

# **Municipalities, Ideology, Pragmatism and Reality;**

*Understanding the Determinants for Municipal E-Service provisions for  
Companies and Civilians*

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## ***Abstract***

Although e-services are relatively new phenomena, some research has been conducted previously, most notably by Jans (2015). Among Dutch municipalities a large variance can be observed. The aim of this paper is to apply theory related to general service provision and innovation in order to explain this observed variance in e-service provision for companies *and/or* civilians. By drawing data from multiple sources and conducting regression analysis<sup>1</sup>, the direct effects of center-right parties, business and civic attractiveness, party competition and resources on e-services are investigated. Furthermore, the moderating properties of party competition are considered.

The center-right strength only plays a role in civic e-service provision and positively effects civic e-service provision. Both business and civic attractiveness positively affect the amount of e-services for *both* companies *and* civilians. Party competition is not relevant for the provision of e-services, both as an independent variable and a moderator. The amount of municipal funds plays an important role in the provision of e-services for *both* companies *and* civilians.

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<sup>1</sup> The dataset and syntax can be obtained by emailing [ceven\\_kevin@hotmail.com](mailto:ceven_kevin@hotmail.com)

## **1. Introduction**

Technology is increasingly used by Dutch municipalities. The technological applications which are central in this paper are e-services. E-services can be defined as the application of technology in order to facilitate the delivery of services (Jans, 2015). The transformation of services to e-services can either be imposed by higher governments or by municipal “realization” that e-services can prove to be feasible and desirable ways of organizing services. There still exists a lot of variance among Dutch municipalities when it comes to the quantity of these voluntary provisions of services in an electronic form (Deloitte, 2016)). While some municipalities have almost all services that are well-suited for e-services provided in this form, others implemented only a fraction. One of the goals of this paper then is to identify general factors which influence the provision of e-services. Furthermore, a clear distinction can be made between e-services for companies and e-services for civilians. Another sub goal therefore is to identify and examine specific factors which cause some municipalities to invest relatively more in provisions for companies, and others in provisions for civilians. A combination of developments have caused e-services to emerge. The next few paragraphs describe the context in which this new phenomenon could manifest itself in the Netherlands.

In the recent decade public administration in the Netherlands is characterized by decentralization (Rijksoverheid, 2018). One reason to decentralize governmental activities is related to representation. Decentralization allows local voters, via local elections, to exercise more direct control over policies than in a centralized state. The inhabitants of a municipality directly vote for their own representatives and executives and subsequently activities. Increasing the (legal) range of activities of the municipalities, therefore creates more direct control over these activities. Although, the national government is also democratically chosen, the influence of local communities with their specific interests on these elections is relatively limited. In a completely centralized polity this could result in a national government by which the inhabitants of many municipalities do not feel represented. The activities of this national government are therefore less often in line with the wishes of the local inhabitants when we compare these activities with those of local governments with a wide range of tasks in a decentralized system, which is especially true for a heterogeneous population as the Dutch (IRIS Center, 1999).

A second group of reasons that pushes decentralization is the ambition of an efficient and lean government. Three mechanisms within this larger group are (I) allocative efficiency, (II) promoting accountability and by achieving (III) cost reduction. The theoretical argument of allocative efficiency is closely related to the first consideration; better representation. Since the local government is closer to the people, it has better information at its disposal. Hence, it can operate more effectively, when it

comes to aligning measures with local preferences. Accountability works via two mechanisms, which are related to intra- and inter-municipal competition. Respectively, intra-municipal competition plays a role, which is also very much related to the first consideration; better representation. Since inhabitants within a municipality have a much greater say, compared to the say they have in a national government, (a) their voting behavior can punish the local government more effectively. Secondly there is inter-municipal competition. If inhabitants are unhappy about the ways and activities of the local governments they can move to a neighboring municipality, which is often called “voting by feet”. The latter is much less likely in a national context. Cost reduction and cost recovery, are also more optimal in a more decentralized situation. People are much more likely to pay for services that meet their demands (IRIS Center, 1999).

These developments occur against the backdrop of the rise of “smart cities and communities”. After the huge jumps in knowledge regarding computer technology, applications of this knowledge are increasingly provided for the general public. Governments, in many municipalities are adopting a smart city strategy. There are two arguments in favor of smart cities. On the one hand, could the application of technology easily be utilized to gather information regarding the usage and therefore demand of a certain service. Secondly, technology can be used as an instrument to (help) fulfill the legal and societal function of the municipality in a more effective and efficient way than the traditional instruments can (Slimste Binnenstad, 2016)

When combining the developments above, decentralization and the rise of smart cities, we can conclude that such ICT-innovations allow municipalities to better pick up new decentralized tasks and responsibilities. Yet, there still exist a lot of variance among municipalities<sup>2</sup>. Hence, the purpose of this thesis is to understand the mechanisms that lead to this variety.

The political authorities of the municipality ultimately decides about the provision and design of a public service. In order to come to policy innovation (read e-services) they have to perceive the proposed measure as both desirable *and* feasible (Jans, 2015). The desirability of an innovation is particularly important to consider because it might help explain why variations in e-service provisions, among relatively similar municipalities in terms of resources, can exist. While certain authorities perceive an e-service as desirable, others might not. Although the desirability side of things is the main focus in this paper, feasibility will play a role. Jans (2015) identified three factors which influence the perceived desirability of innovations.

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<sup>2</sup> The Hague has 90% of all possible electronic services implemented, whereas Franekeradeel only has 28%.

The factors, related to desirability, which are identified by Jans (2015, p. 27 & 28) are (I) ideology, (II) pragmatism and (III) party competition. Ideology refers to the political preferences of the party members and the party's leading politicians. Pragmatism in politics can be characterized as an ethos of problem-solving. Pragmatism implies that the adoption of innovations is seen as primarily motivated by the desire to effectively and efficiently solve local problems. Ideology and pragmatism play a role through policy-seeking motivations. But vote seeking might also play a role in innovation processes. Here party competition might play a role. In this view politicians innovate because they assume that this will strengthen their electoral appeal in competing for votes. The above three factors will be central in this paper. In the theory section expectations regarding these relationships will be derived by consulting scientific literature.

Simultaneously for some municipalities it could prove more feasible to innovate than for others. Certain municipalities possess resources, which others do not. This is reflected by the variation in number of civil servants between municipalities. The amount of civil servants is associated with the number of inhabitants in a somewhat exponential fashion (VNG, 2015).

So far, in this introduction, the significance of municipal e-services has been described and to some extent related to ideology, pragmatism and party-competition. Although e-services are rather new phenomena, other researchers have made some efforts to explain these phenomena and their relations (Jans, 2015). Whereas previous research focuses solely on direct models explaining innovation through these three factors, this paper will also consider an interaction model. Furthermore, the mentioned studies do not distinguish between business services and civic services. The differences in determinants for innovation favoring either companies or civilians is one of the primary interests of this study. This leads to the following research questions: **To what extent do party ideologies, pragmatism and party competition explain differences across municipalities in the adoption of e-services for companies and civilians?**

In order to investigate this relatively complex question certain sub questions are constructed to help answer the main question. These sub questions are:

1. To what extent do party ideologies, pragmatism and party competition influence the provision of e-services for companies between municipalities?
2. To what extent do party ideologies, pragmatism and party competition influence the provision of e-services for civilians between municipalities?
3. What are the differences and similarities between explaining e-service provisions for companies *and* civilians between municipalities?

This paper will continue with a theoretical framework. In the theoretical framework, scientific literature will serve as a basis to gain preliminary expected answers on the research questions above. The methodology section follows the theoretical framework. This chapter will function as the bridge between theory and empiricism. The data for this research will be acquired from multiple sources. These sources have already gathered the information between 2014 and 2017 and consist of observational data only. In the results section, found empirical evidence, derived by regression statistics, will be provided. The conclusion chapter will discuss the most important implications of the results. Finally, a discussion chapter will serve as a reflection on the results, conclusions and paper in general.

## **2. Theory**

The adoption of municipal innovations are based on political decisions. On a local level the municipal council is the authority responsible for such decisions. Hence the composition of the municipal council heavily influences what policies are accepted and which are not. The composition of the municipal council is determined by local elections every four years, on the basis of a proportional representation system. Next to achieving policy goals, parties can also opt to aim for electorate or vote-seeking goals (Jans, 2015, p. 27 & 28).

Pragmatism and ideology are both examples of policy-seeking motivations, by adopting policies aimed at solving problems or realizing political ideals. Vote-seeking behavior can be characterized as actions purposely conducted to attract votes. Berry and Berry (2007) argue that party competition drives parties to be innovative, just to get an, so called, electoral edge.

In the next few paragraphs the relations between ideology, pragmatism, party competition and policy innovation will be deepened. As hinted upon in the introduction, this theory section will lead to two different models; a direct effect model *and* an interaction model.

### **2.1 Policy-seeking 1: Ideology**

In the sociological standard work of Lipset (1960) a wide array of democracy-related topics are discussed. Ideology is one of them. Lipset (1960) talked not only about the origins and meaning of the left-right scale, but also about the forthcoming implications. One of the key-points he made about this topic is that the array of political parties, within a country, portray the class conflicts which were fought physically in the past. Generally, parties are primarily based on either the lower classes *or* the middle and upper classes (Lipset, 1960).

Historically, the “ideological left-right continuum” is in general terms associated with the array of classes ranging from lowest to highest class. While the left appealed and gained support of the lower classes or proletariat, the right analogously had that relationship with the middle and upper classes, corresponding with the self-employed and entrepreneurs (Lipset, 1960; Denters, 1987).

An increasing amount of scholars profess that in the more recent decades de-alignment has taken place. Changes in politics follow changes in the socioeconomic sphere. Hellwig (2008) argues: “just as policy appeals expressed in the language of left and right crystallized during a period of economic change, changes in the organization of postindustrial economies should weaken the left–right bases of competition.” The primary mechanisms behind these shifts are the expansion of the service sector *and* the increasing economic globalization.

Geering and Häusermann (2017, p. 27 - 29) acknowledge that de-alignment has taken place, but that voting behavior, in a slightly different way, still is influenced by socio-economic factors. The simplicity of the almost linear class versus left-right voting has been complemented with the appeal of issue parties. Certain issues gather appeal of particular classes. An example of this is the appeal of far right movements for the lowest classes. In general terms the older assumptions still hold, but are complemented with cultural considerations. This is supported by Jansen, Evans and de Graaf (2013). They state: “Although (our) results are consistent with the erosion of class voting in modern democracies, they do not signal the end of class politics. Class continues to have an impact on party choice in most countries and, despite the decline of the magnitude of differences...” (Jansen, Evans, & de Graaf, 2013). Furthermore, Häusermann, Picot and Geering (2013, p. 234) argue that: “fragmented policies are targeted towards whichever electoral group is central for gaining or retaining power.” Since in most cases every vote in a proportional system is of importance for gaining or retaining power one of the sub expectations is that parties will please their own niche of voters principally. Other strands of voters are, in a proportional representation system “claimed” by other parties and therefore might get more heavily “defended”.

The People’s Party for Freedom and Democracy (VVD) and Christian Democratic Appeal (CDA) could both be considered as center-right parties (parlement.com, 2017). Furthermore they are both historically and nowadays associated with a market orientated and business focused outlook. Snippets of their party manifestos seem to support this claim. In the latest summary of the party manifesto of the VVD is stated in Dutch: “We moeten ervoor zorgen dat we niet alleen nu genoeg geld verdienen om een goed leven te leiden en onze voorzieningen overeind houden, maar ook in de toekomst in deze snel veranderende wereld. We zijn goed opgeleid, beschikken over een goede infrastructuur en staan open voor handel en innovatie. Maar tegelijkertijd neemt de internationale concurrentie toe. Wij

willen dat bedrijven in Nederland de deuren blijven openen en daarbij de zekerheid hebben dat Nederland een aantrekkelijk land blijft om in te investeren. Dit levert ons immers veel banen en welvaart op en daar profiteren wij allemaal van. Het is cruciaal dat we nog meer inzetten op innovatie. (VVD, 2016). The overall message of this snippet is that the Netherlands is doing well when it comes to the attractiveness as business location, however if the Dutch want to keep enjoying the fruits of the attractive business location, more investments have to be made favoring this attractiveness of business location. The CDA wrote in their 2017's party manifesto: "Daarom bieden wij deze ondernemers meer ruimte hun zaak op te zetten en uit te bouwen, door minder regels te stellen en het voor deze bedrijven eenvoudiger te maken om personeel in dienst te nemen." (CDA, 2016 p. 84). The main message of this snippet is that entrepreneurship should be stimulated by easing the regulatory burden on these entrepreneurs and subsequently businesses.

Other more leftist parties like the GroenLinks, have a very different outlook on the organization of companies in the Netherlands. Two snippets from their 2017 party manifesto illustrate this different opinion: "GroenLinks wil de trend naar meer ongelijkheid keren. We laten arbeid weer van kapitaal winnen. Na een bankencrisis en jaren van toenemende winsten en lagere belastingen voor het bedrijfsleven is het tijd voor loonstijging voor werknemers." (GroenLinks, 2017, p. 10). And: "We stoppen het economisme waarin het belang van Nederlandse bedrijven voorrang krijgt op het welzijn van mensen elders in de wereld en dat armoede daar in stand houdt." (GroenLinks, 2017, p. 53). Especially the latter snippet exemplifies the difference between a leftist party and the earlier quoted center-right parties. This last snippet roughly translates into: We (the GroenLinks) stop the economy in which the Dutch businesses are favored above the wellbeing of people elsewhere.

The Partij voor de Arbeid (PvdA), the workers party does not say as explicitly as the GroenLinks that too much is invested and accepted in and of (larger) companies, but still are critical. For example: "Grote bedrijven betalen gewoon belasting." (p. 5) and "De beloningen in de top van het bedrijfsleven zijn de afgelopen jaren uit het lood geslagen. ... Bedrijven worden straks verplicht de beloningsverhouding tussen de top en de laagste inkomens te publiceren." (PvdA, 2017, p. 7). These snippets of the PvdA's party manifesto illustrate their battle against (larger) companies and other capital holders.

The Socialist Party (SP) is, perhaps contrary expectations, rather positive towards small and medium enterprises (SMEs). This is illustrated by the next snippet: "Het midden- en kleinbedrijf (mkb) is van groot belang voor de werkgelegenheid en voor de economie. We nemen specifieke maatregelen om het mkb te ondersteunen." (SP, 2017, p. 16). Regarding larger companies however, the SP is rather critical: "Ook grote bedrijven en multinationals gaan voortaan hun eerlijke deel in de belastingen



betalen” (SP, 2017, p. 17). Although this party shows a more specific attitude towards different types of companies, their criticality towards businesses is striking and cannot be found at the “center-right” categorized parties.

The snippets of the manifestos of the VVD and CDA show that these parties also try to appeal to entrepreneurs in contrast to more left parties (Jansen, 2017). To some degree these parties could even be attributed with issue party characteristics. The latter in combination with the observation with the center-right classification, would make these parties well suited as an indicator to examine the effect of classical center-right parties and business favoring provisions, of which e-services are an extension (Rijksoverheid, 2018). Hence the following expectation:

**H1a:** The stronger the VVD and CDA within a municipality, the more extensive the provision of e-services for companies in that municipality.

**H1b:** The strength of the VVD and CDA within a municipality has no effect on the provision of e-services for civilian in that municipality.

## ***2.2 Policy-seeking 2: Pragmatism***

The actual state of the municipal context might call for action regardless of the municipal’s dominant ideology. This is particularly true for the municipalities. The local level is less politicized than higher levels of government. Municipalities act more often predominantly on the basis of pragmatism. This difference is caused by three mechanisms: (a) the (lack in) local policy space, (b) the nature of local problems and (c) a culture of consensus (Boogers, 2010, p. 9-19).

Firstly, (a) national government over decades has increased its grip on local government. As a result of increasing supervision, monitoring and performance agreements, the local policy space for municipalities will gradually reduce. Secondly, (b) the relevant issues within the municipality are not particularly suited for political approaches. The living environment is one of the primary concerns of local governments. Simultaneously, the living environment is a domain which does not easily suit itself for particularly distinct and strong views. The gamut of possible attitudes towards this domain is rather limited compared to some of the national issues. Lastly, (c) the smaller scale of the municipalities causes a culture of consensus, Boogers (2010) argues. Local politicians meet frequently outside the town hall. These politicians meet in local associations and clubs, hence they are more intensively exposed to peer pressure. These three mechanisms provoke a less politicized arena.

Since local politicians are inclined to utilize pragmatic approaches, which is among other causes based on the tendency that local problems do not often lend themselves for politicized debates, a strong

inclination to respond directly to salient local problems in the local arena should be particularly high. Although problem-solving is not a synonym of pragmatism (Gross, 2009), it denotes precisely the part of pragmatism which is of interest for this paper. Politicians could, among other motivations, act out of the desire to provide suitable facilities for local issues, which are in line with the citizens' concerns (Jans, 2015).

Building on the statement that municipalities are more willing to address municipal problems, is that e-services in many cases hypothetically could serve as useful tools to combat certain issues. One of the most frequent and disruptive issues municipalities face is shrinkage (CBS, 2016). Shrinkage within a municipality is characterized by a period where more companies, respectively civilians, emigrate than immigrate. Creating a more attractive residential location is often pursued to impact migration for the better (Rijksoverheid, 2017). Since service provisions are both in general and specific terms<sup>3</sup> dimensions of attractiveness as business *and* residential locations, e-services could serve as useful tools for raising the attractiveness as a business and residential location (Atlas voor gemeenten, 2008; VNG, sd). E-services are particularly interesting for raising the attractiveness as business and residential location since e-services lend themselves for relatively prompt implementation and are in general terms positively embraced by users (Welch, 2004). The expectations which follows from this section are the following:

**H2:** The worse the attractiveness as business location a municipality is, the more extensive the provision of e-services for companies in that municipality.

**H3:** The worse the attractiveness as residential location a municipality is, the more extensive the provision of e-services for civilians in that municipality.

### ***2.3 Vote-seeking: Party Competition***

Then there is a vote seeking motive for policy innovation. Local politicians believe in the idea that adopting and implementing new policies will gain them and/or their party votes. Strong competition requires the competitor to work harder for "consumers". Innovation, among other instruments, is often embraced in these more volatile local political arenas in an attempt to win a bigger electorate (Jans, 2015).

Furthermore, Garcia-Sanchez et al. (2011) argue that interparty competition fuels the devolvement of institutional powers to citizen. The necessity to have closer communication with the voters opens the

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<sup>3</sup> Particularly for businesses, where municipal services are regarded as direct dimensions of the attractiveness as business location.

way for the development of electronical services. These services are generally assumed to increase the amount and preciseness of information for all parties involved. Citizen request more information in competitive arenas since they want to prove the (in)ability of the ruling parties (Gallego-Álvarez, Rodríguez-Domínguez, & García-Sánchez, 2010). Overall, political competition within a municipalities creates a more positive atmosphere for technological reforms, considering that these reforms (a) are perceived to be appealing to voters by local politicians (Jans, 2015) and (b) increase monitoring possibilities (Gallego-Álvarez, Rodríguez-Domínguez, & García-Sánchez, 2010). This leads to the next two hypotheses:

**H4:** The more keen party competition, the more extensive the provision of e-services for companies.

**H5:** The more keen party competition, the more extensive the provision of e-services for civilians.

#### ***2.4 Mixed motives: Ideology, Pragmatism and the moderating effect of Party Competition***

Thus far parties were treated as if they acted as monoliths or unitary bodies. This allows for the simplification of understanding the behavior of political parties. In certain situations this simplification causes more problems than utility. Treating parties as bodies that are made of two layers could prove to be the solution.

Firstly, there are the (a) “normal” members of a political party, those who wish to change society for the better, wanting to incorporate their (party’s) ideals into actual policies and reforms. The second group, (b) the party executives, to some extent also have the wish to positively impact public administration. Important to note however, is that these party executives are to much greater extent, compared to the normal members, led by personal motives. These executive have chances at gaining material or immaterial personal advantages by winning votes. Administrative posts are limited and these executives are often the first inline to be appointed (Denters, 1987, p. 50-54). Initially, the starting points of these two groups of actors are completely different. Whereas the normal members perceive policies as goals and electoral support as a mean, the party executives perceive electoral support as a goal and policies as means. Electoral support is a necessity for the realization of policy preferences. Hence, volatile competition pushes these normal members to act like career driven party executives (van den Doel, 1978, p. 145 & 146). As demonstrated, the starting motives of the two groups are rather different, the outcomes will be similar; a race for electoral appeal.

The general expectation which follows is that the ability to achieve ideological goals is dependent on the strength of political competition. Unchallenged political parties are better able to impose their

ideological preferences in the local policy making-process, instigated primarily by the “normal” members. Combining the latter with the reasoning in section 2.1, regarding ideology and innovation, the following expectations are constructed:

**H6:** The positive effect of the VVD and CDA on e-service provisions for companies is weakened by party competition.

If the political competition is more keen, the party executives, opt for a more neutral attitudes, which are more in line with the citizens needs and concerns. Pragmatic and problem orientated behaviors might gain votes by those who were affected by the problem. In this instance pragmatism might act, to some degree, as a vote-seeking motivation. Winning votes is off both internal groups’ interest. A bigger electorate does not only increases the likelihood of a more ideological driven sequential term, but it might also increase the likelihood of securing administrative posts. Hence, the expectation that pragmatism will play a more important role when it comes to explaining e-services provisions in times of severe political competition. Thus leading to the last hypotheses:

**H7a:** The negative effect of attractiveness as business location on e-service provisions for companies is strengthened by party competition.

**H7b:** The negative effect of attractiveness as residential location on e-service provisions for civilians is strengthened by party competition.

## ***2.5 Feasibility: Inhabitants***

Besides the wish to change things, the means to change things also must to some extent be present, in order to innovate (Mohr, 1969). Jans (2015, p. 29) argues that larger organizations wield more financial and human resources, resulting in higher competence regarding innovation.

The amount of financial and human resources is for Dutch municipalities positively related to the amount of inhabitants. Generally, the higher the number of inhabitants, the higher the amount of financial and human resources (VNG, 2015, p. 147 & 148). Municipal funds consist out of a number of streams. National funding and local taxation, among various smaller streams, make the total income of these municipalities. A large portion of the income is based directly or indirectly based on the amount of inhabitants. The allocation of national funds is undertaken while taken into account the amount of needs in municipalities. For every elderly within a municipality for example, extra funding is allocated to the municipality to enable it to provide the necessary services and utilities for these people. Furthermore, a local stream of income which is indirectly related to the amount of inhabitants is property tax. Property tax is the most notable local taxation (VNG, 2015). The more properties within

a municipality, the higher the amount of total collected taxes. Since it seems logical that the amount of inhabitants is positively associated with the amount of properties *and* the amount of properties should have a positive impact on the amount of municipal income, population size should also indirectly increase municipal capacity via this path. Many more examples could be provided to link the amount of inhabitants to the amount of municipal income. The amount of funds should enable municipalities to provide more services and subsequently also e-services, which is strengthened by the enlarged competences to innovate in these larger municipal organizations (Jans, 2015).

As mentioned several times now, the feasibility side of things is not the main interest of this paper. Factors related to feasibility will primarily serve as control variables. Furthermore, Jans (2015) identifies several other resource factors<sup>4</sup>, but these will not be included in this paper<sup>5</sup>.

**H8:** A larger population is related with higher municipal funds *and* municipal funds is related to higher amounts of e-service provisions for both companies *and* civilians.

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<sup>4</sup> Related to human and financial resources: organizational expertise and political attention. Social resources: horizontal or vertical policy networks and professional networks

<sup>5</sup> For two reasons: unnecessary complication and incomplete data

## 2.6 Schematic representations

In the theory section we have discussed a multitude of possible relations. The role of party competition could be twofold. On the one hand party competition could directly influence the amount of e-services for both companies and civilians (see figure 1), on the other hand, party competition could behave as a moderator for the other two main relations (see figure 2) in this paper. Important to note in the figures is the lack of signs, which is mainly caused by the two dimensionality of the dependent variable; E-services:

Figure 1: Schematic representation of the model, with party competition as direct influencer

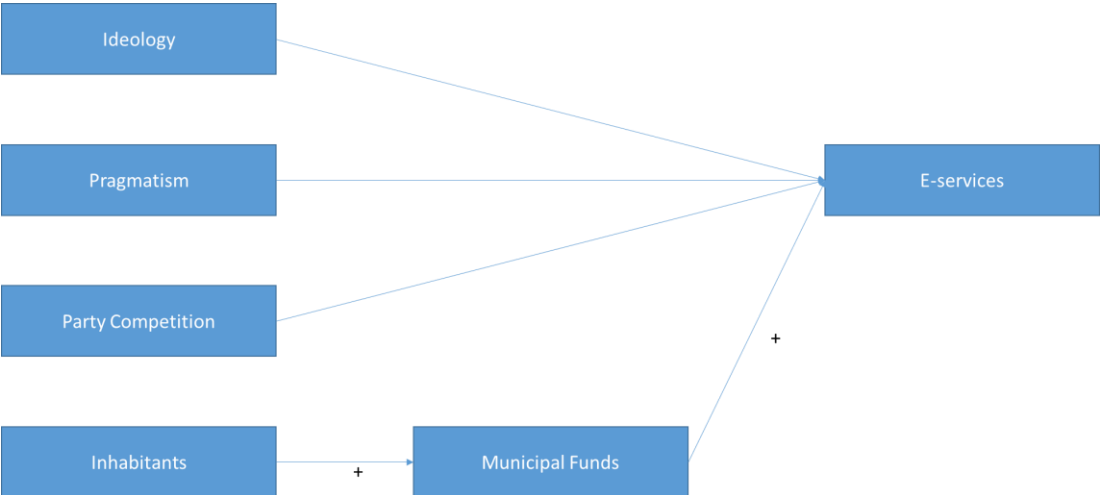
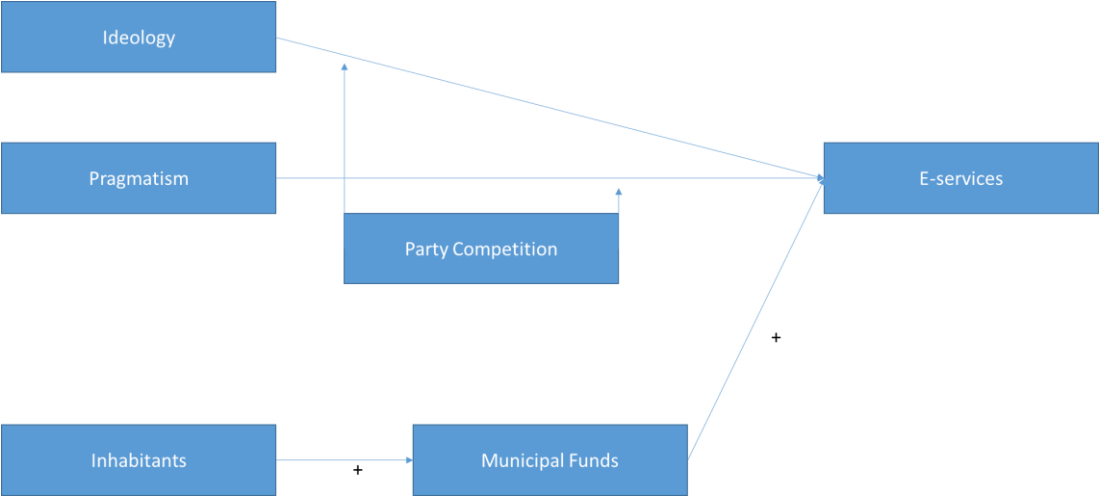


Figure 2: Schematic representation of the model, with party competition as moderator



### **3. Data and Methods**

#### **3.1 Introduction to Methods**

To empirically test the relationships as described in the theory section of this paper, data from multiple sources will be drawn and analyzed in SPSS 23 by IBM. The collected data is unobtrusively gathered and concerns most municipalities. The section with the key statistics are transferred into a new data file, called “E-services”.

Data regarding two main independent variables “ideology” and “party competition” come from the official database of election results; “Kiesraad”. The Kiesraad (2018) releases data concerning the amount of votes for each individual party in each municipality. Data regarding the municipal election of 2014 is used in this paper, since it is the most recent and proves to be most congruent with the data from 2016 regarding the provisions of e-services. The data is transferred to the file “E-services”.

Data regarding pragmatism will be drawn from the Dutch Central Bureau of Statistics. Problem severity does not allow itself to be easily operationalized. The extent of shrinkage and growth of either interest group within a municipalities will serve as an indicator for pragmatism or problem severity. In section 3.4 an elaborate description of the operationalization of the used indicators are given.

When combining these datasets some issues become apparent. Some municipalities having missing scores and will be omitted for this reason. Amalgamations are the primary reason that some municipalities have missing values.

#### **3.2 Dependent variable (Y): E-services**

Data regarding the dependent variable “e-service”, is freely accessible in appendix A of a report called: “Meting aanbod Digitale Dienstverlening 2016” (Deloitte, 2016). In this appendix, data regarding the percentage of digital matureness is split for companies and civilians. It contains these key statistics for 2014, 2015 and 2016. The last sections of this report are devoted to explaining the different e-services and scores on these items.

The original scores of the report entail the digital maturity of the municipality. The scores of 2016 will serve as an indicator for the dependent variable. Mainly, because municipal ideology will be based on data from 2014 and is expected to precede e-service provisions. Strictly speaking there are two dependent variables; e-services for companies *and* e-services for civilians.

A total of 64 e-services are identified. 14 of those apply solely to companies. 26 apply only to civilians. 24 of the 64 e-services apply to both companies and civilians. The municipalities receive scores ranging from 1 through 4<sup>6</sup>, where 1 is 0% maturity and 4 is 100% maturity on a specific e-service. The final scores for e-service provision for companies *and* e-service provision for civilians are calculated using formulas related to fractions.

### ***3.3 Independent variable (X<sub>1</sub>): Ideology***

A number of steps have to be conducted to achieve a suitable “ideology indicator”. The dataset depicts the number of votes for each party. The percentage of votes in the municipal is a much more suitable measure since it corrects for the size of the municipal population. The percentage of votes will be defined by the function of “votes for party X in municipality Y” times a hundred percent divided by “total amount of casted votes in municipality Y”. The sum of the percentages of votes for VVD and CDA in municipality Y will be constructed in order to indicate the center-right strength.

Although various local parties could probably be described as being very similar to the VVD and CDA, this would require an in-depth analysis of every local party, which there exist hundreds off, making it rather unfeasible. The exclusion of these local parties could in some cases lead to an underestimation of the “center-right political strength” within a municipality.

### ***3.4 Independent variable (X<sub>2</sub>): Pragmatism***

Pragmatism, or problem severity is a rather tricky variable. Unfortunately, there exist no such thing as comprehensive problem indicator. Attractiveness of a municipality is among other thing based on problems within the municipality. The municipal prognosed mutation in population size will serve as a the indicator for civic problems. The prognosis has been made in 2013 and has prognoses for the upcoming decades (Planbureau voor de Leefomgeving, sd). The relative difference between the prognosis of 2014 and 2040 would be best fit to use, since it gives a long term prediction about the attractiveness of municipalities. Secondly, data from 2013 is used since it could form the basis of policies by the newly installed municipal board. Unfortunately, such data is not available for the amount of companies. The relative change in companies is the closest approximation to the attractiveness of a municipality for businesses. Data regarding the absolute amount of settlements of companies is retrieved for the years 2013 and 2014, primarily because data prior to 2013 is incomplete and data from past 2014 seems illogical since the newly installed municipal board bases most of its

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<sup>6</sup> Also a missing can be attributed, which results in an exclusion of that particular service in the final score



decision on the data prior and during the times of the elections (CBS, 2018). The data will be transferred manually into the “base file”. Municipalities, which lack data for the two mentioned variables will be omitted. The next formula is used to calculate the percentage of change in the absolute amount of companies in 2014 in relation to 2013:

$$\text{Percentage of Change (Companies)} = \frac{\text{companies 2014} - \text{companies 2013}}{\text{companies 2013}} \times 100\%$$

Analogously, for prognosed civic settlement between 2014 and 2040:

$$\text{Prognosed Percentage of Change (Civilians)} = \frac{\text{prognosed inhabitants 2040} - \text{prognosed inhabitants 2014}}{\text{prognosed inhabitants 2014}} \times 100\%$$

The lower the score for percentage of change, the bigger the municipal problems for the respective group.

### **3.5 Independent variable (X<sub>3</sub>): Party competition**

One of the most accepted measures for party competition was created by Laakso and Taagepera (Gosolov, 2010). Based on an index equation for industrial concentration, the Laakso-Taagepera formula was created in order to compare political fragmentation between arenas. The formula goes as follows (Gosolov, 2010):

$$N_{LT} = \frac{1}{\sum_1^x s_i^2}$$

Where  $s_i$  is the size of the  $i$ -th component expressed as its decimal (absolute) share of the total.  $N_{LT}$  describes the number of equal-sized parties to which the given constellation of unequal-sized parties is equivalent. An outcome of one indicates that there is no political fragmentation. The higher the score for  $N$ , the higher the political fragmentation (Gosolov, 2010). Individual local parties are excluded from the analysis, only an aggregate of these parties is used, which is treated as one single competitor; “local parties”. This will however result, in certain cases, in an underestimation of the political fragmentation.

### 3.6 Control variable (C): Capacity

The capacity of municipalities should be considered. The relationship between municipal size and e-service provisions will be tested using the logarithmic values of the amount of inhabitants and municipal income in that respective municipality. This is done because distribution plots<sup>7</sup> show that the municipal size and income follow a logarithmic pattern. Furthermore, the indirect relationship between population size and e-service provisions is mediated by municipal funds *or* capacity. The logarithmic total amount of municipal income in 1000 euros will serve as the mediating variable and is an indicator of municipal capacity. Since the amount of inhabitants and capacity are hypothesized to function as a bases for municipal e-service provisions, it seems natural to use data from 2014. Values regarding population sizes are provided in the data retrieved from the Kiesraad. Data regarding the collected funds in 2014 is retrieved from CBS statline (CBS, 2018).

### 3.7 Descriptive statistics

Table 1. Descriptive Statistics

	Y <sub>com</sub>	Y <sub>civ</sub>	X <sub>1</sub>	X <sub>2</sub>	X <sub>2</sub>	X <sub>3</sub>	C <sub>1</sub>	C <sub>2</sub>
N=361	E-service provision for companies (2016)	E-service provision for civilians (2016)	% Votes for CDA + VVD (2014)	% Yearly Business Growth (2013-2014)	% Prognosed Civic Growth (2014-2040)	Party competition (2014)	Log(Inhabitants) (2014)	LOG(Municipal Funds in 1000 Euros) (2014)
Minimum	19	30	0	-96.05	-3.56	1.00 <sup>8</sup>	2.97	3.55
Maximum	95	92	81.51	187.85	5.56	8.76	5.91	6.78
Mean	53.79	67.48	30.81	3.82	1.58	4.70	4.44	4.81
Standard deviation	14.22	10.44	10.14	26.81	1.37	1.46	0.36	0.42

<sup>7</sup> See appendix 1.

<sup>8</sup> Although it looks like in certain municipalities the ruling political party is unchallenged, this is actually not the case. Several local parties have gained 100% of the votes however. Since, the votes on local parties are aggregated to one single competitor a score of 1 is attributed.

## 4. Results

### 4.1 Introduction to Results

Since multiple independent variables are expected to influence the dependent variable *and* the dependent variables are of a rational measurement level, multiple linear regression will be used to test the models<sup>9</sup>. Section 4.2.1<sup>10</sup> key feature is a correlation matrix will serve as a preliminary look at the relations between the individual independent variables *and* the dependent variables. The sections after the correlation section are devoted to testing the hypotheses. Relevant coefficients will be displayed in table form, with accompanying text discussing the implications of these coefficients.

### 4.2 Discussion of Results

#### 4.2.1 Bivariate analysis

Table 2. Bivariate Correlation Matrix

N=361	1	2	3	4	5	6	7
1. Company E-service	_____						
2. Civic E-service	.74***	_____					
3. % Votes for CDA + VVD	-.10*	-.05	_____				
4. Yearly Prognosed Civic Growth	.07	.15***	-.14**	_____			
5. Yearly Business Growth	.08	.09	.10*	.01	_____		
6. Political Fragmentation	.23***	.27***	-.18***	.11**	.05	_____	
7. Log(Inhabitants)	.43***	.47***	-.32***	.17***	-.06	.50***	_____
8. Log(Municipal Funds)	.42***	.45***	-.38***	.16***	-.08	.49***	.97***

\*p<0.1 \*\*p<0.05 \*\*\*p<0.01 (2-sided)

The most extreme correlation between the independent variables is 0.97(p<0.01). This is between the amount of inhabitants and municipal funds, which is expected since municipal funds is theorized to have mediating properties in the relation between the dependent variables and the amount of inhabitants. The relationship between municipal inhabitants and funds is confirmed. The amount of

<sup>9</sup>. Linear regression assumes the used data checks six criteria. These six assumptions are: linearity or normality of data, no perfect multicollinearity, homoscedasticity, normality of residuals, absence of influential data points and independence of errors (Heeringa, sd).

<sup>10</sup> It also functions an extension of the assumption assessment, specifically multicollinearity.

inhabitants will not be included in the regression analysis, since including both variables; size and funds would most definitely cause issues related to multicollinearity.

The next highest correlation is between inhabitants and political fragmentation 0.50 ( $p < 0.01$ ) which is below all academically described thresholds. Multicollinearity, should for this reason not be a problem<sup>11</sup>. On a first glance the dependent variables do associate with multiple independent variables. At this point no conclusions should be drawn, since multiple linear regression also takes into account the multidimensionality of the relations, different results could emerge.

### **4.2.3 Multiple linear regression analysis**

#### **4.2.3.1 Model build-up**

As mentioned earlier, multiple linear regression analysis is the type of statistics used for checking models with multiple independent variables and dependent variable(s) at ratio levels. Two models are constructed in order to test the hypothesized relations in an incremental and systemic fashion. Table 3 and 4 show the model build-up for testing the hypotheses in relation to, respectively, civic e-service provisions and company e-service provisions. The plusses and minuses portray expectations as derived in the theory chapter, but taking into account transformations made in the “data and methods” chapter and denote the expected relation of that variable on the included dependent variable. The plusses and minuses displayed in the rows of the interaction variables could be described as their expected impact on the original relation of the independent variable (other than party competition) and the included dependent variable.

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<sup>11</sup> Supported by the Variance Inflation Factor analysis

Table 3. Model build-up for company e-service provisions, with expectations as stated in theory section.

	1a	2a	3a	4a	5a
Center-Right Strength	+	+	+	+	+
Pragmatism					
	<i>Yearly Prognosed Civic Growth</i>	O	O	O	O
	<i>Yearly Business Growth</i>	-	-	-	-
Party Competition	+	+	+	+	+
Center-Right Strength x PC	.	.	-	.	.
Civic Attractiveness x PC	.	.	.	O	.
Business Attractiveness x PC	.	.	.	.	+
Municipal Funds	.	+	+	+	+

. = omitted, O = no relation

Table 4. Model build-up for civic e-service provisions, with expectations as stated in theory section.

	1b	2b	3b	4b	5b
Center-Right Strength	O	O	O	O	O
Pragmatism					
	<i>Yearly Prognosed Civic Growth</i>	-	-	-	-
	<i>Yearly Business Growth</i>	O	O	O	O
Party Competition	+	+	+	+	+
Center-Right Strength x PC	.	.	O	.	.
Civic Attractiveness x PC	.	.	.	+	.
Business Attractiveness x PC	.	.	.	.	O
Municipal Funds	.	+	+	+	+

. = omitted, O = no relation

### 4.2.3.2 Regression results

Below the first regression table is presented. The B coefficients, standard errors and significance levels of the constant and included independent variables are presented. Furthermore, the coefficient of determinant or  $R^2$  of the model is provided. Beneath the table an analysis of the presented coefficients can be found.

#### 4.2.3.2.1 Results for direct models

Table 5. Regression results (model 1)

N=361		1a		1b		
		Business e-service provisions		Civic e-service provisions		
		B (Sig. 2-sided)	$\beta$	B (Sig. 2-sided)	$\beta$	
Constant		45.28 (0.00)	-	58.11 (0.00)	-	
Independent	Center-Right Strength	-0.09 (0.24)	-0.06	0.00 (0.99)	0.00	
	Pragmatism					
		Civic Growth	0.02 (0.52)	0.03	0.05 (0.02)	0.12
		Business Growth	0.83 (0.12)	0.08	0.55 (0.16)	0.07
	Party Competition	2.09 (0.00)	0.22	1.77 (0.00)	0.25	
$R^2$		0.066		0.091		

In the first two models, 1a and 1b, both constants are significant<sup>12</sup>, but of very little interest for explaining variance among municipalities. These constant (1a: 45.28, 1b: 58.11) are rather close to the means of this sample ( $Y_{com}$ : 53.79,  $Y_{civ}$ : 67.48) indicating low explanatory power of the included variables. This is affirmed by the relatively low  $R^2$ 's of 0.066 and respectively 0.091.

The coefficients for center-right indicate that there is no relation between this variable and either of the two dependent variables. This is not as expected, the strength of the center-right parties within a municipality was hypothesized to have a positive effect on the amount of e-service provisions for companies.

<sup>12</sup> Significance is defined as  $p < 0.05$ , 2-sided

Regarding pragmatism, the yearly prognosed civic growth is a significant predictor for the amount of e-service provisions for civilians. The positive B-coefficient (0.05) in model 1b is not in line with expectations derived from theory. This positive B-coefficient indicates that prognosed civic growth has a positive effect on the amount of e-service provisions provided by municipalities. This is contrary to the expectation that low scoring municipalities would put a bigger effort into raising the attractiveness of their respective municipality by investing in e-services.

Party competition has positive and significant B-coefficients (2.09, 1.77) in both models. These findings are in line with the hypotheses **H4** and **H5**. At this point no conclusions about the linear model should be drawn however. Adding the control variables could in some cases alter the somewhat unexpected findings of model 1a and/or 1b. Furthermore there is the model with moderators to consider; the so-called “interaction model”.

Table 6. Regression results (model 2)

N=361		2a		2b		
		Business e-service provisions		Civic e-service provisions		
		B (Sig. 2-sided)	$\beta$	B (Sig. 2-sided)	$\beta$	
Constant		-23.18 (0.02)	-	3.03 (0.67)	-	
Independent	Center-Right Strength	0.08 (0.26)	0.06	0.14 (0.01)	0.13	
	Pragmatism					
		Civic Growth	0.00 (0.98)	0.00	0.03 (0.06)	0.09
		Business Growth	1.18 (0.02)	0.11	0.83 (0.02)	0.11
	Party Competition	0.25 (0.64)	0.03	0.29 (0.45)	0.04	
Control	Municipal Funds	14.86 (0.00)	0.43	12.95 (0.08)	0.48	
R <sup>2</sup>		0.191		0.241		

The constants for model 2a (-23.18) and 2b (3.03) are further located from the means of the dependent variables compared to model 1a (45.28) and 1b (58.11), suggesting that the included variables explain more of the variance in the dependent variables compared to previous models (1a and 1b). The increase in R<sup>2</sup>'s support this notion, from 0.066 (1a) and 0.091 (1b) to respectively, 0.191 (2a) and 0.241 (2b).

The coefficients of model 2a show that there is no effect of the center-right strength, prognosed civic growth and party competition on the amount of municipal e-service provisions for companies. Furthermore a positive effect of business growth on the dependent variable can be observed. All of these findings are contrary earlier beliefs, except the lack of relation between prognosed civic growth and the dependent variable.

The coefficients of model 2b learn that the strength of the center-right parties has a positive effect on the amount of e-services for civilians. The prognosed civic growth and business growth also have a positive significant effect on the amount of e-services for civilians. Party competition has no relation with the dependent variables. All of these findings refute the expectations as formulated in chapter 2.

The increased explanatory power of models 2a and 2b are primarily the result of including the control variable, capacity. The  $\beta$  for the amount of funds (2a: 0.43, 2b: 0.48) is higher than the sum of all other included variables'  $\beta$ 's (2a: 0.20, 2b: 0.37) in both models. The strength and direction of the coefficients associated with capacity support the acceptance of **H8**.

Another striking observation which can be made at this point is the transformation of the coefficients for party competition when moving from model 1a and 1b to respectively 2a and 2b. The B-coefficients decrease quite drastically while the standard errors remain at roughly similar levels, hence the dissipation of any significance which was still present in models 1a and 1b. As can be seen in table 2 and the accompanying text, the correlation between party competition and municipal capacity is third highest of the independent and control variables with 0.49. A majority of the power of the coefficients for party competition in model 1a and 1b should be attributed to municipal funds, which is caused by the correlation between these variables, making the initial finding a spurious one. The latter reasoning supports the refutation of **H4** and **H5**, justifying the taken caution in the text accompanying table 5.



#### 4.2.3.2.2 Results for interaction models

##### 4.2.3.2.2.1 Center-right strength x Party competition

Table 7. Regression results (model 3)<sup>13</sup>

N=361		3a		3b		
		Business e-service provisions		Civic e-service provisions		
		B (Sig. 2-sided)	$\beta$	B (Sig. 2-sided)	$\beta$	
Constant		54.10 (0.00)	-	67.64 (0.00)	-	
Independent	Center-Right Strength	0.19 (0.02)	-	0.19 (0.00)	-	
	Pragmatism	Civic Growth	0.00 (0.96)	-	0.03 (0.07)	-
		Business Growth	1.05 (0.04)	-	0.77 (0.03)	-
	Party Competition		0.61 (0.27)	-	0.46 (0.24)	-
Moderator	Center-Right Strength x Party Competition		0.12 (0.02)	-	0.06 (0.10)	-
	Pragmatism x Party Competition	Civic Growth	-	-	-	-
		Business Growth	-	-	-	-
Control	Municipal Funds	16.61 (0.00)	-	12.81 (0.00)	-	
R <sup>2</sup>		0.199		0.247		

Table 7 shows the coefficients of models 3a and 3b. In these models party competition is programmed to moderate the relation between center-right strength and the included dependent variable. Since all continuous variables are centered, only the relevant variables will be analyzed in depth, since comparing these centered variables to non-centered variables from earlier tests in most cases does not make sense. This will also be the case for models 4 and 5.

<sup>13</sup> All continuous variables are centered in this table

The explanatory power of these interaction models are slightly higher than earlier models. The variables, not involved in the moderation effect, in models 3a and 3b behave roughly similar as those in models 2a and 2b.

The coefficients of the interaction terms are of most interest to us. Party competition does not moderate the relationship between center-right strength and civic e-service provision significantly. Figure 4 shows in graph format that higher amounts of party competition make the effect of center-right strength on civic e-service provisions stronger, but not enough to call it a significant moderator. The 95%-confidence intervals of the lines overlap, making them not statistically distinct from one another. This is in line with expectations, since there was no initial relation between center-right strength and civic e-service provisions expected, let alone the presence of a moderation mechanism. Simultaneously, the B-coefficient for center-right strength suggesting center-right strength is a positive and significant predictor of civic e-service provisions, which is similarly as earlier findings unexpected.

Figure 3. Party Competition as a mediator of the relation between center-right strength and business e-service provisions.

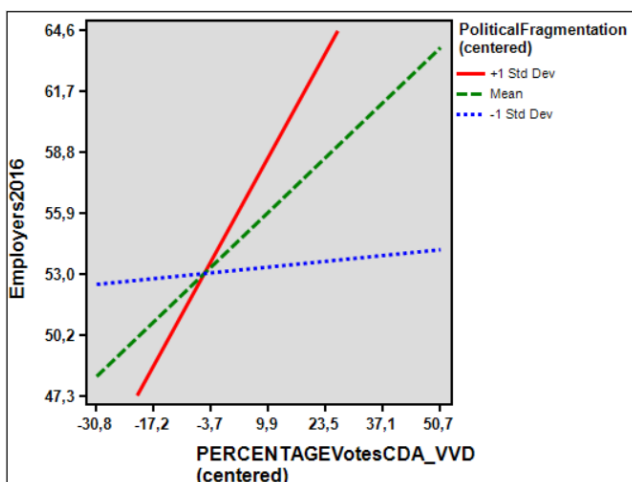
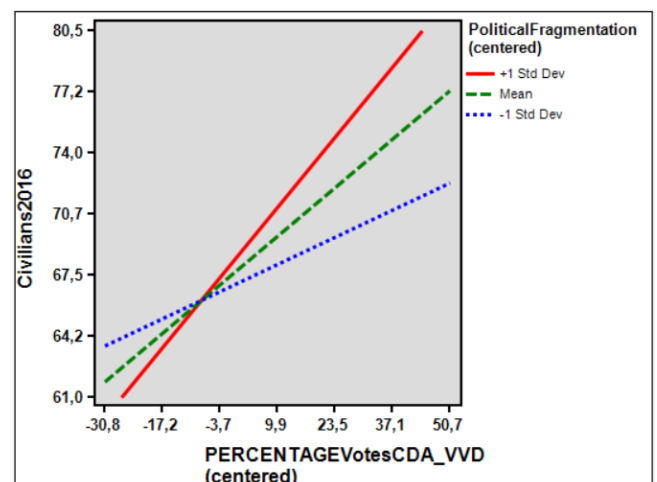


Figure 4. Party Competition as a mediator of the relation between center-right strength and civic e-service provisions.



In model 3b, with e-service provisions for businesses as the dependent variable, the interaction term is an insignificant moderator of the relation between center-right strength and municipal business e-service provisions<sup>14</sup>. Figure 3 shows in graph format that higher levels of party competition lead to a stronger, more positive, effect of the independent on the dependent variable. Since the interaction term strengthens the effect of the center-right parties on the dependent variable, it could be the case that there could be a significant effect of center-right strength on e-service provisions for companies but *only* in municipalities where the political fragmentation is relatively high.

<sup>14</sup> For model 3a: +1 Std Dev = 0.177 : 0.550, Mean = 0.024 : 0.359, -1 Std Dev = -0.159 : 0.199.

For model 3b: +1 Std Dev = -0.751 : 1.299, Mean = 0.071 : 0.310, -1 Std Dev = -0.946 : 1.159.

The confidence intervals of the interaction lines are overlapping and hence not significantly different.

To test the latter suspicion the sample is cut into three subsamples. The three subsamples are divided by party competition. The municipalities which belong to the lowest 25% of the original sample form the sample called “low party competition”, the municipalities between 25% and 75% form the “middle party competition” group and the municipalities which are above the 75% party competition observation threshold make the “high party competition” group. The table below shows the coefficients for center-right strength for each group individually in a regression model analogously to model 2b.

*Table 8. Coefficients for Center-Right strength on Business E-Service Provision, split per level of Party Competition*

Group	N	B (se)	$\beta$	Sig. (2-sided)
Low party competition	90	0.09 (0.13)	0.09	0.464
Middle party competition	181	0.12 (0.11)	0.09	0.260
High party competition	90	0.48 (0.25)	0.22	0.059

Dependent Variable: Business E-service Provision

The earlier suspicion does appear to turn out to be true. The relationship between the center-right strength and business e-service provision is only true when also higher levels of party competition is present. This is contrary earlier beliefs that higher levels of party competition are hypothesized to make parties regress towards the mean and behave less ideologically. Table 7, figures 3 and 4 and table 8 suggest that the opposite might be true. The latter points toward the refutation of **H6**.

At this point also sub conclusions could be drawn about the effect of the strength of center-right parties. The correlation matrix in section 4.2.1, showed an unexpected, yet weak negative association between center-right strength and e-services for companies and table 5 and 6 showed no sign of a direct relationship between the center-right strength and the amount of e-services for companies. These findings support the notion that there is no unconditional relation between dependent and independent variable. Table 7 and 8 hint on a conditional relationship. The effect of center-right strength on business e-service provision only holds in municipalities with higher amounts of political competition. In general terms **H1a** is rejected, due to the lack of an unconditional relationship, in specific contexts and conditions however, the relation holds.

Surprisingly, table 6 and 7 show that center-right strength has a positive effect on civic e-service provisions. This is contrary expectations as defined in **H1b**. In the conclusion and discussion chapters these rather unexpected findings will be discussed more elaborately.

#### 4.2.3.2.2.2 Civic growth x Party competition

Table 9. Regression results (model 4)<sup>15</sup>

N=361				4a		4b	
				Business e-service provisions		Civic e-service provisions	
				B (Sig. 2-sided)	$\beta$	B (Sig. 2-sided)	$\beta$
Constant				54.01 (0.00)	-	67.60 (0.00)	-
Independent	Center-Right Strength			0.01 (0.23)	-	0.14 (0.01)	-
	Pragmatism	Civic Growth		-0.01 (0.81)	-	0.03 (0.10)	-
			Business Growth	1.12 (0.02)	-	0.83 (0.02)	-
	Party Competition			0.18 (0.73)	-	0.25 (0.51)	-
Moderator	Ideology x Party Competition			-	-	-	-
	Pragmatism x Party Competition	Civic Growth		-0.05 (0.06)	-	-0.03 (0.14)	-
			Business Growth	-	-	-	-
Control	Municipal Funds			15.29 (0.00)	-	12.19 (0.00)	-
R <sup>2</sup>				0.199		0.245	

In table 9 the relevant coefficients are presented for model 4a and 4b. The coefficients for civic growth in both models behave similarly to earlier models; positive and significant with civic e-service provision as a dependent variable and no relation with business e-service provision as a dependent variable.

The interaction term has a negative B-coefficient<sup>16</sup> which is in line with earlier stated expectations. Civic growth has a *more* positive effect on the dependent variables, *if lower* levels of party competition are present.

<sup>15</sup> All continuous variables are centered in this table

<sup>16</sup> One sided significance

Figures 5 and 6 visually portray that different levels of party competition produce very different slopes and hence B-coefficients, looking at the confidence intervals of these lines no interaction effect can be detected<sup>17</sup>. For closer examination, tables will be produced, analogously to table 8. The sample of municipalities are again split, based on their level of party competition, into three groups.

Figure 5. Party Competition as a mediator of the relation between civic growth and business e-service provisions.

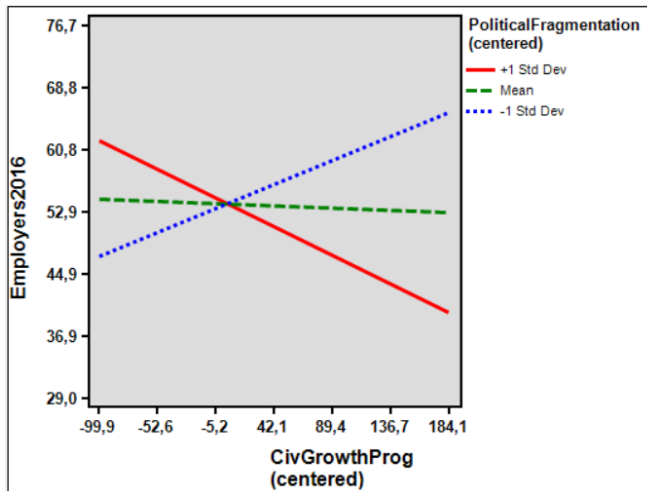
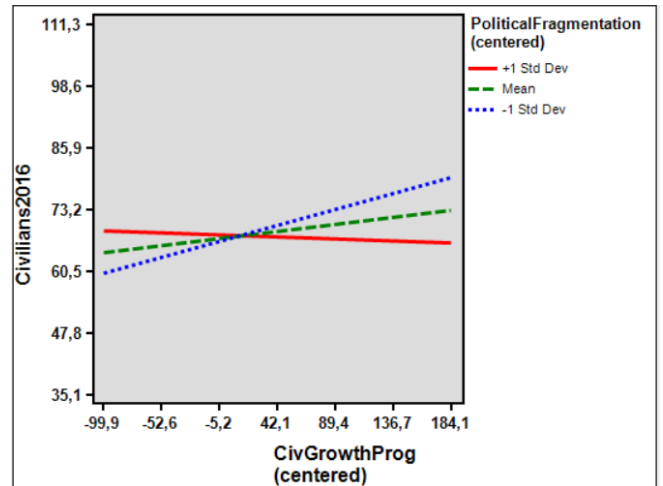


Figure 6. Party Competition as a mediator of the relation between civic growth and civic e-service provisions.



Both table 10 and 11 show that the B-coefficient for civic growth on the included dependent variable, lowers when party competition levels are higher. This could also be seen in the figures above. The B-coefficients for civic growth do not become significant predictors however.

<sup>17</sup> For model 4a: +1 Std Dev = -1.519 : 1.363, Mean = -0.057 : 0.045, -1 Std Dev = -1.378 : 1.509.  
For model 4b: +1 Std Dev = -1.036 : 1.018, Mean = -0.006 : 0.067, -1 Std Dev = -0.959 : 1.098.

Table 10. Coefficients for Civic Growth on Business E-Service Provision, split per level of Party Competition

Group	N	B (se)	$\beta$	Sig.
Low party competition	90	0.12 (0.09)	0.14	0.180
Middle party competition	181	-0.01 (0.02)	-0.03	0.645
High party competition	90	-0.10 (0.09)	-0.11	0.269

Dependent Variable: Business E-service Provision

Table 11. Coefficients for Civic Growth on Civic E-Service Provision, split per level of Party Competition

Group	N	B (se)	$\beta$	Sig.
Low party competition	90	0.07 (0.06)	0.12	0.226
Middle party competition	181	0.03 (0.02)	0.11	0.103
High party competition	90	-0.06 (0.07)	-0.08	0.394

Dependent Variable: Civic E-service Provision

The findings in table 11 confirm the suspicion coined by the confidence intervals of the interaction lines, there are *no* interaction effects at work in model 4a and 4b. Furthermore, **H3** should be rejected, although tables 5 and 6 show an effect of civic growth on civic e-service provision, they are in the wrong direction. A negative relation between growth/attractiveness and e-service provision was expected, which is not supported by the results. Even if party competition, would moderate the relation between civic growth and e-service provision for civilians in the expected way, H7b would not automatically get accepted .

#### 4.2.3.2.2.2 Business growth x Party competition

Table 12. Regression results (model 5)<sup>18</sup>

N=361		5a		5b		
		Business e-service provisions		Civic e-service provisions		
		B (Sig. 2-sided)	$\beta$	B (Sig. 2-sided)	$\beta$	
	Constant	53.82 (0.00)	-	67.50 (0.00)	-	
Independent	Center-Right Strength	0.09 (0.22)	-	0.14 (0.01)	-	
	Pragmatism					
		Civic Growth	0.00 (0.99)	-	0.03 (0.06)	-
		Business Growth	1.14 (0.02)	-	0.83 (0.02)	-
	Party Competition	0.22 (0.68)	-	0.28 (0.46)	-	
Moderator	Center-Right Strength x Party Competition	-	-	-	-	
	Pragmatism x Party Competition					
		Civic Growth	-	-	-	
		Business Growth	-0.30 (0.37)	-	-0.06 (0.81)	-
Control	Municipal Funds	15.07 (0.00)	-	11.99 (0.00)	-	
R <sup>2</sup>		0.192		0.241		

In table 12 the coefficients for models 5a and 5b are presented. The B-coefficients for business growth or attractiveness as a business location are positive and significant in both models. Business growth was expected to have a negative effect on e-service provisions for businesses, this is not supported by any of the calculated regression results and **H2** is for that reason rejected.

In the figures below the interaction graphs are provided. Visually the slopes of the lines look very similar, indicating that different levels of party competition produce relatively similar B-coefficients for business growth when it comes to predicting the respective dependent variable<sup>19</sup>. The lack of

<sup>18</sup> All continuous variables are centered in this table

<sup>19</sup> For model 5a: +1 Std Dev = -0.291: 1.693, Mean = 0.153 : 2.136, -1 Std Dev = -0.592 : 2.584.  
For model 5b: +1 Std Dev = 0.034: 1.447, Mean = 0.120 : 1.531, -1 Std Dev = 0.202 : 1.620.

significance of the interaction terms' B-coefficients and the overlapping confidence intervals of these lines confirm this observation. Latter statements support the refutation of **H7a**.

Figure 7. Party Competition as a mediator of the relation between business growth and business e-service provisions.

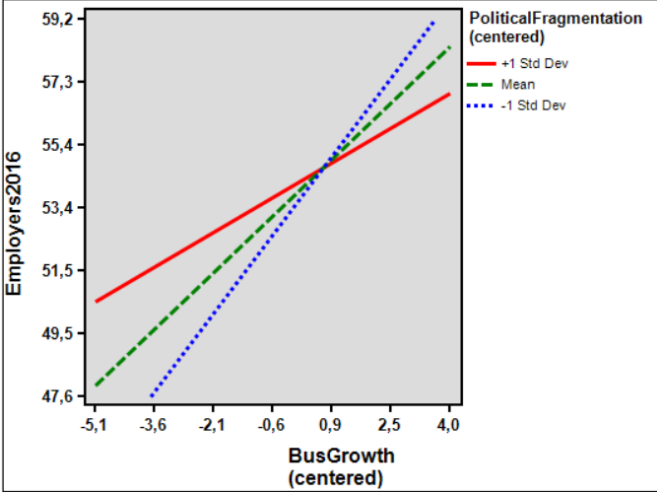
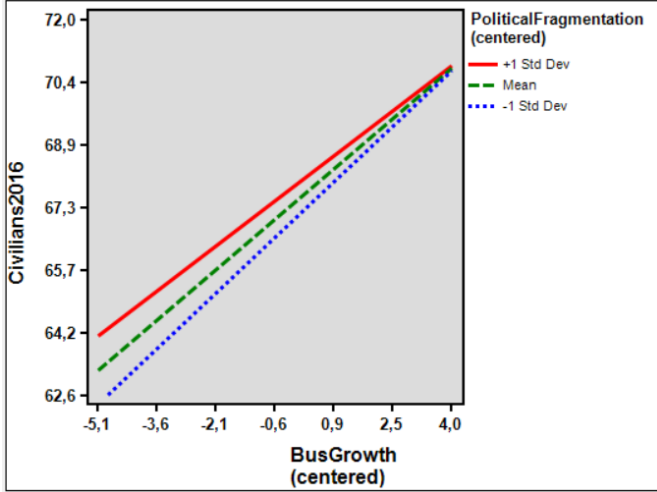


Figure 8. Party Competition as a mediator of the relation between business growth and civic e-service provisions.



All in all, most of the hypotheses are rejected. Only **H8**, is confirmed as is. Some of the included variables showed indications of prediction properties in relation to e-services for civilians and/or businesses, but in an opposite way as was theorized. A summary and elaboration is provided in the conclusion chapter.



## **5. Conclusion and Discussion**

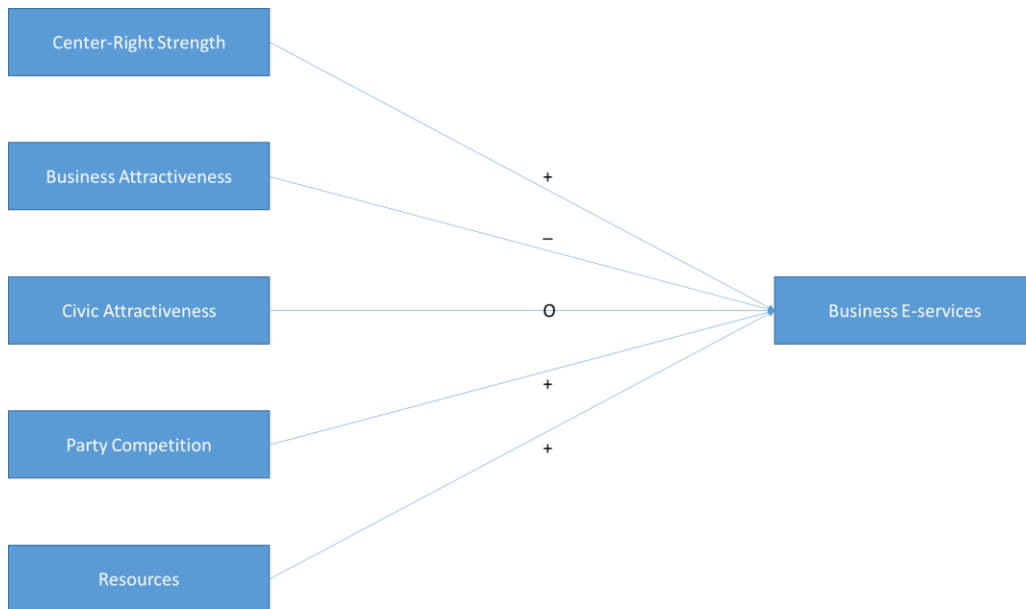
In the introduction of this paper the main research question is provided: “To what extent do party ideologies, pragmatism and party competition explain differences across municipalities in the adoption of e-services for companies and civilians?”. In an attempt to answer this multidimensional main question, three sub question were constructed. These sub questions are:

1. To what extent do party ideologies, pragmatism and party competition influence the provision of e-services for companies between municipalities?
2. To what extent do party ideologies, pragmatism and party competition influence the provision of e-services for civilians between municipalities?
3. What are the differences and similarities between explaining e-service provisions for companies *and* civilians between municipalities?

In this conclusion the sub questions are individually addressed to gain an answer on the main research question. Firstly, the expected relations between the center-right strength, business attractiveness, civic attractiveness, party competition, resources *and* the first dependent variable, e-service provisions for companies, will be displayed. The trough statistics found relationships are displayed shortly after. Lastly the discrepancies between expected and found relations will be discussed and elaborated on. Figure 9 shows the original expectations related to the relations between the independent variables and business e-service provisions.

### 5.1 Sub question 1: party ideologies, pragmatism, party competition and the provision of e-services for companies

Figure 9. *Expected* relations between independent variables and E-service provisions for companies



+ = positive relation, -- = negative relation, O = no relation

Firstly, a short recap of the leading lines of argumentations that functioned as the bases of the theoretical expectations. The CDA and VVD are characterized as center-right parties (parlement.com, 2017), which put emphasis on businesses as important economic drivers (CDA, 2016; VVD, 2017). Since, these parties are particularly concerned with the well doing of businesses, hypothesized was that these parties would provide more e-services and services in general for companies.

Attractiveness as a business location is the second independent variable. Since shrinkage of businesses and vacancy are serious and impactful issues in many municipalities, municipalities were expected to try to counteract this phenomenon by increasing their attractiveness through the provision of e-services for companies. Simultaneously, no expectation was constructed regarding civic attractiveness and e-service provisions for companies.

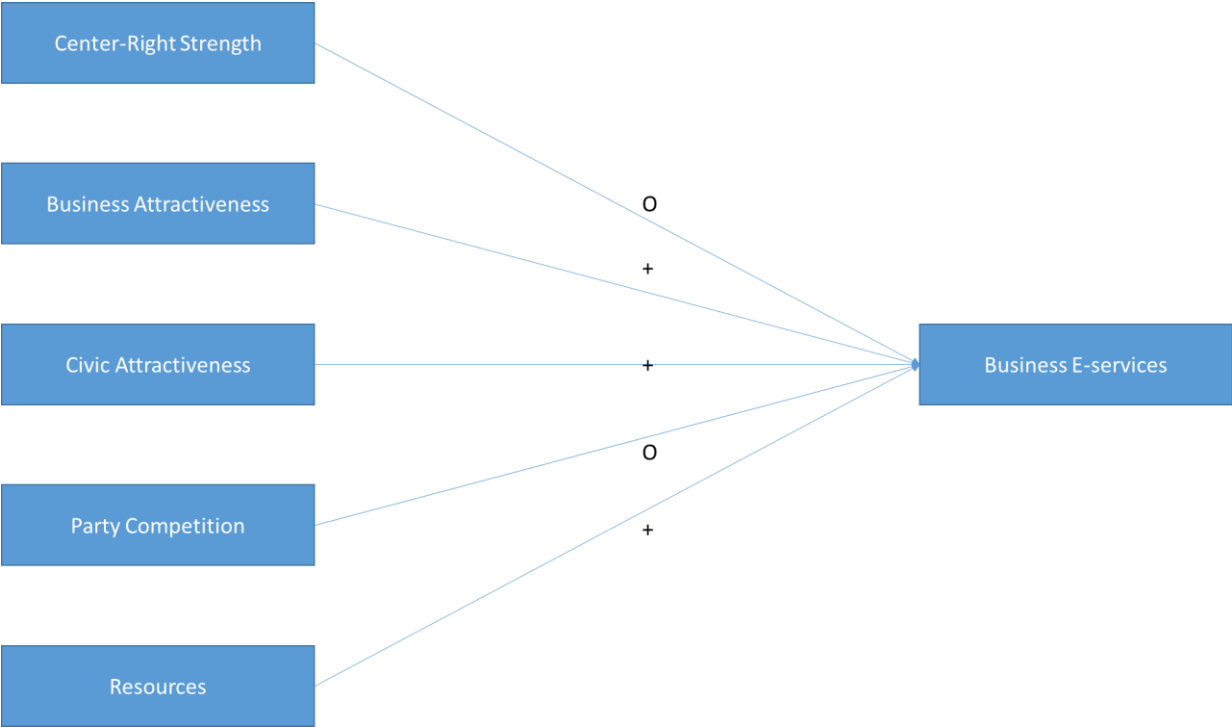
Party competition was expected to increase the amount of e-service provision for companies, since the usage of innovation is applied in order to outcompete competitors. Furthermore, subjects demand more information since they could use this information to judge the performance of parties. Generally, political competition creates a positive atmosphere for technological reforms.

Besides the wish to implement e-services, municipalities must also be capable to do it. For this reason municipal funds are also expected to positively affect the provision of e-services for companies.

Finally, an interaction model was theorized. Expected was that party competition altered the relation between some of the other independent variables with e-services provisions for companies. The following two expectation were constructed. More political competition causes (a) the effect of the center-right strength on e-services provisions for companies to weaken *and* (b) the effect of business attractiveness on e-service provisions for companies to strengthen. The general underlying driving mechanism regarding these interaction hypotheses was that parties would behave less ideological and more practical or pragmatic when faced with increased competition.

Below, the found relationships are displayed and discussed.

Figure 10. Found relations between independent variables and E-service provisions for companies



+ = positive relation, -- = negative relation, O = no relation

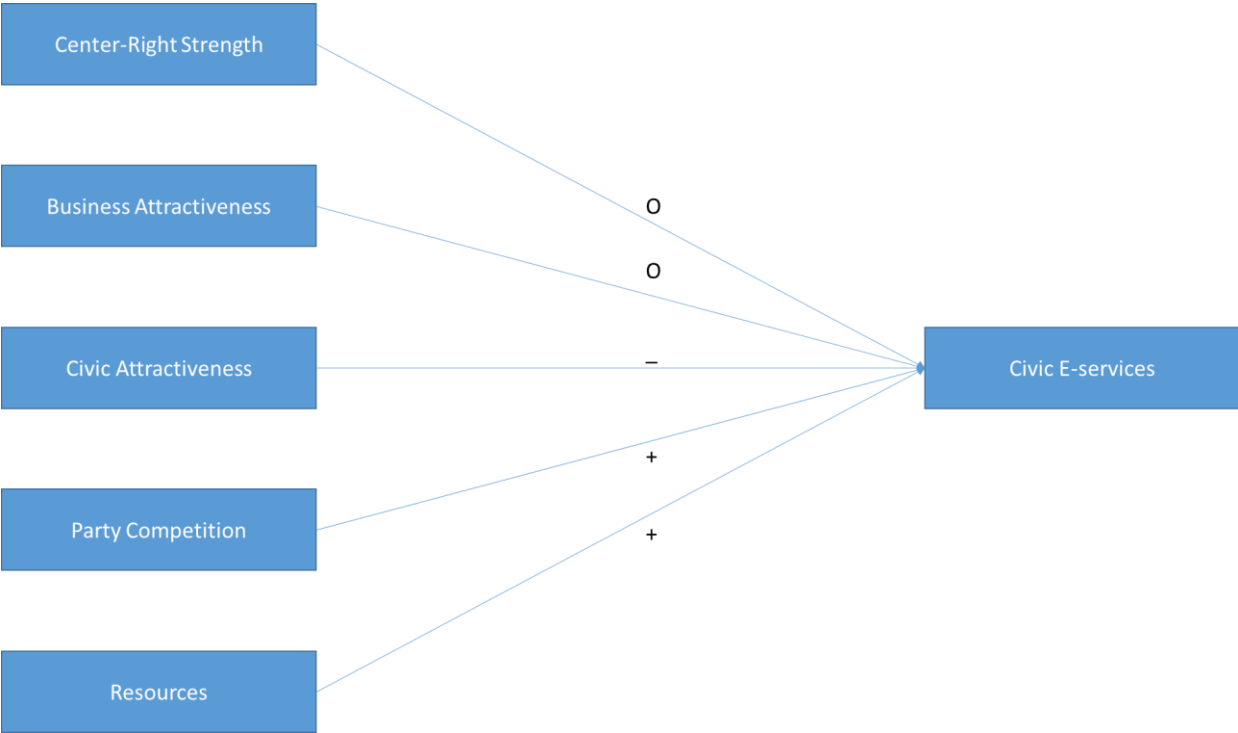
Firstly, there are a number of variables which do not have a relation with e-service provisions for companies. Center-right strength, party competition and none of the interaction relations were found to have a relation with e-service provisions for companies in the results chapter of this paper. The corresponding hypotheses; **H1a**<sup>20</sup>, **H4**, **H6** and **H7a**, are rejected for this reason.

Business and civic attractiveness had in some models no effect and in others positive effects on e-service provisions for companies. Business attractiveness did in no instance behave as previously expected. **H2** is for that reason rejected.

Only the amount of municipal resources behaved as expected. Municipal funds contribute to the provision of e-services for companies. Since **H8**, concerns e-service provisions for *both* companies *and* civilians, a similar confirmation should be found for the effect of municipal funds on civic e-service provisions in order to definitively accept **H8**.

**5.2 Sub question 2: party ideologies, pragmatism, party competition and the provision of e-services for civilians**

Figure 11. *Expected* relations between independent variables and E-service provisions for civilians



+ = positive relation, -- = negative relation, O = no relation

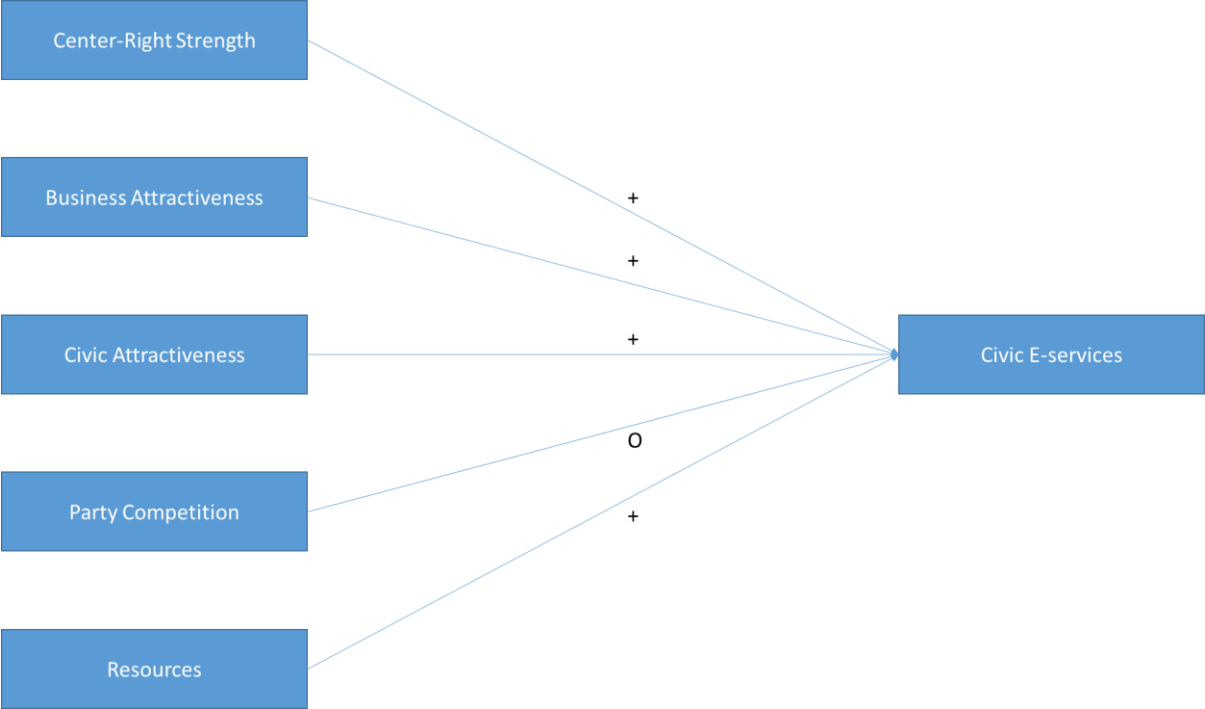
<sup>20</sup> Only in highly competitive arenas does the center-right strength have a positive effect on e-service provisions for companies

Again, a short recap of the leading lines of argumentation is provided, but this time related to civic e-service provisions. The strength of the center-right parties was expected to have no particular effect on the civic e-service provision. There was simply no reason to assume such a relation.

Civic attractiveness was expected function similarly for civic e-service provisions as business attractiveness functioned for e-service provisions for companies. Again, municipalities were expected to counteract a declining population size by providing services for civilians. No expectations were constructed regarding the effect of business attractiveness on civic e-service provisions.

Party competition was expected to affect civic e-service provision similarly as it would affect e-service provisions for companies. Nota bene, party competition creates a positive atmosphere for technological reforms. Municipal funds was also expected to increase the amount of e-services for both companies and civilians. Furthermore, an interaction was expected. Party competition was expected to strengthen the negative effect of civic attractiveness on civic e-service provision. Figure 12 displays the relations found as a result of used statistical test.

Figure 12. Found relations between independent variables and E-service provisions for civilians



+ = positive relation, -- = negative relation, O = no relation

Party competition, both direct and as a moderator, proved to have no effect on the civic e-service provision. These results are not in line with the corresponding hypotheses, **H5** and **H7b**.

Center-right strength and business attractiveness both have a positive effect on the amount of civic e-services. This is unexpected since these variables were not theoretically linked with civic e-services.

Especially center-right strength behaved in an unforeseen fashion, since there is an explicit expectation stated in the theory section; **H1b** is rejected.

Civic attractiveness does have an effect on civic e-service provision, but in an opposite way. The lower the expected municipal shrinkage, the higher the amount of civic e-services provided. Hence, **H3** is rejected.

The effect of municipal funds on e-service provisions for civilians is, just as the effect on e-service provisions for civilians, positive and as expected; **H8** is there for confirmed.

### ***5.3 The differences and similarities between e-service provisions for companies and civilians***

The center-right strength only plays a role in civic e-service provision and positively effects civic e-service provision. Both business and civic attractiveness positively affect the amount of e-services for *both companies and civilians*. Party competition is not relevant for the provision of e-services, both as an independent variable and a moderator. The amount of municipal funds plays an important role in the provision of e-services for *both companies and civilians*. In the upcoming sections some unexpected findings, limitations and recommendations are discussed.

Findings regarding the ideology variable are rather unexpected. Several factors could play a role here. In this paper all local departments of the CDA and VVD are characterized as being center-right. In some cases this could prove to be untrue. Local departments are primarily ran by local politicians. Some of these local departments are more left than their national counter-parts. However, since certain local departments also could be “more” center-right, some sort of balance is achieved with a position on the ideology scale, not far from the initial national position.

A different line of reasoning could however explain the findings related to ideology. Perhaps, the interest group of the political center-right itself is not related with the deliverance of e-services. Right parties generally propagate a lean and efficient government. E-services could help the effort in achieving such an ideal type of government. Since, e-services are relatively new concepts, the (long-term) effects of e-services are not well understood yet. The perception that e-services could trim the governments size is particularly appealing to the center-right parties and could be a reason why these parties opt, more often for e-services in general, and particularly with the more demanding<sup>21</sup> domain of civilians. A first pair of recommendations for further research goes out to testing the perceptions of local departments on the effects of e-services *and* comparing these to the actual effects of e-services.

The effects of attractiveness on e-service provisions are opposite of the initial expectations. Lower attractiveness in a certain domain was associated with higher levels of e-services. Initially, pragmatist behavior was typologized as counter acting shrinkage, by raising attractiveness through service

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<sup>21</sup> In absolute terms.

delivery. However, an alternative typology could also be provided: pragmatists “anticipate” on changes in their municipalities and attractiveness leads to more e-services for this reason.

Two rather unexpected findings can be identified: political parties behave more ideological in competitive political arenas (a) and political parties behave less practical in competitive political arenas (b). A “spectrum” ranging from ideological to pragmatic of possible party approaches was assumed. Party competition was theorized to move parties away from ideological approaches and behaviorisms to pragmatic approaches and behaviorisms to maximize electoral results. This paper’s findings suggest otherwise, party competition alters political parties’ behaviors in a more ideological way.

The above mentioned peculiarities could be explained in a variety of ways. One could argue that the initial assumptions were incorrect. A thorough search in academic literature however does not result in much information on the matter. Although the concept of an “ideology-pragmatism spectrum” could be describes as one of the core dynamics in modern voting and party behavior, it lacks scientific attention. Hence, the recommendation to investigate the dynamics associated to this concept.

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# Appendix 1

Figure 9. Histogram of Inhabitants distribution

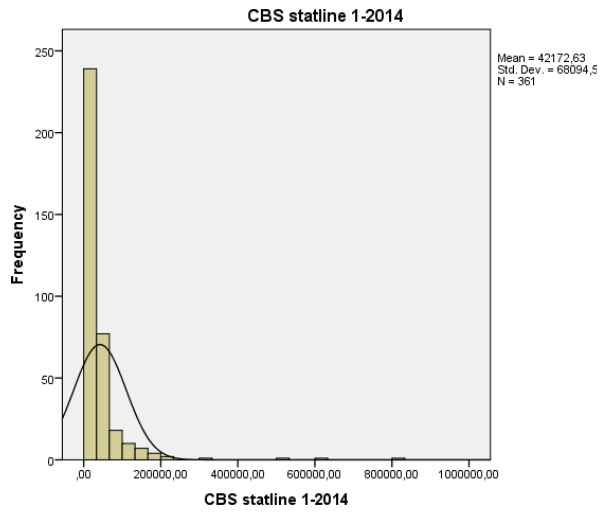


Figure 10. Histogram of logit Inhabitants distribution

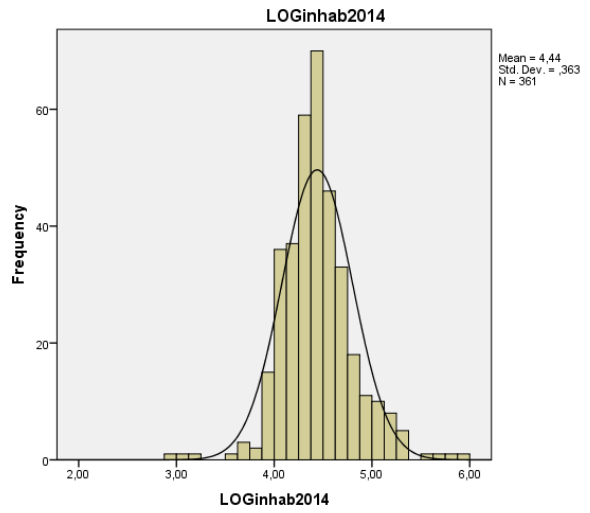


Figure 11. Histogram of Municipal Funds distribution

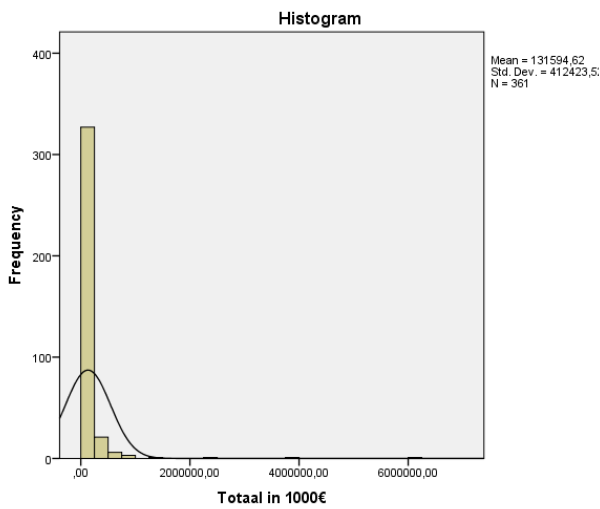


Figure 12. Histogram of logit Municipal Funds distribution

