficient workflow during the actual counting process.

+ Election materials can be generated by the system.
+ EVA Job Management provides an excellent overview of how far one has progressed in the process.
+ The count proceeds very quickly with the assistance of the scanner.
+ There is a good flow for the processing of ballot papers that are not automatically read by the scanner.

Minute books

In order to satisfy the formal requirements for conducting the election, this process must be documented in the form of a minute book. EVA supports the automatic printout of minute books at both county and municipal level. When concerning counties, in addition to the automatic printout, a Word document must also be filled out with the corrections and changes that are made. By using this function, EVA reduces manual documentation of the election process and the risk of errors and different practices among the different electoral committees.

Election result

The final part of the process is the election result. The election result in EVA Admin is built around the "Determine election result" screen. This provides the status per counting category and it is easy to scroll down to the constituencies that are not finished with the different categories. When everything has been completed, the "Determine election result" function can be selected. The system allows no possibility of error because all counting categories must be approved before the function becomes available. After the election result is determined, the menu options for "Overview of election result", "Overview of distribution of seats" and "Overview of returning of members" will pop up. This will allow a user to see the result of the election.

⌂ Min side

Foreta valgoppgjør
Valg: Kommunestyrevalg | **Valgdistrikt:** Horten | Oversikt valgoppgjør

Kategorier for stemmetelling	Sentralt/lokalt	Fordelt på krets?	Totalt	Teller	Godkjent	Klar	Status
Forhåndsstemmer ordinære	Lokalt	Nei	1	0	0	1	✓
Sent innkomne/lagt til side	Lokalt	Nei	1	0	0	1	✓
Fremmedstemmer	Lokalt	Nei	1	0	0	1	✓
Valgtingsstemmer ordinære	Lokalt	Nei	2	0	0	2	✓
Stemmer i særskilt omslag	Lokalt	Nei	1	0	0	1	✓

▶ Foreta valgoppgjør

- + Excellent overview of the status of counting in the different categories.
- + The system prevents the user from making errors (i.e. "Determine election result" prematurely).

- - Many columns in the different reports, but lack of support for interpretation places high demands on specialist election expertise.

Conclusion

The review of the system demonstrated that the system is generally good and there is little doubt that EVA makes conducting elections easier and removes many potential sources of errors. This applies both to formal requirements for the conduct of elections and the final result.

If one were to mention a change that would have a positive effect on the overall system, it would be to place more information on the EVA front page. This page is presently a static page, i.e. it only contains links to other pages with status information and the various functions. Updating this page with information from the rest of the system will enable users to quickly obtain answers about the tasks that have to be performed.

The "Determine election result" and "Enter basic data" screens are good examples of how well this can be done. If the different deadlines were also taken into consideration it would also be possible to provide an indication of whether certain tasks were urgent. In municipalities with many employees working with EVA, there will also probably be a positive effect from showing the most recent actions on the front page in the form of a news feed.

The documentation is generally good. Points can be deducted for the fact that the documentation is not completely standardised and that parts of the documentation are heavily centred around EVA Admin without describing the specialist election background. Examples of information that is managed differently are that some pages contain good information about what roles do what, while on other pages this is buried in the text.

The most effective measure recommended if one is to actually understand how the users use a system (and thereby understand exactly where they have problems) is a *usability study* whereby users are observed during actual use. This should be done in connection with the preparations for an election and a group with different user segments should be selected, for example, based on age and experience from previous elections.

Criterion	Explanation	Conclusion
Intuitive design	Navigation and understanding of the site should occur without effort.	**Good** The principal idea behind page navigation with a main page is easy to understand. Points are deducted for the Back option not being implemented in accordance with standard internet actions. Some subpages are not very intuitive to use (for example, Polling Station and Election Lists).
Ease of learning	The speed at which a user who has never seen the user interface can learn how to use this.	**Average** The evaluation will no doubt vary strongly depending on the specialist election expertise of the user. The factor that brings the evaluation down from "good" to "average" is that all of the help information is in a portal. It would be preferable for this to be integrated into EVA itself, either in the form of prompts, pop-ups or wizards with necessary information.
Efficiency	How efficient the system is when used by an experienced user.	**Good** There are some exceptions, such as electoral lists, but the system is generally considered to be efficient.
Retention	The ease at which it is to remember how to use the system the next time it is to be used.	-
Number of errors and severity	Frequency and consequence	-

Satisfaction		Falls under the survey.

Recommended areas of improvement

Below is a list of measures that we believe can make the use of EVA more efficient. In addition to these are a number of points in the report text:

1. Add status information and make the landing page a dashboard.
2. Add a news feed, i.e. the most recent actions carried out in EVA Admin, on the front page, preferably with the option for comments.
3. Make the documentation more integrated in EVA in the form of prompts, wizards and hints for what to do when hovering over a button or text box.
4. Ensure that the menu elements are logically placed.
   For example, the link to "Overview of electoral register discrepancies" is moved under "Electoral register".
5. Ensure that back/forward is implemented in accordance with web standards and functions equivalently in all supporting web browsers.
   Example: The accordion menus do not function in the same manner across browsers.
   During a search, the error message "Confirm form resubmission" appears when clicking Back (probably a problem with post vs get).
6. All changes that cannot easily be reversed should have an approval step (ok/cancel).
   For example, this does not appear when selecting "Approve basic data" and if one selects "Establish list proposal".
7. Ensure that there are concise error messages.
   Example: If a change is made to the text for an advance voting location, the change does not appear if the polling cards are sent for printing. No message is given that this is the reason.

Intro_kommune

This survey is part of the evaluation of services provided by the Norwegian Directorate of Elections to the municipalities and county councils in connection with the 2017 election. The survey was conducted by ideas2evidence on assignment from the Ministry of Local Government and Modernisation.
    You are now responding on behalf of (insert) municipality. Click "Next" to start the survey.

Intro_FK

This survey is part of the evaluation of services provided by the Norwegian Directorate of Elections to the municipalities and county councils in connection with the 2017 election. The survey was conducted by ideas2evidence on assignment from the Ministry of Local Government and Modernisation.
    You are now responding on behalf of (insert) County Council. Click "Next" to start the survey.

Q1

Were you a head of election administration at previous elections?

❑ Yes, at the 2015 municipal election.
❑ Yes, at the 2013 parliamentary election.
❑ Yes, including at one or more elections prior to 2013.
○ No, 2017 was the first time.

Q3

Did you yourself participate at the training seminars for this year's election?

You may select multiple alternatives.

❑ Module 1 (at Alna)
❑ Module 1 (Webinar)
❑ Module 2 (at Alna)
○ No, I did not participate.

Q4

When concerning the election administrative system EVA Admin, do you consider yourself to be an:

○ Experienced EVA user (have used the system for multiple elections).
○ A user with some experience (used the system for the 2015 election and this year's election).
○ User with little or no experience (no experience beyond this year's election).

Q5

Did your (insert) use mechanical counting (scanning) for the election this year?

○ Yes, scanned ourselves.
○ Yes, scanned at another municipality or county council.
○ No

Q6

Of how much benefit were the following tools or services for your (insert) in connection with the 2017 election?

	1 Absolutely no benefit	2	3	4	5	6 Very beneficial	Did not use this service.
Election Worker Portal	☐	☐	☐	☐	☐	☐	☐
User guide for EVA	☐	☐	☐	☐	☐	☐	☐
Training Seminar - Module 1	☐	☐	☐	☐	☐	☐	☐
Training Seminar - Module 2	☐	☐	☐	☐	☐	☐	☐
Mock election in June	☐	☐	☐	☐	☐	☐	☐
Mock election in August	☐	☐	☐	☐	☐	☐	☐
Video footage from training seminar Module 1	☐	☐	☐	☐	☐	☐	☐
User support by telephone	☐	☐	☐	☐	☐	☐	☐
User support by email	☐	☐	☐	☐	☐	☐	☐

Q7

To what extent do you agree or disagree with the following claims regarding EVA Admin?

	1 Fully disagree	2	3	4	5	6 Fully agree
EVA Admin has the functionality that we require in order to conduct elections.	☐	☐	☐	☐	☐	☐
EVA Admin makes the work on conducting elections more efficient and easier.	☐	☐	☐	☐	☐	☐
I have confidence that EVA Admin will perform the tasks assigned to the system in a precise, assured and secure manner.	☐	☐	☐	☐	☐	☐
EVA Admin is intuitive and also easy for new beginners to use.	☐	☐	☐	☐	☐	☐
EVA Admin provides me with concise explanations and responses.	☐	☐	☐	☐	☐	☐
EVA Admin provides me with a good overview of the tasks I have performed and those that remain to be performed.	☐	☐	☐	☐	☐	☐
I find that I have the ability to influence the further development of EVA Admin.	☐	☐	☐	☐	☐	☐
EVA Admin has reached a "maturity level" at which I do not see a major need for further development and improvements.	☐	☐	☐	☐	☐	☐
EVA Admin functioned without noteworthy problems in connection with conducting the 2017 election.	☐	☐	☐	☐	☐	☐
All in all (insert) was satisfied with EVA Admin.	☐	☐	☐	☐	☐	☐

Q7_Comments

If you have further comments concerning EVA Admin you may write these here:

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Q10

Please respond to the following claims regarding the user guide for EVA Admin.

	1 Fully disagree	2	3	4	5	6 Fully agree
The user guide is clear and easy to navigate.	⬜	⬜	⬜	⬜	⬜	⬜
The user guide is written in language that is clear and easy to understand.	⬜	⬜	⬜	⬜	⬜	⬜
The user guide provides me with all the information I need regarding the use of EVA Admin.	⬜	⬜	⬜	⬜	⬜	⬜
The user guide has an acceptable amount of information.	⬜	⬜	⬜	⬜	⬜	⬜
I believe it is possible to reduce the need for training and customer support by improving the user guide for EVA Admin.	⬜	⬜	⬜	⬜	⬜	⬜

Q10_Comments

If you have further comments concerning the user guide for EVA Admin you may write these here:

Q8

To what extent do you agree or disagree with the following claims regarding EVA Scanning?

	1 Fully disagree	2	3	4	5	6 Fully agree
EVA Scanning has the functionality that we require for counting votes.	⬜	⬜	⬜	⬜	⬜	⬜
EVA Scanning makes the work on conducting elections more efficient and easier.	⬜	⬜	⬜	⬜	⬜	⬜
I have confidence that EVA Scanning will perform the tasks it is assigned in a precise, assured and secure manner.	⬜	⬜	⬜	⬜	⬜	⬜
EVA Scanning is intuitive and also easy for new beginners to use.	⬜	⬜	⬜	⬜	⬜	⬜
EVA Scanning provides me with concise explanations and responses.	⬜	⬜	⬜	⬜	⬜	⬜
EVA Scanning, EVA Job Management and EVA Admin work easily and effectively together.	⬜	⬜	⬜	⬜	⬜	⬜
It is easy to get EVA Scanning to work together with the scanning equipment we use.	⬜	⬜	⬜	⬜	⬜	⬜
The use of EVA Scanning does not require training in addition to the training we receive at the seminars held by the Norwegian Directorate of Elections.	⬜	⬜	⬜	⬜	⬜	⬜
EVA Scanning functioned without noteworthy problems in connection with conducting the 2017 election.	⬜	⬜	⬜	⬜	⬜	⬜
On the whole, (insert) was satisfied with EVA Scanning.	⬜	⬜	⬜	⬜	⬜	⬜

Q8_Comments

If you have further comments concerning EVA Scanning you may write these here:

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Q11

Please respond to the following claims regarding the user guide for EVA Scanning.

	1 Fully disagree	2	3	4	5	6 Fully agree
The user guide is clear and easy to navigate.	⍰	⍰	⍰	⍰	⍰	⍰
The user guide is written in language that is clear and easy to understand.	⍰	⍰	⍰	⍰	⍰	⍰
The user guide provides me with all the information I need when concerning the use of EVA Scanning.	⍰	⍰	⍰	⍰	⍰	⍰
The user guide has an acceptable amount of information.	⍰	⍰	⍰	⍰	⍰	⍰
I think it is possible to reduce the need for training and customer support by improving the user guide for EVA Scanning.	⍰	⍰	⍰	⍰	⍰	⍰

Q11_Comments

If you have further comments concerning the user guide for EVA Scanning you may write these here:

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Q9

Prior to the election there was a great deal of talk in the media about EVA Scanning potentially being vulnerable to hacking. With your knowledge of the system and the routines associated with use of the system, are you of the opinion that EVA Scanning is secure from hacking?

○ Yes
○ Uncertain
○ No
○ Don't know

Q9_Comments

Please elaborate on your response when concerning EVA Scanning and security below:

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Q12

Please respond to the following claims regarding the Election Worker Portal:

	1 Fully disagree	2	3	4	5	6 Fully agree
The Election Worker Portal is clear and easy to navigate.	⬚	⬚	⬚	⬚	⬚	⬚
The Election Worker Portal has an acceptable amount of information.	⬚	⬚	⬚	⬚	⬚	⬚
We can always trust that the Election Worker Portal is updated and provides accurate information.	⬚	⬚	⬚	⬚	⬚	⬚
The "Important information" column ensures that we are always updated about important aspects relating to the election process.	⬚	⬚	⬚	⬚	⬚	⬚
I think it is possible to reduce the need for training and user support by further developing the content and functionality of the Election Worker Portal.	⬚	⬚	⬚	⬚	⬚	⬚

Q12_Comments

If you have further comments concerning the Election Worker Portal you may write these here:

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Q13

Please respond to the following claims regarding Module 1 of the training seminar:

If you yourself were not in attendance during the Module 1 training seminar, it would be good if you could consult with your colleagues who did attend the seminar. If this is not possible, you do not need to reply to the questions on this page (press "Next" to continue).

	1 Fully disagree	2	3	4	5	6 Fully agree
The speakers in the plenary sessions were knowledgeable and competent.	⬚	⬚	⬚	⬚	⬚	⬚
The speakers in the plenary sessions had good teaching skills	⬚	⬚	⬚	⬚	⬚	⬚
The speakers in the plenary sessions provided good answers to questions from the participants.	⬚	⬚	⬚	⬚	⬚	⬚
The group room teachers were knowledgeable and good communicators.	⬚	⬚	⬚	⬚	⬚	⬚
The group room assistants provided good assistance with the practical exercises.	⬚	⬚	⬚	⬚	⬚	⬚
The practical exercises in the group rooms functioned well.	⬚	⬚	⬚	⬚	⬚	⬚
There was a good balance between specialist election and system technical training at this seminar.	⬚	⬚	⬚	⬚	⬚	⬚
There was a good balance between plenary sessions and group work at this seminar.	⬚	⬚	⬚	⬚	⬚	⬚
On the whole, I found the specialist content at this seminar to be relevant.	⬚	⬚	⬚	⬚	⬚	⬚
I found that participating via webinar was a good alternative to being present in person at the seminar.	⬚	⬚	⬚	⬚	⬚	⬚

Q14

Please respond to the following claims regarding Module 2 of the training seminar:

If you yourself were not in attendance during the Module 2 training seminar, it would be good if you could consult with your colleagues who did attend the seminar. If this is not possible, you do not need to reply to the questions on this page (press "Next" to continue).

	1 Fully disagree	2	3	4	5	6 Fully agree
The speakers in the plenary sessions were knowledgeable and competent.	☐	☐	☐	☐	☐	☐
The speakers in the plenary sessions had good teaching skills.	☐	☐	☐	☐	☐	☐
The speakers in the plenary sessions provided good answers to questions from the participants.	☐	☐	☐	☐	☐	☐
The group room teachers were knowledgeable and good communicators.	☐	☐	☐	☐	☐	☐
The group room assistants provided good assistance with the practical exercises.	☐	☐	☐	☐	☐	☐
The practical exercises in the group rooms functioned well.	☐	☐	☐	☐	☐	☐
There was a good balance between specialist election and system technical training at this seminar.	☐	☐	☐	☐	☐	☐
There was a good balance between plenary lectures and group work at this seminar.	☐	☐	☐	☐	☐	☐
On the whole, I found the specialist content at this seminar to be relevant.	☐	☐	☐	☐	☐	☐

Q15

Could you also please respond to the following claims regarding the entire training programme, i.e. both modules.

If you yourself did not attend any of the seminars, it would be good if you could consult with your colleagues who were in attendance. If this is not possible, you do not need to reply to the questions on this page (press "Next" to continue).

	1 Fully disagree	2	3	4	5	6 Fully agree
The time spent at the seminars is well-utilised.	☐	☐	☐	☐	☐	☐
The seminars provide a good basis for further internal training at (insert).	☐	☐	☐	☐	☐	☐
The training enabled (insert) to conduct the election in a satisfactory manner and in accordance with the regulations.	☐	☐	☐	☐	☐	☐
The training enabled us to use EVA on our own.	☐	☐	☐	☐	☐	☐
The training reduced the need for user support during the election process.	☐	☐	☐	☐	☐	☐
The benefit of the two training seminars justifies (insert) use of resources.	☐	☐	☐	☐	☐	☐
On the whole we were well-satisfied with the training programme in connection with the elections in 2017.	☐	☐	☐	☐	☐	☐
The opportunity to speak to and establish contacts with the election workers in other municipalities and county councils is equally important as the actual programme.	☐	☐	☐	☐	☐	☐
The opportunity to talk to and establish contacts with the employees at the Norwegian Directorate of Elections is equally important to the actual training.	☐	☐	☐	☐	☐	☐
It would have been better with a more differentiated training offer that had separate programmes for experienced and less experienced	☐	☐	☐	☐	☐	☐

users.						
It would have been better with less time at training seminars and more emphasis on digital solutions, for example, webinars, e-learning modules.	❓		❓	❓	❓	❓	❓

Q15_Comments

If you have further comments concerning the training you may write these here:

[text box]

QCosts

What were your (insert) approximate costs for travel and accommodation in connection with the training sessions in 2017?

Provide a whole number, in Norwegian kroner, without spaces, full-stops and decimals. If you do not know the exact amount, provide an estimate.

[input box]

Q16

Did your (insert) participate at the mock election in June?

◯ Yes
◯ No

Q17

Please respond to the following claims regarding the mock election in June:

	1 Fully disagree	2	3	4	5	6 Fully agree
The information about and organisation of the mock election in June worked well.	❓	❓	❓	❓	❓	❓
The technical set-up at the mock election in June worked well.	❓	❓	❓	❓	❓	❓
We had excellent learning outcomes from participating in the mock election in June.	❓	❓	❓	❓	❓	❓

Q18

Did your (insert) participate at the mock election in August?

◯ Yes
◯ No

Q19

Please respond to the following claims regarding the mock election in August:

	1 Fully disagree	2	3	4	5	1 Fully agree

	1 Fully disagree	2	3	4	5	6 Fully agree
The information about and organisation of the mock election in August worked well.	☐	☐	☐	☐	☐	☐
The technical set-up at the mock election in August worked well.	☐	☐	☐	☐	☐	☐
We had excellent learning outcomes from participating in the mock election in August.	☐	☐	☐	☐	☐	☐

Q19_Comments

If you have further comments concerning the mock elections you may write these here:

Q20

Did (insert) use the Norwegian Directorate of Elections' user support service at some point in connection with the 2017 election?

○ Yes
○ No
○ Don't know

Q21

How did you communicate with user support?

You may select multiple alternatives.

❑ E-mail
❑ Telephone

Q23

Please respond to the following claims regarding the Norwegian Directorate of Elections' user support service by email:

	1 Fully disagree	2	3	4	5	6 Fully agree
We always received a response within a reasonable period of time.	☐	☐	☐	☐	☐	☐
The answer we received always gave a solution to the question.	☐	☐	☐	☐	☐	☐

Q24

Please respond to the following claims regarding the Norwegian Directorate of Elections' user support service by telephone:

	1 Fully disagree	2	3	4	5	6 Fully agree
The first person who answered always understood the question and could answer it him/herself or was able to forward me on to another relevant person who was able to answer it.	☐	☐	☐	☐	☐	☐
We always received a response within a reasonable period of time.	☐	☐	☐	☐	☐	☐

	1 Fully disagree	2	3	4	5	6 Fully agree
The answer we received always gave a solution to the question.	⍰	⍰	⍰	⍰	⍰	⍰
The opening hours for telephone user support covered our needs.	⍰	⍰	⍰	⍰	⍰	⍰

Q25

Please respond to the following claims regarding the Norwegian Directorate of Elections' user support service in general:

	1 Fully disagree	2	3	4	5	6 Fully agree
Our impression is that the user support was always staffed by service-minded employees who always did what they could to assist.	⍰	⍰	⍰	⍰	⍰	⍰
Our impression is that the user support service was staffed with knowledgeable employees who could always provide precise answers to technical questions.	⍰	⍰	⍰	⍰	⍰	⍰
Our impression is that the user support service was staffed with knowledgeable employees who could always provide precise answers to specialist election questions.	⍰	⍰	⍰	⍰	⍰	⍰
On the whole we were well-satisfied with the user support in connection with the election in 2017.	⍰	⍰	⍰	⍰	⍰	⍰

Q25_kommentar

If you have further comments concerning the user support you may write these here:

Q22

Have you contacted employees at the Norwegian Directorate of Elections outside of user support?

○ Yes
○ No
○ Don't know

Q32

Please respond to the following claims regarding the information you received about voters with physical or mental disabilities. This refers to information provided through channels such as the Election Worker Portal, the training and user support.

	1 Fully disagree	2	3	4	5	6 Fully agree
Sufficient and accurate information regarding the rights of voters with physical or mental disabilities was provided.	⍰	⍰	⍰	⍰	⍰	⍰
Sufficient and accurate information was provided regarding what the municipality is obligated to do in order to assist voters with physical or mental disabilities.	⍰	⍰	⍰	⍰	⍰	⍰

Q32_Comments

If you have further comments concerning the information about voters with physical or mental disabilities, you may write these here:

Q26

On the whole, were you more or less satisfied with the different services that were offered in connection with the 2017 election compared with what was offered in 2015?

	Much less satisfied	Somewhat less satisfied	No noticeable change	Somewhat more satisfied	Much more satisfied	Don't know
EVA Admin	⬜	⬜	⬜	⬜	⬜	⬜
EVA Scanning	⬜	⬜	⬜	⬜	⬜	⬜
User guides for EVA	⬜	⬜	⬜	⬜	⬜	⬜
Election Worker Portal	⬜	⬜	⬜	⬜	⬜	⬜
Training seminars	⬜	⬜	⬜	⬜	⬜	⬜
User support	⬜	⬜	⬜	⬜	⬜	⬜

Q27

Prior to the 2017 election there was a debate in the media regarding security in connection with scanning and machine counting of ballot papers. How satisfied were you with the information work of the Norwegian Directorate of Elections in relation to the municipalities and county municipalities during this situation?

○ Very satisfied
○ Satisfied
○ Neither satisfied nor dissatisfied
○ Dissatisfied
○ Very dissatisfied
○ No opinion/No knowledge of the matter.

Q27_Comments

If you have further comments concerning security you may write these here:

Q28

On the whole, how satisfied were you with the services provided by the Norwegian Directorate of Elections in connection with the 2017 election?

○ Very satisfied
○ Satisfied

○ Neither satisfied nor dissatisfied
○ Dissatisfied
○ Very dissatisfied

Q29_Comments

What were you most satisfied with when concerning the services offered by the Norwegian Directorate of Elections in connection with the 2017 election?

Q30_Comments

What were you least satisfied with when concerning the services offered by the Norwegian Directorate of Elections in connection with the 2017 election?

Q31_Comments

If you could identify any areas of improvement in the services offered by the Norwegian Directorate of Elections up until the 2019 election what would these be?

LITERATURE

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