



Framework for customer information knowledge management



#MakeWithEspoo collects the results of the experiments conducted in Espoo in order to create tools of development, management and consulting according to the City as a Service objective. It is an umbrella of the co-creation of frameworks, handbooks and tools created in 6Aika projects that reforms activities in a socially, culturally, ecologically and economically sustainable way.

6Aika is a joint strategy of the six biggest cities in Finland - Helsinki, Espoo, Tampere, Vantaa, Oulu and Turku - aiming at the development of more open and intelligent services. The aim is to create new competence, business and jobs in Finland. At the end of 2017, there were over 30 ongoing 6Aika projects and their total budget was over 57 million euros.



Foreword

In the next decades, the world will change more than it has changed in the last centuries. Inspiring innovations change established operations, creating new opportunities for building a sustainable and human-oriented future.

The public sector must actively seek and find its evolving role when resolving the possibilities of change for individuals, communities, companies, society and the environment. In the place of traditional, siloed and administration-based activity, we need new, open and effective ways to understand customer relationships, information and activity. Open activity strengthens participation, responsibility and trust. It clears the way for customer relationship-based services, new business operations and the new role of public operations.

In Espoo, we create new success stories by introducing different actors, operations and networks to each other. With the MakeWithEspoo methods and tools, we ensure that we do the right things with the right people at the right time, using the right competences.

The purpose of this framework is to help and support the managers and developers of services and activities to find new dynamic ways of grouping the municipal customer relationships. This can help the municipality to improve well-being, vitality and financial balance in the municipality and its own operating environment.

The framework opens a new window on managing and developing municipal activity with the help of customer relationships, and on utilising Kunnan johtamisen viitearkkitehtuuri (Reference architecture for municipal management, 2016) in management and development. The framework can be used for making a knowledge-based review of the alternatives for arranging and producing services in a fresh way that takes into account the municipal customer relationships and the special challenges of the municipal business model.

The development work has been done by the Service Development Unit of the Mayor's Office of the City of Espoo as part of the 6Aika Open Participation and Customership spearhead project, primarily in cooperation with Nordic 4Sight Communities and partly also with experts from KPMG. My warmest thanks to development manager Arja Kaikkonen and consultant Jonna Heliskoski, who were responsible for the development work.

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ISBN 978-951-857-802-7 (print)
ISBN 978-951-857-803-4 (PDF)

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6Aika



Vipuvoimaa
EU:lta
2014–2020



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Starting points

Over the past decade, significant changes have been aimed at and partly implemented in municipalities. At a quickening pace, megatrends are challenging the municipalities to encounter the global world in their own local activity. Technological innovations would enable activities to be changed much more than people and organisations are prepared for. However, it remains to be solved how municipal activities can be managed and steered as a whole in a more agile way, outside the setting of targets and budgeting. In many-sided operating environments, the earlier models of management and service provision are no longer sufficient. The solution may be found in a new view of municipal customer relationships.

In the management and development of municipal activities, the big challenge has been the inability to make use of the information accumulated on customer relationships - systematically on the different levels of management and in municipalities as a whole. Customer information and customer relationships are siloed in organisational structures and information systems. In addition, political management and the democratic system of decision-making themselves create discontinuity in the aims and activity of a municipality, as political power changes hands and decision-makers are replaced by new ones. The complex relationship between the state and the municipalities makes management difficult, as the legislation governing municipal activities is layered historically. The Finnish Local Government Act (Valtioneuvosto 2015a) is a framework act which primarily creates the preconditions for the realisation of citizen self-government and of opportunities to participate in and influence municipal activities. It promotes the structured nature and financial sustainability of municipal activities. Getting a grasp of the thick jungle of legislation and the network of official bodies and making municipal activities compatible with these is a challenge in itself.

Customer information knowledge management can act as a driver of change in municipal management and the development of municipal activities. However, this requires a completely new approach and new tools for developing and planning municipal activity. The current models of development and activity are strongly based on bureaucratic administrative models that are tied to a silo-based organisational structure.

The framework for customer information knowledge management opens up new ways of thinking about the setting of municipal targets and about managing and developing municipal activity in a customer-oriented and knowledge-based way on the levels of service production, the arrangement of services, customer management and the steering and optimisation of customer relationships. The framework can be used to find new viewpoints on how municipalities can develop their management and activity systematically by making use of customer and activity data on the different levels of activity. The framework can be used to find new models and solutions for knowledge management of the core processes identified in Kunnan johtamisen viitearkkitehtuuri (Reference architecture for municipal management): customer management and the arrangement and production of services.

More on Kunnan johtamisen viitearkkitehtuuri at:

<https://www.avoindata.fi/data/fi/dataset/kunnan-johtamisen-viitearkkitehtuuri>

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Customer-dominant logic

In businesses, customer relationships have traditionally been examined through market research. The starting point for the development of the framework at hand was to examine municipal customer relationships with the help of the newest approach in market research: customer-dominant business logic. The customer-dominant model differs from so-called traditional customer-centric thinking. Unlike customer-centric activity, customer-dominant activity does not mean the collection and utilisation of customer information on the basis of readily designed customer management models and service processes.

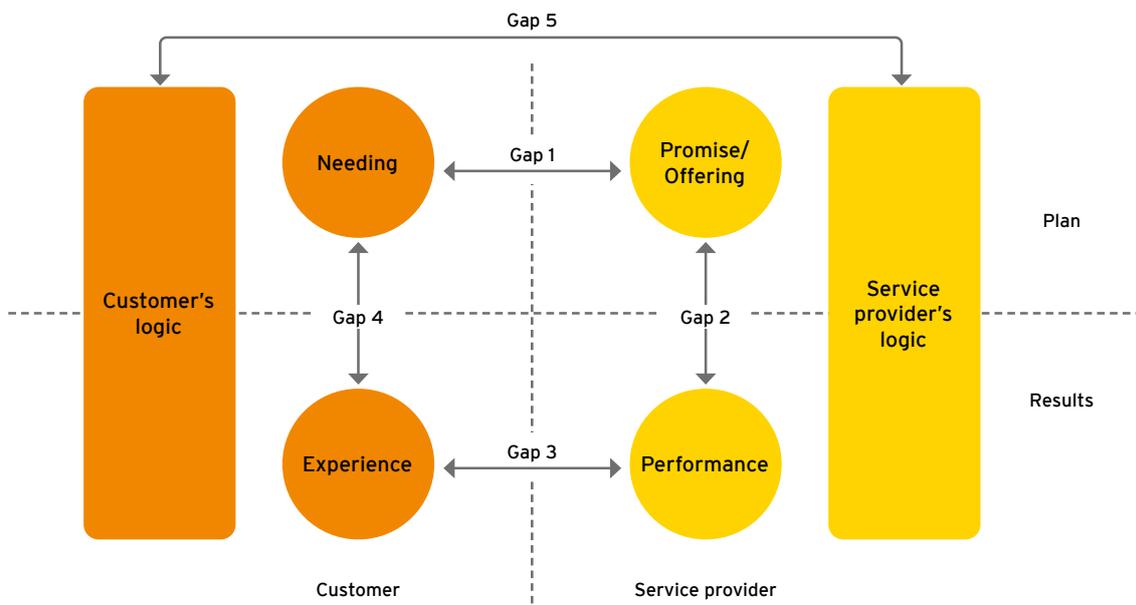
Instead, it means situation-specific identification and understanding of the unique need of the customer and giving an agile response to it. The customer-dominant model has a comprehensive effect on all activity: customer encounters and the definition, steering and management of the organisation's competences.

The starting point for the customer-dominant logic is the customer's unique life and identifying, understanding and affecting the need that arises from it (the so-called "customer needing"). This concept is wider than the traditional expectation concerning a service. It includes the unique needs arising from the customer's life situation as a whole, which means the customer's own logic and understanding it. Customers do not expect the service provider to fulfil their own needs, but they expect the service to be related and connected to these needs and to meet them in that sense.

The customer need is the customer's unique expectation that shows what the customer experiences as valuable and how this is connected to the logic of the customer's own life. The customer need is individual and situation-specific. It is crucially important for the service provider to identify and understand the customer need and to relate to it in a suitable way that brings added value to the

customer. Customers' needs have to be understood for them to experience that they have been heard and taken into account - although all of their expectations are not met.

There can be different kinds of gaps between the customer need and experience and the service provider's offering and performance. It is possible for the customer need or experience and the service provider's promise, offering or performance to deviate from each other. The following image shows the gaps related to fitting together the differing logics of the customer and the service provider (Heinonen & Strandvik, 2015).



Costs of customer-based activity

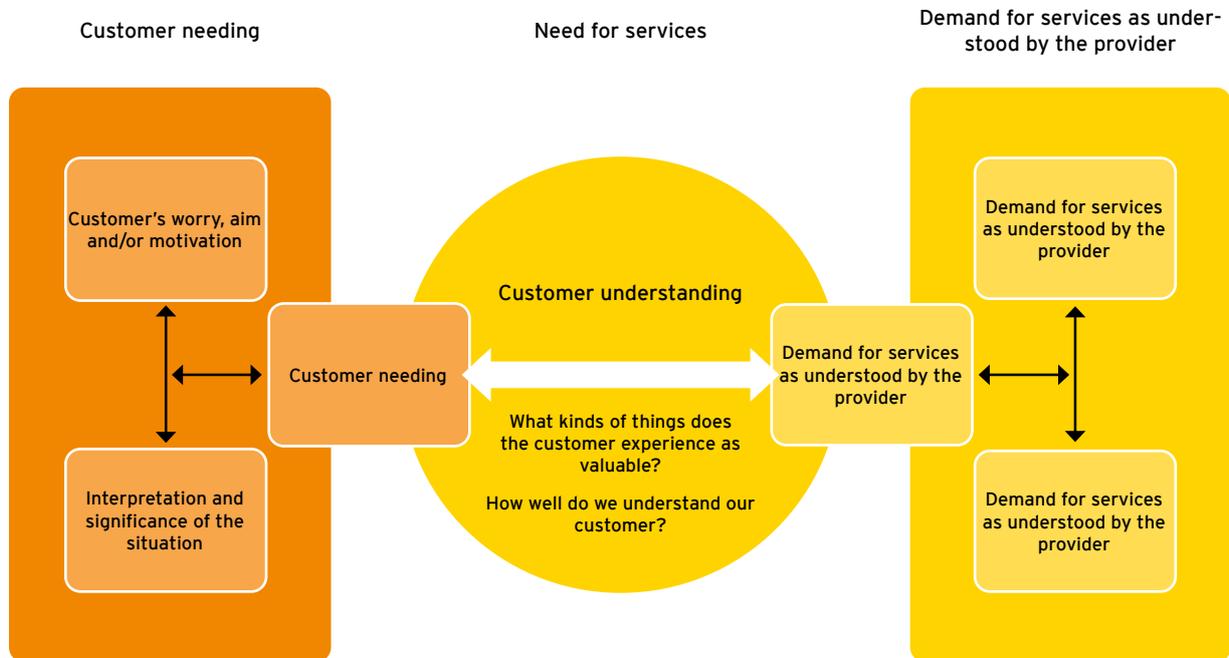
The dynamics between the service provider and the customers is the steering, management, optimisation, administration and development of services and customer relationships. The customer-dominant model is based on continuous assessment and management of the relationship between the customer and service provider. The unique life situation and values of the customer have to be taken into account, together with the situation and competences of the service provider in different operating environments.

The model brings a new understanding to traditional models of customer management and administration. It is a question of the systematic building of customer understanding, which occurs between the customer and service provider in every encounter and every operating environment. The relations between customers and service providers are constantly learning, developing and renewing themselves. The important thing is to take into account the customer's need and the changes to it as well as to optimise the activity accordingly.

This approach differs from the traditional models. In a business logic based on the service offering, the starting point is the planning and optimisation of service production. This model highlights the offering, the quality of service processes and the market share. The customer is only related to the service provider's activity as a user or object of the service, not an active actor.

In a business logic based on relationship marketing, the starting point is the identification of the mutual benefit to customers and service providers and the processes related to it. Here, the customer is the recipient of the benefit from some particular service, which brings added value to the customer need.

The customer-dominant business logic means identifying and understanding the customer's unique life situation and acting as a service provider with this as the starting point. This means fitting together the customer experience, services taking shape and service systems. The following image shows examples of the elements of the formation of customer understanding from the viewpoint of the relationship between customer and service provider.



Elements of the formation of a shared understanding of customers

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The double dichotomy of customer information knowledge management

The income stream of a municipality is not customer-based but rather tax-based. For this reason, an increase in the number of customers means a decrease and not an increase in the amount of income. The municipal business model differs from the model of a private business. In a municipality, the real process is detached from the financial process: an increased demand for municipal services due to improved services or newly developed ones does not improve municipal finances. For this reason, the costs from municipal activity can primarily be controlled by controlling the municipality's real process, i.e. by steering and optimising the encounter between customers and services in a cost-efficient way.

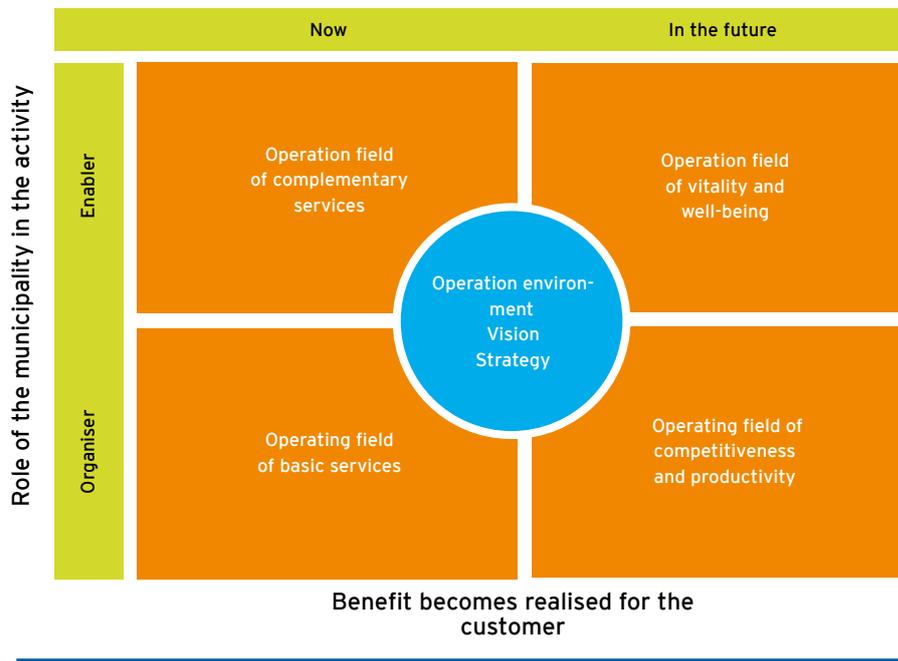
Within the limits set by its self-governance and its legal obligations, a municipality can decide which customer groups it will serve and how. By optimising customers and services, the municipality can steer the costs from its activity and make the activity increase well-being and vitality in an efficient and proactive way. This will keep municipal finances in balance and under control. The most essential thing is to realise that costs can only be affected by optimising and steering the real process.

Making an activity more customer-based is done by optimising customers and services. For this purpose, a new framework for customer information knowledge management is needed. This will enable the customer needs of all the municipal customers to be reviewed as a whole from the present to the future. The framework can be used to identify different kinds of customer relationships and customer groups (segments), which the activity of the municipality will affect in its own operating environment, according to its own vision and strategy. The framework fits together the different and differently timed expectations of different municipal actors and the possibilities for the municipality to respond to these in a cost-effective way.

The framework consists of two dimensions and four fields of activity, through which the customer relationships of the municipality (the encounters of customer and service) should be viewed. The first dimension describes the role of the municipality in relation to customers. For the customers, the municipality is either the arranger of a tax-funded service or the enabler of some activity. With its own activity or decision-making, the municipality enables other parties - e.g. businesses, communities or research, development and innovation actors - to function without public funding. Here, the municipality acts as an enabler of the birth of new business or new innovations, for instance through opening up customer data or by participating in innovation activity in ecosystems. The second dimension describes when the benefit from the arrangement or facilitation of services is realised to customers: immediately or at some point in the future? The second dimension also describes the indirect effects that some of the services have on the well-being and vitality of customers besides any direct effect.

The two dimensions of the framework form the four fields of activity:¹ the fields of basic services, supplementary services, competitiveness/productivity and well-being/vitality. In the first two fields (basic services and supplementary services), the benefits are realised to customers immediately. In the other two fields (competitiveness/productivity and well-being/vitality), the benefits are only realised to customers in the future.

These fields can be understood with the market concept. They differ from each other from the viewpoints of the nature of the actor network, predictability, manageability and the time frame being examined. To succeed in implementing its strategy in a financially sustainable way, the municipality must adapt its ways of acting to serve each field, its actors and its market.



¹ The starting point for identifying the operating environment was the Cynefin model, which separates the fields of activity in the operating environment on the basis of their predictability and complexity. According to the model, simple situations can be handled with standardised, routine processes, but more complex situations require adaptable solutions. In terms of arranging the municipal service offering, the municipal customer relationships must be encountered and services arranged in all four of the fields of activity in the Cynefin model. One model for the management, administration and development of customer relationships and services is not enough. What is needed are different mutually compatible models and tools suited for them. This will enable the changes in customer relationships and the operating environment to be taken into account in an optimal way, both now and in the future. The Cynefin model separates the fields of activity in the operating environment on the basis of their predictability and complexity.

Key questions of the identification of fields from the viewpoint of customer relationships are the following: What kinds of actors are central in different fields of activity in the municipal operating environment? What kind of municipal activity is central in the different fields of activity?

The field of basic services includes arranging the tax-funded municipal services using the current competences. The services can be legally mandated ones or services for which the municipality has otherwise assumed responsibility. The field resembles a mature market for retail products that consists of established actors and whose future development is easy to predict. There are no rapid or radical changes in the market, and if the market grows, it does so only moderately.

The field of competitiveness and productivity includes tax-funded services that the municipality will arrange in the future in order to improve the competitiveness and productivity of the municipality. New competences are needed to arrange and produce the services, but some existing competences also have to be given up in the name of cost-effectiveness. The field resembles a start-up market of challengers that emerge alongside a mature market. For instance, many small actors are born in the field of finance, using digitalisation or robotics to challenge established methods of service provision and promises of value to the customer. In this way, the actors modify the principles of the mature market, but do not radically change it into something completely different. The market is significantly smaller than the established, mature market, but it improves the activity of the latter as well.

The field of supplementary services includes the services currently arranged and produced by other actors without public funding. The field resembles the new business models and markets born out of legislative changes or technological development. The market is rapidly growing and its development is hard to predict. The growth is nevertheless beneficial to all actors, and nobody wants or needs to limit the development.

The field of well-being and vitality includes the services that will be arranged and produced by other actors without public funding in the future. This field resembles the innovative but fragmented market that is being formed right now around robotics. There are few actors, and the development of the market is difficult or impossible to predict. Failures are central to the nature of the market. However, successes may create significant new markets and change the activity of the market even in radical ways.

With customer-based identification of the fields of activity, information is received on the present and future state of the municipality in its two roles: arranger of services and enabler of activities.

Key questions of the identification of fields of operation from the viewpoint of customer relationships are the following:

What kinds of actors are central in different fields of activity in the municipal operating environment?

What kind of municipal activity is central in the different fields of activity?

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Identifying customer relationship segments in the fields of activity

Customer-based activity requires customers to be placed in groups (segmented). The focus groups defined through segmentation have to be relevant to the decisions made on customer relationships (customers and services). Segmentation aims to improve the understanding of municipal actors with respect to customer needs and fitting them to the logic of service providers. Segmentation is also intended to ensure that the service offering is focused in a proactive, timely and efficient way.

The customers of the municipality comprise all the active actors to whose activity the municipality produces value and which it affects either directly or indirectly by arranging services, enabling services to be received or guiding the customers' own activity. The customers are those actors whose activity the municipality must understand when fitting together the needs of different customer segments in order to implement the municipal vision and strategy in a cost-efficient way in the municipality's own operating environment. The customer may be an existing or potential new customer having a unique logic of activity.

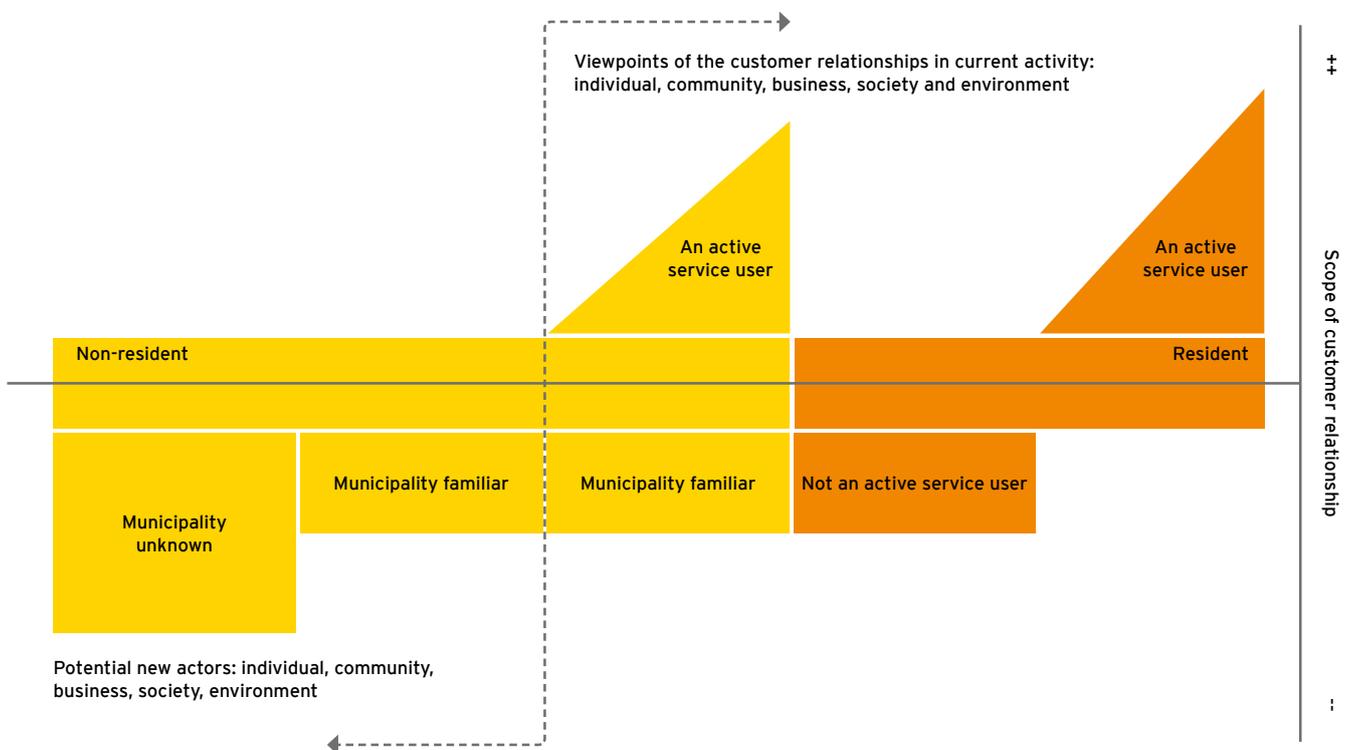
When carrying out its basic tasks, a municipality must understand and take into account the individual needs and needs of its residents and the needs and needs of different communities (e.g. families, non-profit organisations). At the same time, it must take into account the needs affecting the activity of businesses that have an effect on municipal activities, the needs required by society, and also - through environmental effects - the needs of the environment. Thus, the first basic segmentation of municipal customers (customer segmentation A in the image below) includes individuals, communities, businesses, society and the environment as customers. The management and development of municipal activity must understand and fit together all the present and future needs of these five different groups, which all have different customer needs, effects and expectations of value.

The second basic segmentation of municipal customers (customer segmentation B in the image below) is based on the relationships the customers have to the municipality in terms of their rights and responsibilities. The relationship may be based on the place of residence, on the use of services or on how familiar the customer or potential customer is with the municipality.

First, the relationship between the customer and municipality may be based on the place of residence, i.e. on whether the customer is resident in the municipality. Customers who are legal residents have both rights and responsibilities with respect to the municipality. On the other hand, a non-resident customer may have rights, but no responsibilities. The municipalities are assessed through experiences that are changing and personal. Non-resident customers assess municipalities on the basis of their general vitality. As personal ties and experiences increase, the criteria become more personal and are increasingly based on emotions.

Second, the relationship between the customer and municipality may be based on using services. Actors are grouped into service users and non-users. The segmentation must take into account the fact that the payment of taxes and use of services have no direct relationship to each other. Some of the municipal services - e.g. infrastructure and city planning - are used by everyone, although they are not necessarily perceived as a return on the taxes paid. Municipal services can be used by individuals who are not resident in the municipality and do not, therefore, pay taxes to cover their costs.

The following image demonstrates this second basic segmentation of municipal customers. The main classification is resident/non-resident. The customer relationships of residents are divided in passive service users and active service users. For example, the latter group includes the residents who use day care, preschool and school services. The customer relationships of non-residents are divided into those who are not already familiar with the municipality; those who are familiar in some way or other: and those who use at least one municipal service.



Municipal customer segmentation B

The municipal customer segmentation can be continued by cross-tabulating the two-level basic segmentation described above. A total of 25 customer segments different at the municipal level open up for review. Understanding their customer needs and fitting the service offering to these will produce different kinds of obligations for the municipality as well as opportunities for the management and optimisation of customer relationships.

Actor levels	Customer groups				
	Non-resident			Resident	
	Municipality unknown	Municipality familiar	Active service user	Non-active service user	Active service user
Individual	Individual or family not knowing the city	Individual or family that knows the city	Individual or family using at least one municipal service	Individual or family member paying municipal tax but not using any service	Individual or family member using at least one municipal service and paying municipal tax
Business	A business to which the city is unfamiliar	A business that knows the city but is not active there	A business that is not active in the city, but uses at least one municipal service	A business that is active in the city, but does not use any municipal service	A business that is active in the city and uses at least one municipal service
Community	A community to which the city is unfamiliar	A community that knows the city but is not active there	A community that is not active in the city, but uses at least one municipal service	A community that is active in the city, but does not use any municipal service	A community that is active in the city and uses at least one municipal service
Society	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities
Environment	Uses, enjoys and utilises nature	Uses, enjoys and utilises nature	Uses, enjoys and utilises nature	Uses, enjoys and utilises nature	Uses, enjoys and utilises nature

Basic two-level grouping of the municipal customer segmentation

The effectiveness of municipal services is based on understanding customer needs. Here, the operating environment must also be identified, and delimitations have to be made accordingly. The operating environment is complex, and the effects of an activity may be realised in either the short or long term. This is a challenge for the management, optimisation and administration of municipal customer relationships. Customer segmentation using the criteria mentioned above is not yet accurate enough for understanding the different customers and customer needs in order to manage, arrange and produce services.

In terms of the effectiveness of municipal activity and financial balance, the most important thing is to delimit and focus services flexibly according to the customers' unique needs. The focusing and optimisation of customers and services must be managed in order to increase well-being, vitality and competitiveness in the long term in a financially, ecologically, socially and culturally sustainable way.

The key questions in the identification of customer groups are the following:

How should the customer groups be divided to support the optimisation of customer and services, customer effects and finances?

How are different customer groups to be placed in an order of priority?

What do we want to achieve with our customers?

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Customer-based target setting and prediction of effectiveness

As the business logic of a municipality is not based on services paid for customers, the aims of the management and development of municipal activity are set to support the management, optimisation and administration of municipal customer relationships. When the aims are set based on customer relationships (customers and services), they can be used to manage and develop both the municipality's activity and its competences.

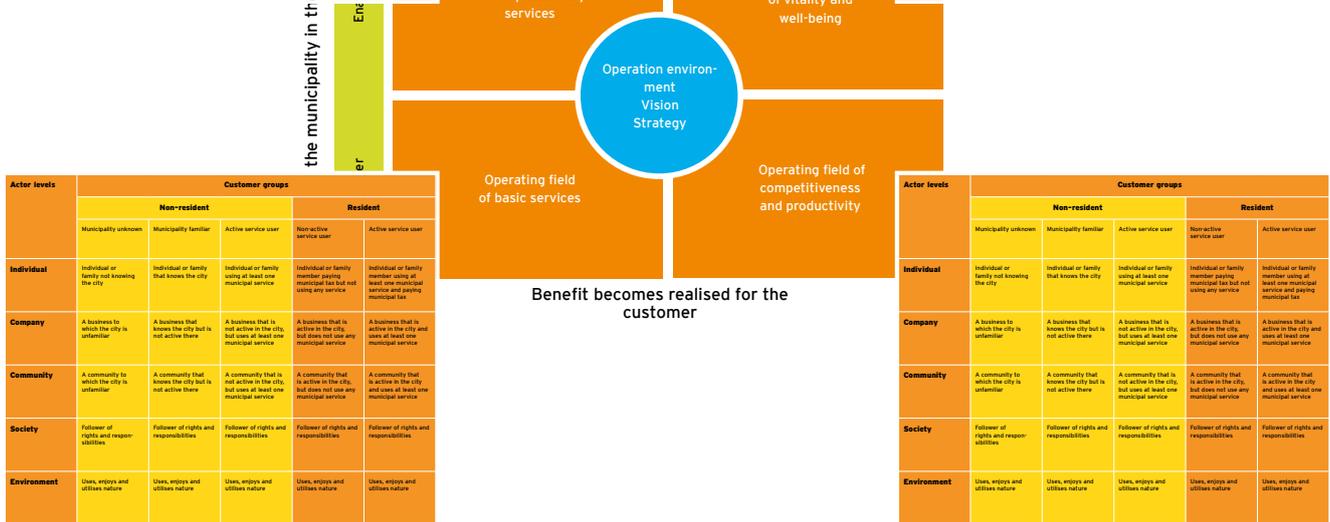
The double dichotomy of customer information knowledge management can be used in setting targets for the municipality.

When the targets are set at the municipal level in the different fields of activity, preconditions are created for municipal management and development on the basis of customer relationships, activities and information, taking into account the municipality's present and future needs from the viewpoints of both arranging and facilitating services. It is useful to set the targets separately for each field of activity, as the responsibilities of the municipality and the realisation of effects are different in each field. It is important to set the kind of targets that can be measured and to place them in balance with the activity of the municipality as a whole and with budgetary limitations.

The following image demonstrates how the double dichotomy of customer information knowledge management and the basic grouping of customer segmentation can be used in setting targets and predicting future effects. Here, targets are not set for all 25 customer segments in all four fields of activity. Instead, the customer segments are used to find out the most important targets for each of the four fields from the viewpoint of predicted effects. The organisational competences needed for meeting the targets are also taken into account, together with the risks that may be caused by own activities or changes in the operating environment.

Actor levels	Customer groups				
	Non-resident			Resident	
	Municipality unknown	Municipality familiar	Active service user	Non-active service user	Active service user
Individual	Individual or family not knowing the city	Individual or family that knows the city	Individual or family using at least one municipal service	Individual or family member paying municipal tax but not using any service	Individual or family member using at least one municipal service and paying municipal tax
Company	A business to which the city is unfamiliar	A business that knows the city but is not active there	A business that is not active in the city, but uses at least one municipal service	A business that is active in the city, but does not use any municipal service	A business that is active in the city and uses all local city municipal services
Community	A community to which the city is unfamiliar	A community that knows the city but is not active there	A community that is not active in the city, but uses at least one municipal service	A community that is active in the city, but does not use any municipal service	A community that is active in the city and uses all local city municipal services
Society	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities
Environment	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature

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Society	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities	Follower of rights and responsibilities
Environment	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature	Uses, enjoys and utilizes nature



Utilisation of customer segmentation and fields of activity in setting municipal targets

Ensuring effectiveness may make use of tools such as social marketing, which aims to cause behavioural changes that are beneficial for both individuals and society. Social marketing combines marketing expertise with research in behavioural economics. The scoping phase of social marketing includes the clarification of aims and customer groups (segmentation).

This means the clarification of the change that is being aimed at, setting of concrete and measurable targets and definition of the available resources so that the end result is a unified and realistic whole. In practice, this requires all three phases to be reviewed simultaneously. When the aims and resources are known, the customer groups of the activity are identified and defined (i.e. segmentation is done). Unlike traditional segmentation, this is done separately for each change that is aimed at. The customer groups are defined so that they differ from each other in some way that is significant for the change being aimed at. Segmentation is thus made into a tool that guides everyday choices and acts. It must also be considered whether all customer groups should be the subject of activity, or whether the limited resources should be focused on those groups guiding whose behaviour is especially helpful for reaching the overall aim in the management and optimisation of customer relationships.

As the segmentation is often done in social marketing on the basis of the desired behavioural change, a successful segmentation often requires researching and understanding the behaviour of customer groups. Instead of, or in addition to, statistical analyses and survey research, information should be collected with qualitative methods, focusing on the situations of behaviour themselves. Among other

Key questions in the setting of targets include the following:

Which customer groups are central in each field of activity?

What are the customer-specific aims of service in each field of activity?

Which competences are central in terms of the newly set targets?

things, good qualitative methods include observation, interviews and experimental research designs.

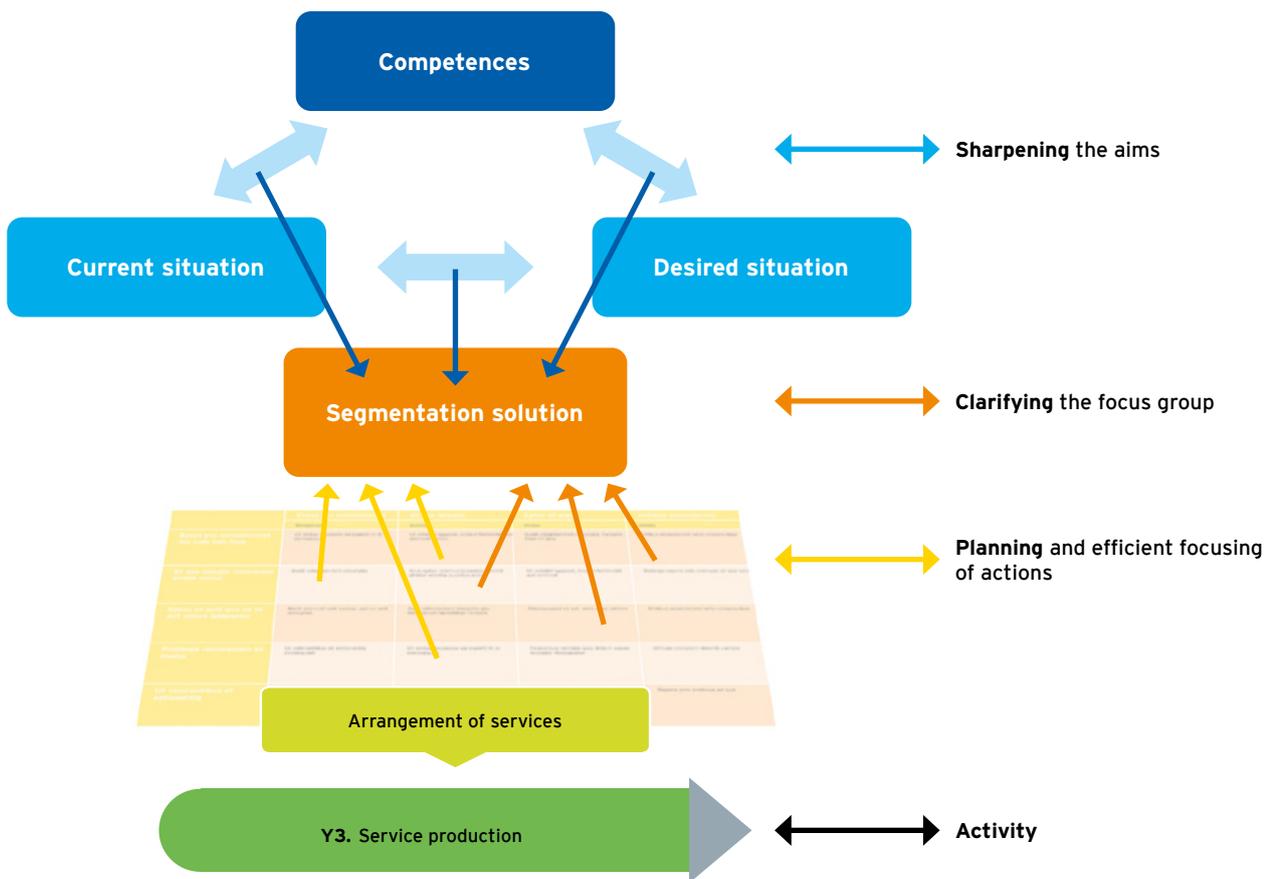
In social marketing, the clarification of customer groups is followed by the planning of effective actions or interventions. To ensure their effectiveness, the interventions should be developed by means of agile experimentation, in cooperation with representatives of the customer groups. The idea is for the service provider or actor to have a wide range of possible practical actions that it can use to influence the behaviour of customer groups. The effectiveness is caused by each customer group being subject to just those measures that are best in furthering and maintaining the desired change. The changes occurring in a customer group must be taken into account in the assessment.

The following image shows a way of using customer segmentation in setting targets and predicting effectiveness, originating in social marketing. It is also connected to the management and development of competences and the arrangement and production of municipal services. With the segmentation of customer relationships, a municipality can find the fields of activity, customer groups and customers that give it vitality according to its own vision and strategy. The aim: the right services to the right customers at the right time - now and in the future.

Key questions in the prediction of benefits and effectiveness include the following:

How do we ensure the effectiveness of the service?

How do we monitor the customer experience?



Elements of the prediction of benefits and effectiveness

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Identifying competences and reviewing them by field

The tasks of a municipality are carried out by managing customer relationships and producing services with the help of competences. A competence means the ability of an organisation to carry out its tasks and to produce services in a practicable way. The tasks and services answer the question “what”. A competence answers the question “how and by what means”. Competences include all the factors that are needed for arranging and producing services successfully in a way that brings value to customers. The competences consist of operational models, processes, knowledge, channels, funding, expertise and resources. Among other things, the resources include employees, materials, facilities, information systems, data reservoirs, technology, tools, permissions, rights and contracts. Without the required competences, services cannot be produced at all, service production is not profitable enough or the quality of services does not meet the targets set. There is more on this topic in *Kyvykkyyksien johtamisen käsikirja* (Handbook of competence management), which is part of the MakeWithEspoo product family.

Because the municipality has several different services and customer groups, it has the use of competences suitable to different business models. For this reason, it is important to identify the business models the municipal activity consists of, and how the models are related to the municipality’s own operating environment and its four fields of activity of customer information knowledge management. As noted above, the aims should be defined separately for all four fields, taking into account their different nature. The identification and description of the municipality’s business processes can make use of the Kuntakanvas tool, which is part of the MakeWithEspoo product family.

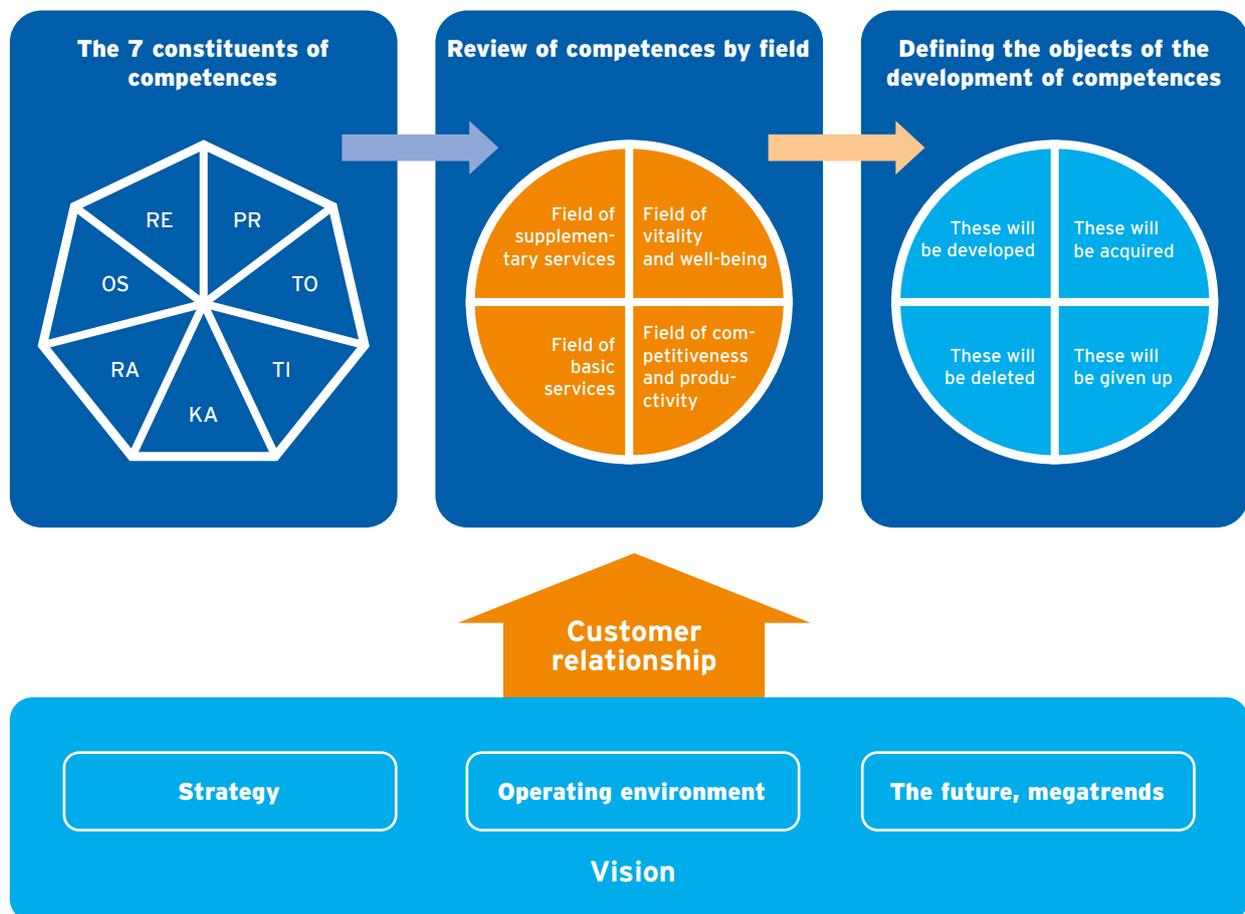
The review of competences can be used to identify, analyse and define the competences required for managing customer relationships and arranging and producing services. It can find out how the municipality can use its current and potential new competences to meet the challenges set by changes in its strategy, operating environment, future and customer relationships.

The process of reviewing the management, administration and development of competences progresses from identifying the competences to analysing their present and future state, and then on to fitting them together and developing them in practice. The competences are examined by field of business and field of activity, from the viewpoint of customer relationships. It is thereby discovered as to which competences the municipality must maintain, which new ones it must acquire, which old ones it has to give up and which it has to develop further.

Key questions in the identification and management of competences include the following:

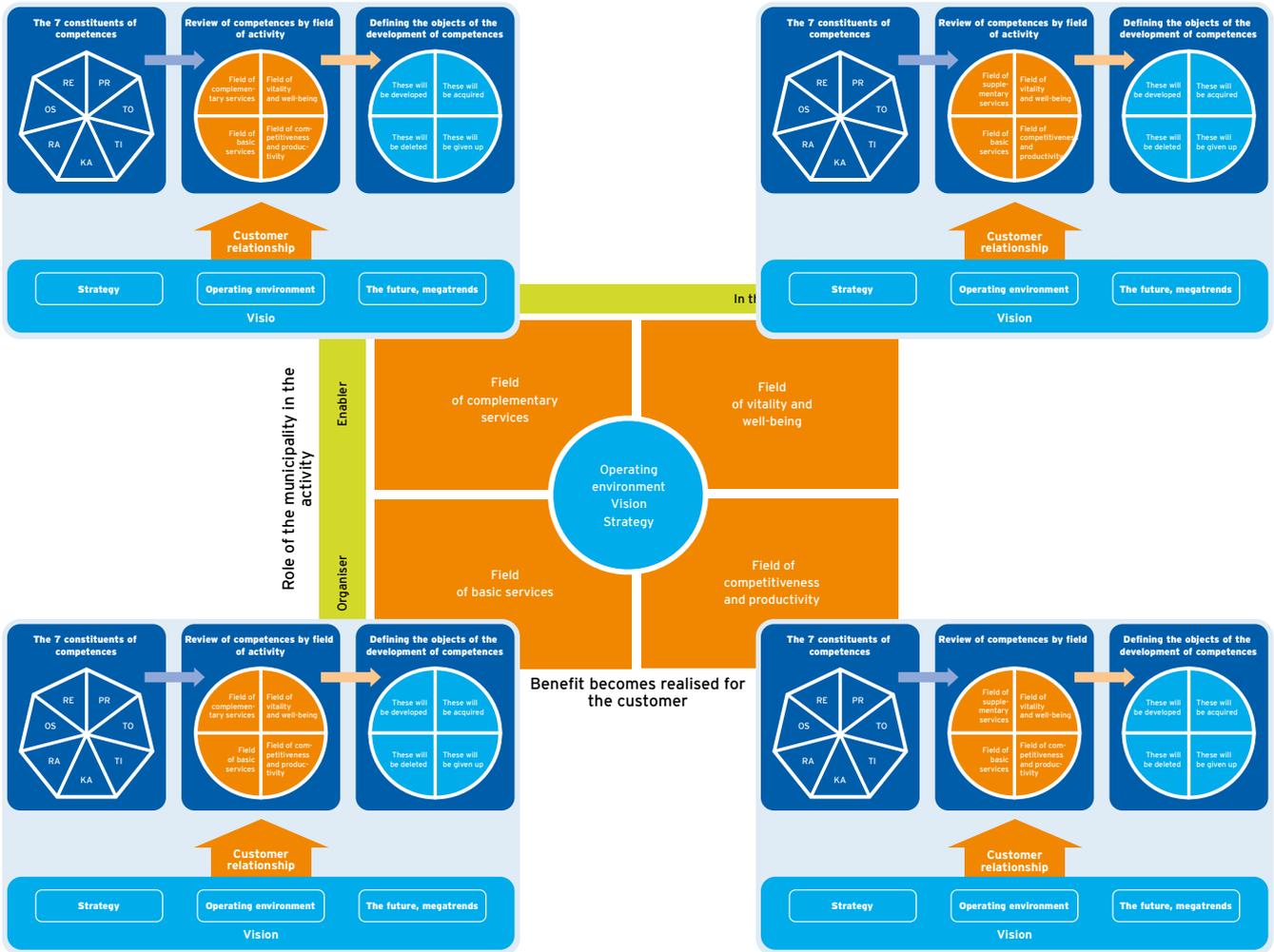
What competences are available for use in different fields of activity in the municipality?

What kinds of changes are required in the competences of the municipality?



Identification, management, administration and development of competences

After the aims are set for the municipality and the predicted effects are analysed, it is in practice necessary to analyse how the competences of the municipality should be changed to ensure that the aims in each field of activity are met.



Identifying the need for change in municipal competences by field of activity

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Optimising and steering customer relationships in management

The service provider focuses its services in a more prioritised way when taking into account the unique logic to the life of the customer with the help of customer understanding. When the customer need and the service offering are being fitted together, it is important to understand that customers are also willing to prioritise their own service use. Instead of ready-made service packages and service processes, the service provider predicts the customer's service needs with the help of service demand based on customer understanding. This includes service solution templates that are based on real-time, predictive customer information on customers, customer needs, service demand and the customers' earlier service solutions, both on the level of individual customers and as a whole.

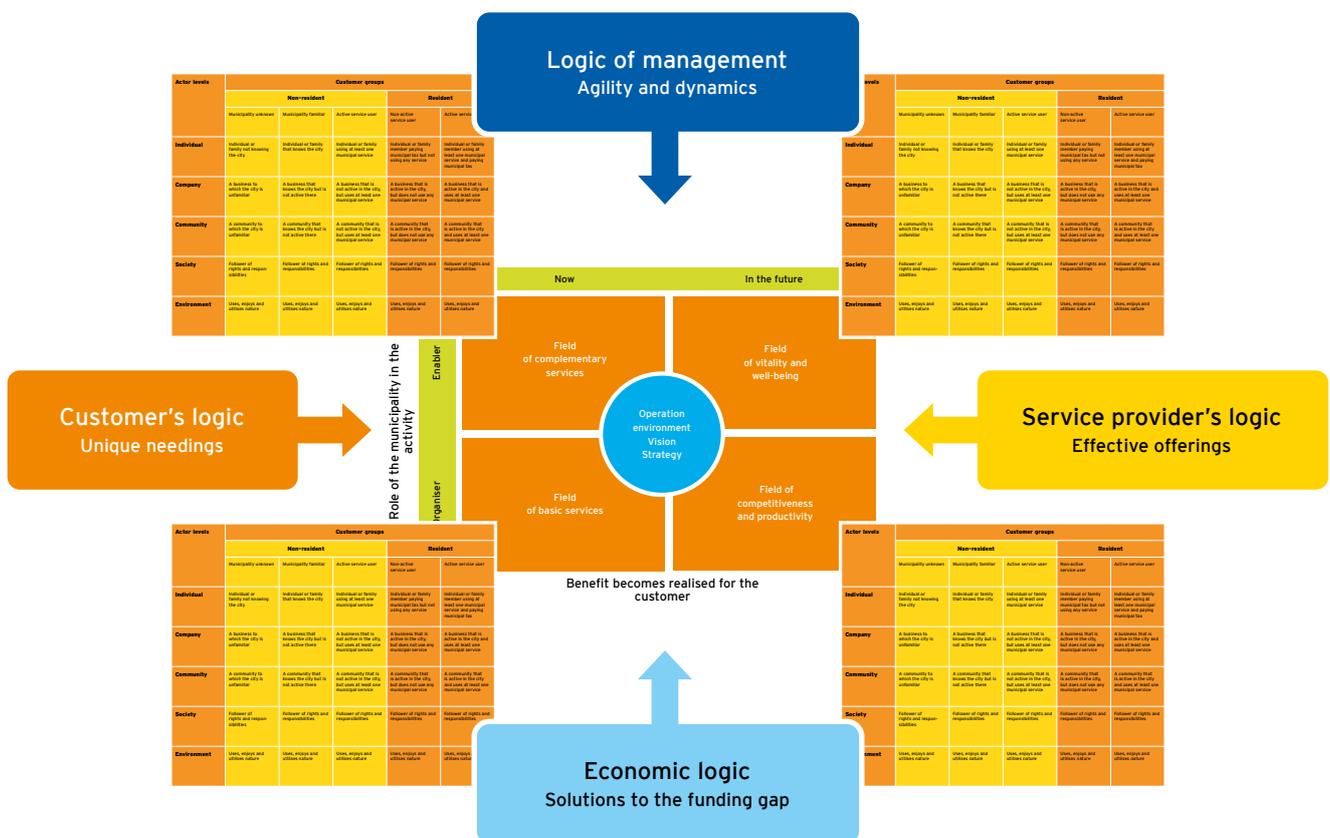
The customer's experience of the service changes the customer need. The activity of the service provider is also modified along with the services realised. This does not mean that the service producer adapts to all customer needs. However, the customer need challenges the service producer to listen to the customers and to delimit the service to take into account their unique situation. The changes are focused on the competences of the service provider (i.e. the municipality) and on all the surrounding fields of activity. The increased customer understanding can be used to deliberately take into account customer expectations and to steer and optimise customer relationships. In this fitting together and understanding of customer relationships, knowledge will have a growing role. Optimisation, steering and customer management, and the solutions for arranging and producing services while taking into account the situation of the customer cannot be produced in real time, predictively, dynamically and cost-efficiently without customer information.

Customer management, the arrangement and production of services and the effectiveness of these are all subject to continuous assessment. Through them, the municipality as a whole can produce, arrange and enable efficient services for different customers in a financially sustainable way.

The flexible focusing of the organisation's competences is based on the optimisation of customer relationships and services. Traditionally, services and service processes have been designed in municipalities as ready-made packages, and the competences have been assigned to them beforehand. This makes the reorganisation of processes and activities inflexible. In situations that call for flexibility, special solutions have been resorted to, including the hiring of temporary staff or the acquisition of other additional capacity. Almost without exception, these kinds of solutions are expensive, and they do not, therefore, promote a cost-efficient and effective way of acting.

The new customer-dominant activity and its management helps competences to be focused flexibly on the basis of the jointly agreed service solutions. In this agile model, the competences available are not strictly delimited beforehand. Their availability is ensured through developing knowledge management and steering models. Cost-efficiency and effectiveness are ensured by managing competences on the basis of knowledge and customer relationships.

Optimisation means the production of new knowledge on the municipality's own fields of activity with the help of a new kind of customer understanding, customer information, service information and service path information. Knowledge enables new kinds of dynamic solutions where competences are utilised flexibly, for instance with the help of software robotics. The following image shows how the logic of customers and service providers and the logic of management and finances can be combined in a customer-dominant way. This is done by optimisation that furthers the activity, vision and strategy of the municipality and balances the customer needs generated in all four fields of activity in an efficient way.



Municipal management fits different logics together in a functional way

The framework for customer information knowledge management is helpful in generating new information on customer relationships. Utilisation of this information will help to steer and develop the core processes of the municipality - customer management and the arrangement and production of services - in more cost-efficient and effective way than the traditional administration-based model. In addition to the traditional processes of strategy, financing and financial targeting, the real process of municipal activity can be steered on the basis of knowledge through the steering process of customer relationships and services, with the help of customer understanding and customer information.

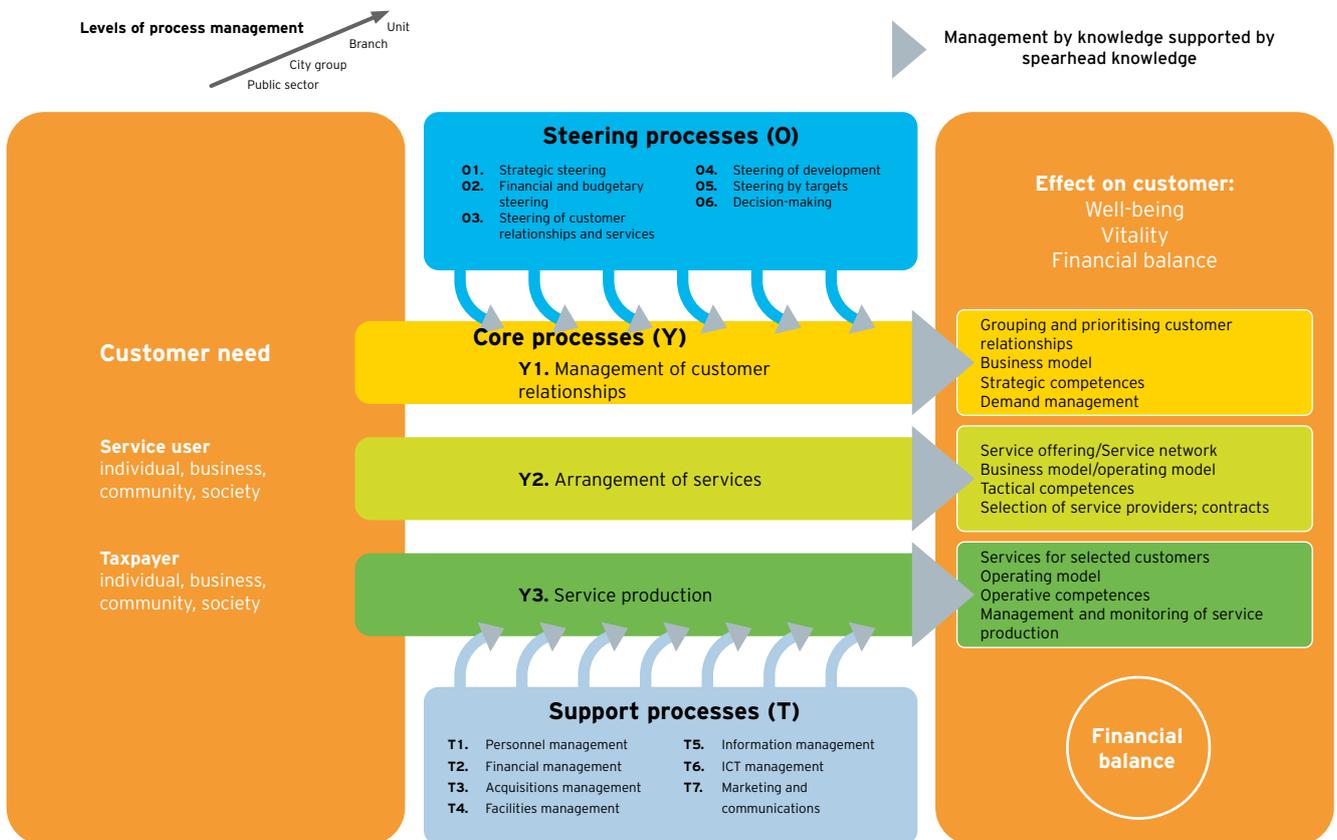
The following image shows the process key described in Kunnan johtamisen viitearkkitehtuuri (Reference architecture for municipal management, 2016). This is a customer-relationship- and activity-based key to the development of the core, steering and support processes of municipal activity. The framework for customer information knowledge management is helpful in connecting customer information to the management and development of municipal activity. This is done with the help of customer understanding, in addition to the other information generated in all the processes of managing and developing activity. The effectiveness of the municipality's core processes - customer management and the arrangement and production of services - can be improved in a more efficient way than before. This is done by steering the real process of municipal activity, i.e. the optimisation of customer relationships and services within the limits set by finances. There is more on this topic in Kunnan johtamisen viitearkkitehtuuri (Reference architecture for municipal management, 2016), which is also used as the national recommendation for municipal management in work on the overall municipal architecture.

Management of customer relationships

- ensures that the activity is goal-oriented and systematic and focuses on customer relationships according to the set targets
- ensures that competences are used, focused and developed in an agile and cost-efficient way.

Key measures of success:

1. Efficiency (service provider's logic)
2. Cost-effectiveness (economic logic)
3. Customer experience (customer's logic)



The process key, or the main processes of municipal management (Kunnan johtamisen viitearkkitehtuuri 2016)

The following image shows how Kunnan johtamisen viitearkkitehtuuri opens up the main functions of the core processes and the tools and methods needed in developing them. This framework for customer information knowledge management opens up customer information, the dynamic segmentation of customer relationships and more effective management by knowledge for the use of the tools and methods described in Kunnan johtamisen viitearkkitehtuuri.



Main functions, development tools and methods of the municipal core processes (Kunnan johtamisen viitearkkitehtuuri 2016)

There are three levels in the steering and development of customer relationships and services: strategic, tactical and operative. The following image shows some more detailed examples of the content of the levels.

	Strategic level	Tactical level	Operative level
Management	<ul style="list-style-type: none"> • Decision on the most important customer relationships • Management of customer relationships throughout the lifespan at group level • Utilisation of customer information in management • Monitoring the profitability of customer relationships and the realisation of aims 	<ul style="list-style-type: none"> • Management of customer relationships in branches • Analysing customer information and utilising it for strategic purposes • Monitoring of customer relationships throughout the lifespan 	<ul style="list-style-type: none"> • Customer management on the operative level in profit centres • Implementation of customer experience • Production and utilisation of customer information
Development	<ul style="list-style-type: none"> • Decision on which customer relationships will be developed through utilising information • Predicting the development of customer needs • Monitoring of customer information and the targets related to it • Organising the utilisation of customer information 	<ul style="list-style-type: none"> • Decision on how customer relationships will be developed through utilising information • Planning the implementation of the analysis of customer information 	<ul style="list-style-type: none"> • Analysis of customer information and customer lifespans • Merging of customer information • Collection and utilisation of customer feedback • Development of customer relationships by utilising information • Customer involvement

Levels of the management and development of customer management

	Strategic level	Tactical level	Operative level
Management	<ul style="list-style-type: none"> • Decision on which services the city should offer • Monitoring and measuring the aims of the services on the upper level 	<ul style="list-style-type: none"> • Decision on how the services will be arranged • Monitoring the services at the branch level 	<ul style="list-style-type: none"> • Decision on how the services will be offered • Service production • Implementation of customer experience • Production and utilisation of customer information
Development	<ul style="list-style-type: none"> • Decision on which services will be developed by using knowledge • Identifying service needs at the municipal level across branch boundaries with the help of analytics and merged customer information 	<ul style="list-style-type: none"> • Decision on how the services of the branch will be developed • Identifying service needs at the branch level across service units • Development of service packages 	<ul style="list-style-type: none"> • Identifying service needs within a service unit • Development of services on the basis of information

The levels of the management and development of service administration

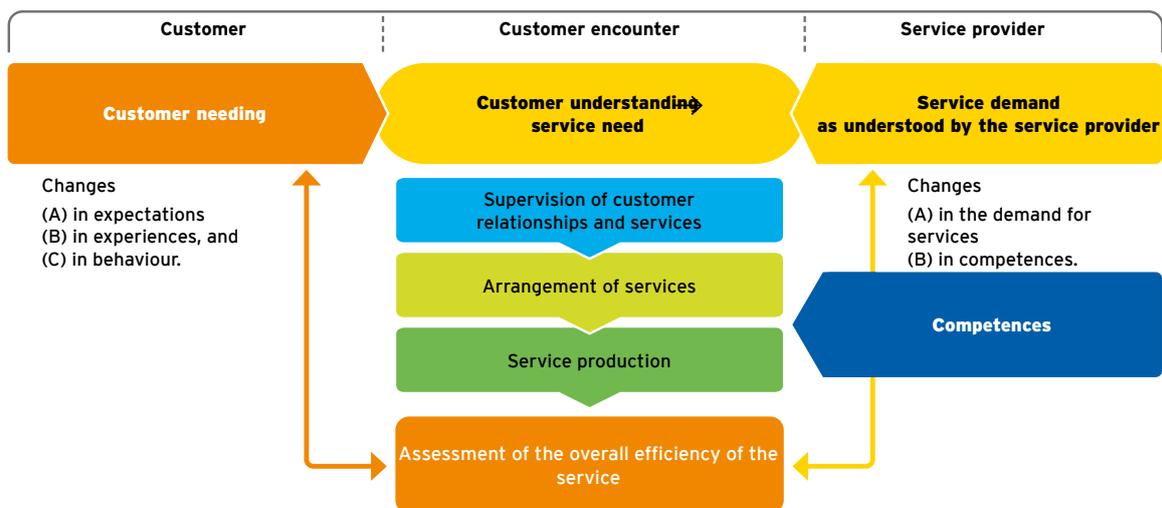
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Customer information knowledge management

Through the steering process of customer relationships and services, customer understanding is connected to the core processes of the municipality. The central thing is to ensure the collection, analysis, management and utilisation of customer information generated through customer understanding. Knowledge management means the systematic administration of knowledge and management by knowledge. The administration of knowledge means the steering and management of knowledge production, including the collection of information, ensuring its quality and taking care of it in internal communication and communication between organisations. Management by knowledge means the utilisation and refining of the information that is gathered. There is more on this topic in Kunnan johtamisen viitearkkitehtuuri (Reference architecture for municipal management).

The following image shows how customer understanding is connected to the core processes of the municipality from the viewpoint of management.



The elements of the optimisation of customer relationships and services - customer information knowledge management is connected to the management of the core processes of the municipality

One of the aims of the framework for customer information knowledge management is to help to identify the uses to which knowledge management can be put. Knowledge can be used to create well-being and vitality in a way that is sustainable from the viewpoint of society and the environment. This is done by understanding customer needs better and by developing services of a higher quality around the different needs of citizens, businesses and communities.

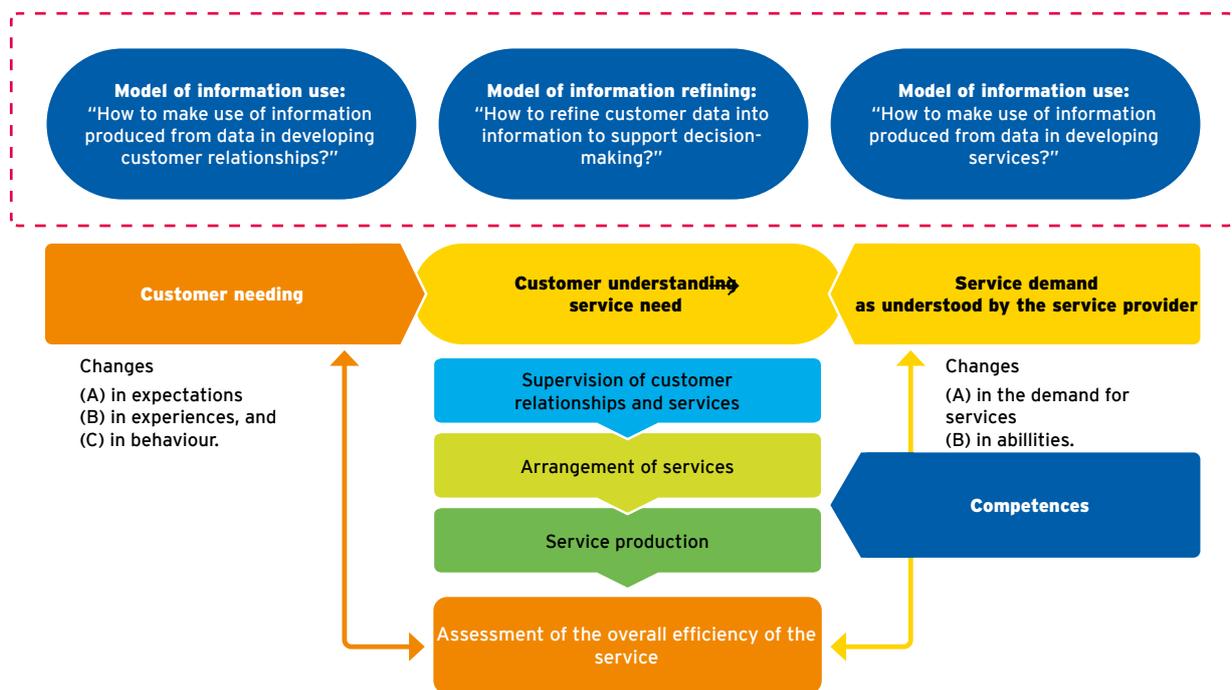
The framework for customer information knowledge management creates a basis for the model of knowledge utilisation presented in *Producing and utilising customer information: a handbook*, which is part of the Make-WithEspoo product family. It examines the identification and development of customer understanding and service needs with the help of information. The handbook discusses the refining and use of information. For example, it concentrates on identifying how information refined from data can be used in the development of customer relationships and services.

The model of the utilisation of information aims to bring into view how the municipality can act as an enabler of the development and production of services. The models and tools presented in the model are based on cooperation with different interest groups. At the centre of the cooperation is the production, collection and storage of information for the joint development of customer relationships and services.

The following image shows how the model of the utilisation of information is connected to the elements of the optimisation of customer relationships and services when the services to be arranged are the responsibility of the municipality itself.

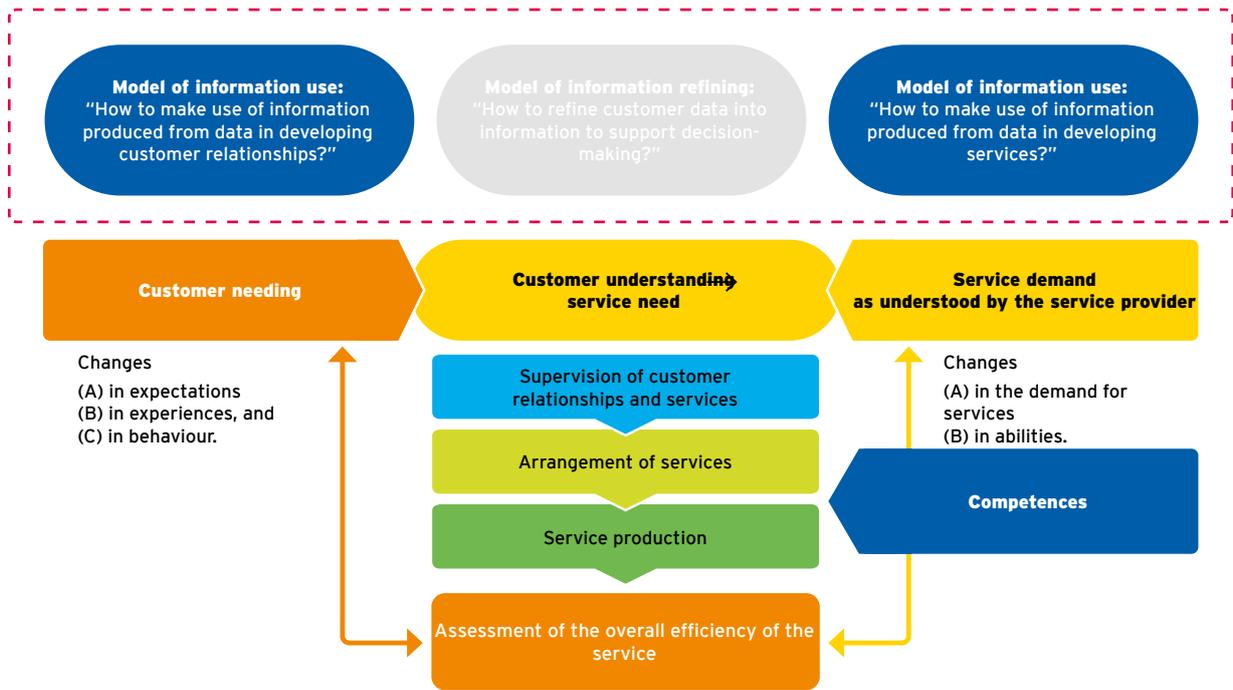
Key questions in the optimisation of customer relationships and services include the following:

- What kind of service solutions are we offering for everyday life?
- What kind of information do we need?
- What competences are we making use of?
- What kind of customer relationships are the service offerings focused on?



Utilisation of information as part of the steering of customer relationships and services when the activities are arranged by the municipality

In the role of enabler, the municipality can offer systems, information, operating models and processes to its interest groups - as well as personnel and expertise for arranging and producing services. The following image shows how the model of the utilisation of information is connected to the elements of the optimisation of customer relationships and services when the municipality promotes the development of the activity of other actors.



Utilisation of information as part of the steering of customer relationships and services when the municipality is the enabler of the activity

The following table summarises how the different activities of the municipality as a whole can further the development and production of services both as an enabler and an arranger of services.

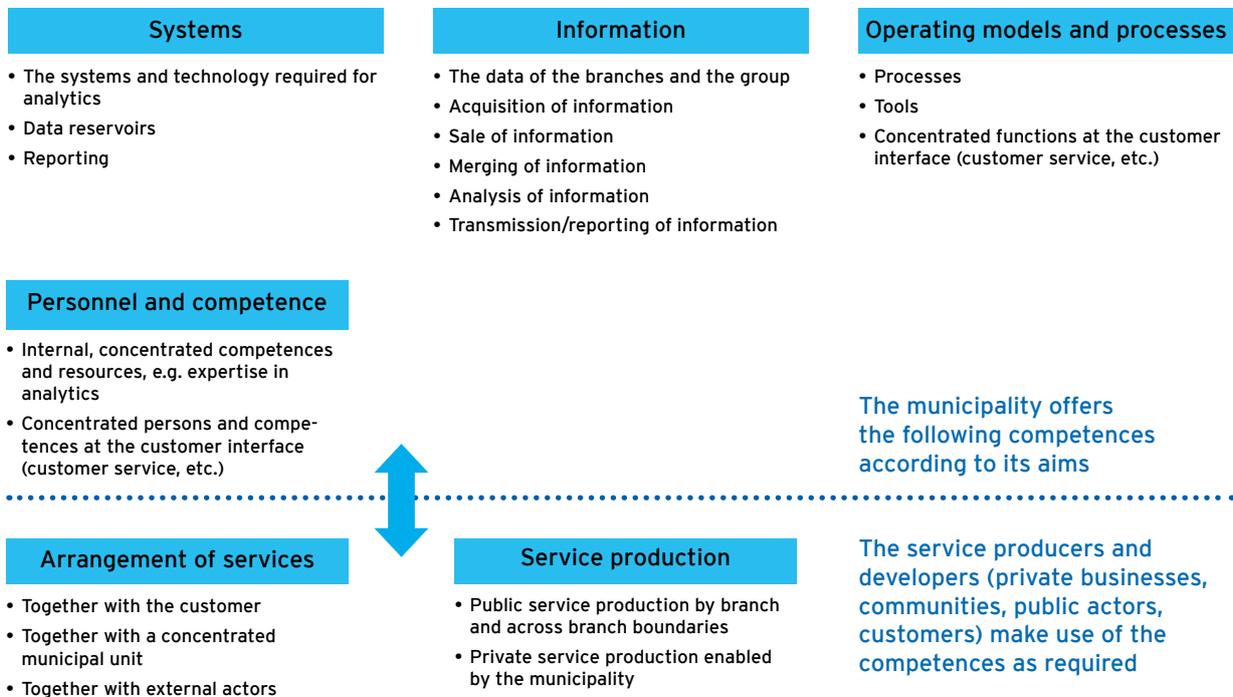


Image: The municipality as an enabler and arranger of the development and production of services

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Upshot

The benefits and effects of activities that promote well-being and vitality are focused on different customer groups in different ways. The activity has different effects on individuals, communities and businesses as well as society and the environment as a whole. This framework for customer information knowledge management has described how a customer-dominant logic can be taken into account in managing and developing municipal activities as a whole.

The aim of the optimisation and steering of customer relationships (i.e. customers and services) is to create added value to the customer using the service, to ensure the optimal effectiveness of the service and to safeguard financial balance. Optimisation and steering are central in ensuring that the municipality reaches the short- and long-term targets for customer effectiveness and financial balance.

The framework enables the information generated in municipal customer relationships to be utilised and taken into account in steering at the level of individuals, services and the municipality as a whole. The starting point for the segmentation of customer relationships is the overall benefit received from municipal activity, i.e. its effects on well-being, vitality and financial balance.

This framework for customer information knowledge management is aimed at helping the municipality to identify its customers and services in a uniform way on the different levels and in the different areas of the management and development of municipal activity. To enable the municipality to focus its own competences in a practicable and effective way, it is important to identify customers and services as a whole. Customer information knowledge management can help to identify uses for management by knowledge. These can be used to understand customer needs better, to develop better services around needs and to create vitality for citizens, businesses and the third sector. The operating environment has to be grasped even as it changes and develops all the time. Practical utilisation of the framework is supported by *Producing and utilising customer information: a handbook*, which is part of the MakeWithEspoo product family.

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Concepts

Customer. An active actor; can be an individual, business, community, society or environment. Can be a potential current or new customer having its own logic of activity.

Customer-centredness. Identification of, and agile response to, situation-dependent service needs that take into account the unique needs of customers. Customer-centredness is not only a viewpoint for examining activity. It has a comprehensive effect on everything, from the identification of customer relationships and the definition of the organisation's competences to their steering and management.

Customer needing. The unique, individual and situation-dependent expectation of a customer that indicates what the customer experiences as valuable.

Customer understanding. Identification of the customer need. Is situation-dependent and generated in customer encounters. Enables the identification of service needs.

Customer (relationship) management. Management of customer relationships in a structured and goal-oriented way. A central part of this is the administration and utilisation of customer information and customer understanding.

Customer-dominant logic. A logic of business and activity that involves identifying the customer's logic and connecting to it. Requires an understanding of the customer's unique needs and experiences.

Business logic based on the service offering. Planning and optimisation of service production, highlighting the service offering, the quality of service processes, volumes and market share. The customer is related to the activity of the service provider only as a user of the service.

Customer-dominant business logic. Identifying and understanding the unique life situation of the customer and connecting the service provider to it with its own services. The business logic is based on the fitting together of customer experience, the services being formed and the service systems.

#MakeWithEspoo product family

The results of the experiments conducted in Espoo to create tools of development, management and consulting according to the City as a Service objective.

City as a Service

Frameworks

describe the background and theoretical framework of development

- Framework for the innovation management of ecosystems
- Framework for customer information knowledge management
- Reference architecture for municipal governance

Handbooks

provide models and examples for the use of city developers

- Handbook for open participation
- Handbook for co-creation
- Handbook for the production and utilisation of customer information
- Handbook for competence management
- Handbook for multi-channel public services
- Handbook for electronic customer service support
- Kuntakanvas

Application examples

present concrete implementations in Espoo

- Iso Omena Service Centre as an innovation platform
- Innovation showroom
- Data privacy and opening data securely
- KYKY - accelerated co-creation by schools and companies
- KIPINÄ - Connection map of operations and data systems



6 Aika



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ISBN [number here] (print)
ISBN [number here] (PDF)