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What Role Conflict Do ICT Professionals in Government Experience While Implementing ICT Projects? The Case of Belgium.

Master Thesis

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Acknowledgement

"You must acquire the best knowledge first, and without delay; it is the height of madness to learn what you will later have to unlearn"

Desiderius Erasmus

In December 2022, during a trip from Stockholm to Linköping, I had the privilege of meeting Art Alishani, a PIONEER alumnus from the first cohort program. Seated beside him on the bus, I shared my aspirations of pursuing a Master's degree abroad. With great patience, Art introduced me to the PIONEER program, which offers an interdisciplinary academic experience across three universities: Leuven, Münster, and Tallinn. He spoke passionately about the program's unique opportunities—engaging with different professors, participating in international activities, and expanding both academic and professional networks.

Inspired by his enthusiasm, Art strongly encouraged me to apply. So, I did. From the very first day, I felt deeply connected to the program. Now, as I approach the culmination of my Master's studies, I realize that words cannot fully describe the transformative nature of this journey. This two-year journey has been not only academically enriching but truly life-changing. I owe a sincere debt of gratitude to Art, my professors, and administrative staff. Thank you.

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Today, I stand where I once dreamed of being, and tomorrow, I hope to reach the destination I dream of today.

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Abbreviations

AI	Artificial Intelligence
CRM	Customer Relationship Management
COVID-19	Coronavirus Disease, 2019
DRG	Diagnosis Related Groups
EU	European Union
GDPR	General Data Protection Regulation
ICT	Information, Communication and Technology
ISO	International Organization for Standardization
IT	Information and Technology
KU Leuven	Katholieke Universiteit Leuven

1 INTRODUCTION

1.1 Problem Statement

The increasing number of ICT projects in the public sector, along with the growing involvement of ICT professionals in public administration, has created space for various role conflicts. However, most existing studies do not specifically examine the types of role conflicts that ICT professionals experience in the public sector. For example, an ICT professional may encounter various role conflicts that require distinct knowledge and responses. Exclusively performing one role can make it challenging, or even impossible, to meet the task demands imposed by organizational drivers, ICT project requirements, and government priorities This example is grounded in role conflict theory and supported by insights from interviews participants. Therefore, this master's thesis will focus on the role conflict of ICT professionals in the public sector during the implementation of ICT projects.

Most of previous research highlights the negative impact of role conflict on job environment and performance across various organizations. However, few academic studies have specifically examined the types of role conflicts encountered by ICT professionals in the public sector.

For over sixty years, scholars have studied organizational roles and role conflicts (Tubre and Collins, 2000). A key factor influencing public projects implementation are the role conflicts experienced by employees during the administrative process. The concept of role conflict refers to the tension that arises when an individual holds multiple, sometimes contradictory, roles and statuses while executing different tasks and activities of a project. Consequently, role conflict within the public sector primarily happens when employees are tasked with implementing different public projects, and enter professional relations with different stakeholders. (Hood, 1991; Tummers et al., 2012).

Existing research explores role conflicts among professionals managing various projects, suggesting that these role conflicts can shape employees' willingness to implement correctly the projects' demands. However, further investigation is needed to understand how role conflict specifically affects ICT professionals in the public sector (Tummers et al., 2012). Many studies provide a limited perspective on role conflict. Therefore, often

analyzing it at a fixed point in time without examining the broader implications within the public domain. An important question was raised: How do ICT professionals in the public sector perceive and experience role conflict?

1.2 Research Motivation

However, Tummers et al. (2012) emphasized the need for expanded research on role conflict, particularly in unexplored public fields. They suggested three main role conflicts, and the proposed role conflict framework could be applied to different types of projects and pools of public professionals within the public sector. Additionally, future research should consider the public organizational context, as the degree and type of role conflicts that arise during project implementation may be influenced by project drivers, administrative procedures, the organizational environment, and political context (Tummers et al., 2012).

Therefore, this interconnection of ICT professionals with different stakeholders in the public sector can lead them into different role conflicts. Whether as possible sources of error or as financial expenses, human resources are implicitly seen as issues in the ICT engineering culture, which is largely task-oriented. This presumption is integrated into the engineer's education and knowledge background. An autonomous system that runs well and doesn't need human assistance is the best solution proposed by them. It is crucial to acknowledge that ICT experts frequently take a technology-centered approach, which is greatly influenced by their perspectives and level of education rather than influenced by the organization or political system. As a consequence, this viewpoint may thus put them in a position of role conflict with other organizations, the ICT project, and the government (Tummers et al., 2012; Schein, 1997).

This thesis study is motivated by the increasing reliance on ICT projects within the public sector and the need to understand how these projects contribute to role conflict among ICT professionals within public administration. Given the growing importance of digital transformation in government, comprehending the challenges faced by ICT experts during ICT project implementation can provide valuable insights into management systems in the public sector.

1.3 Research Question

Despite the critical role of ICT in public administration, the role conflict experienced by ICT professionals within the public sector domain remains an underexplored topic. This thesis seeks to address this gap by answering the following key question:
What role conflicts do ICT professionals in government experience while implementing ICT projects in the public sector?

1.4 Research Scope and Contribution

This research aims to provide a deeper understanding of role conflict by investigating various dimensions and drivers, including the status and responsibilities of ICT professionals, the types and categorization of role conflicts, and the perceptions and theoretical foundations shaping ICT expert experiences in the public sector. The case study is Belgium, because its well-known federal system, characterized by multi-level governance and a regional and local characteristic, results in a diverse range of software applications and administrative procedures. Moreover, Belgium's Recovery and Resilience Plan allocates EUR 1.6 billion (27%) of its total allocation to digital services, of which Euro 1.4 billion is expected to be used to achieve the Digital Decade objectives (Digital Decade Country report, 2023).

By analyzing these aspects, this study seeks to define and clarify the types of role conflicts faced by ICT professionals working in public administration. The findings will contribute to identifying the type of role conflict and organizational policy improvements, helping to mitigate role conflicts and enhance the effectiveness of ICT-driven initiatives within government institutions. In addition, every reader will benefit from its results and discussion based on the interview feedback, specifically the researchers of role conflicts in the ICT field, ICT students, public officials enrolled in ICT projects, public organizations, and ICT vendors.

1.5 Structure of the Thesis

This section of the introduction presents the structure of the thesis, providing readers with an overview before moving into each chapter. The second chapter focuses on the literature review, exploring role conflict theories, including the framework developed by Tummers et al. (2012). The third chapter explains the methodology and research process, detailing the methods used in this thesis while also guiding other readers in understanding the steps taken to structure the research. The fourth chapter presents the interviewee's viewpoints and experiences regarding the role conflicts they have encountered. The case study focuses on Belgium, a multi-level government country facing significant ICT project implementation challenges. The fifth chapter discusses the insights gained from interviews, analyzing role conflicts based on literature and interview findings. Additionally, it provides recommendations on addressing multifaceted role conflicts and overcoming related challenges. The final chapter includes conclusions and limitations, summarizing key findings and reflecting on potential constraints of the research.

2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Literature Review

The exploration of role conflicts in the public sector and role conflicts of ICT professionals in the public sector while implementing ICT projects will be the focus of this section. The first part of this section will give an overview of the current state of the literature review of role conflicts in general, and the second part will cover the role conflicts of ICT in the public sector.

2.1.1 The Role Conflict

Role conflict has recently gained attention as a significant aspect of organizational behavior. This overall component has been linked to poor personal and job-involvement results.

Hence, according to Miles and Perreault (1976), the complex and simultaneous nature of tension linkages linking role conflict to its causes and repercussions is not fully understood. For example, two professions may have the same level of role conflict in general, but the type and sources of the conflict may differ significantly. Thus, role conflict appears to be linked to a number of negative individual consequences that are widely seen as unproductive for the organization (Miles & Perreault, 1976).

When considering the topic of role conflict in the public sector, you should know that a role is a sequence of behaviors considered by an employee as expected to be (Tubre & Collins, 2000). Additionally, role conflict occurs when there are aims that oppose bureaucratic procedures in public organizations. In the public sector, role conflict can emerge in numerous ways and types. Administrative professionals, for example, are frequently stuck between competing demands from their organization, colleagues, and external stakeholders. They may need to manage different goals, such as meeting rigorous regulatory deadlines, addressing immediate managerial concerns, satisfying external audit requirements, and guaranteeing the seamless functioning of daily organizational operations, among others (Fúnez et al., 2025).

A lack of common understanding between multiple expectations or roles may lead to a potential conflict and tension. Expectations are crucial to experience the role conflicts that arise when a public employee is obligated to fulfill two or more roles with expectations that are somewhat conflicting. It seems that a composition part of the job process is the role conflict as well, and it has always existed within professionals within the organization (Tummers et al., 2012; De Vries et al., 2016; Getzels & Guba, 1954).

According to Tummers et al., (2012), there are three sorts of role conflicts that public employees face during their work time in the public sector.

Policy-Client Role Conflict: This happens when policy requirements conflict with the needs and expectations of the clients or the general public that these professionals serve. Policy-Professional Role Conflict: This occurs when policy demands conflict with the professional norms, values, or standards that the professionals hold. Organizational-Professional Role Conflict: This type involves the tension between organizational aims or directions and the professional ethics or practices of the employees (Tummers et al., 2012),

Nowadays, public employees might experience more pressure and tensions due to the usage of complicated technology systems, the generated job overload, and constant connectivity (Fuglseth & Sørebø, 2014). As a consequence, the public employees who experience role conflict in their jobs are more likely to experience stress and anxiety, which harms their contractual organizational commitment and general job performance. Therefore, role conflict negatively affects the perception of one's own performance among public employees (Joshi, 1989; Fúnez et al., 2025).

Although it is possible, likely, that two or more professionals will encounter the same level of general role conflict inside their public organization, the precise type of role conflict, causes, and drivers of that role conflict may differ significantly. Therefore, depending on the source and drivers of role conflict, he/she should choose different approaches to successfully detect and control its level. Therefore, if we want to understand the multidimensional nature of role conflicts, their type, the suitability of different approaches for effectively resolving them, and their effects, we must go beyond the generic role conflict framework (Miles & Perreault, 1976).

Thus, it appears that role conflicts are different for different professionals. That's why the following part of the literature review would focus on role conflict of ICT professionals while working for the government

2.1.2 The Role Conflict of ICT Professionals

In the 1990s, with the increasing use of computers in the public sector, scholars in public administration started studying organizational reform based on the use of this innovative technology. This process, highlighted as informatization, includes organizational structures and ICT policies, information streams and relations, and expertise (Meijer et al., 2021) With the massive use of ICT, the system-level bureaucracy will start hiring three pools of ICT professionals equipped with the right skills and knowledge in those fields (Bovens & Zouridis, 2002), such as:

Data processing process (such as system developer and designers, IT engineers, and the legislative specialists, legal policy staff, and system managers associated with these processes);

Management and those controlling the production process

The “interfaces” between citizens and the information system such as public information officers, help desk members, and the legal staff charged with accepting complaints and objection notices on behalf of the organization (Bovens & Zouridis, 2002).

It seems that a composition part of the innovation process is the role conflict as well, and it has always existed within professionals within the organization. Antecedents related to the organizational level show that role conflicts and slack resources (ICT) have been linked together (De Vries et al., 2016). This tension gets more and more intense when starting to implement or adopt technology into public administration, mostly due to the high number of stakeholders. Smart technologies appear to engage with many stakeholders, negotiate the work relationships between professionals and their clients, and offer public-administrator-facing in addition to client-facing support, necessitate feedback between both ICT professionals and organization leadership, enable collective intelligence, and establish positive feedback loops with other employees (Vogl et al., 2020).

As mentioned above, public employees might experience more pressure and tensions due to the usage of complicated technology systems, the generated job overload, and constant connectivity (Fuglseth & Sørebø, 2014). Those conflicts can be applied to any employee, including the ICTs themselves. In addition, conflicts can happen from job duties and organizational culture across demographic features, as well as the impact of work-life imbalance on organizational commitment for IT and ICT industry employees (Goswami, 2015).

Very few research is conducted to investigate the role conflict of ICT professionals in the organizational work area, even though there is clear evidence for the existence of this conflict. As Kunda (1992) stated, ICT professionals showed different identities at work, such as citing "accept, deny, react, reshape, rethink, acquiesce, rebel, conform, and define and redefine," directly affecting the ICT project life cycle (Kunda, 1992; Brown, 2014).

In the meantime, role conflict can be made severe by poorly constructed information systems, which lowers user satisfaction with the information. Public employees who experience role conflict in their jobs are more likely to experience stress and anxiety, which harms their contractual organizational commitment and general job performance (Joshi, 1989). Particularly after the COVID-19 pandemic, it is emphasized that the greater exposure of ICT professionals to technostress can cause emotional weariness and even worsen work-family conflict (Fernández-Muñiz et al., 2023).

Despite its conflicts in social aspects, the ICT reform highlights the complexities of balancing ICT professionalism with the government and project demand. Governing and coordinating ICT activities under a technical public administrative structure ensures that specialized ICT staff are available to address ICT issues for different projects. Yet depending on the organizational structure, it can lead to some challenges (Hanna et al., 2009).

Another component that affects the role conflict of ICT professionals is the organizational model and structure. The organizational models and structure describe challenges under which the ICT professionals work to implement eGovernment projects. To surpass these challenges, different governments have designed dedicated state ICT agencies in their civil services structure but have given them autonomy and distinguished salary structures to attract and motivate the greatest ICT technical talent. The success of an ICT agency

and its ICT talents is also significantly dependent on the authorizing level of the hierarchy environment and whether political leaders are willing to provide the agency the autonomy and knowledge it needs to move agilely and innovatively while avoiding political intervention in staffing and day-to-day management. These role conflicts between the ICT professionals and the government can be solved by implementing the so-called public-private partnership model. Through this model, the ICT agency is free from government bureaucratic requirements and has the elasticity to react fast toward changing demands and the needs of the ICT staff. Therefore, the ICT agencies can more easily hire the required ICT staff at the best competitive salaries (Hanna et al., 2009). In this context, other countries, due to the conflicts between ICT and government, have separated the digital society policy from the e-government organizations, while others have consolidated their digital policy leadership with the aim to influence the tensions and cope with role conflict among them (World Bank, 2009).

2.2 Role Conflict Theories

Linton (1936) introduced the concept of the role within an individual. A role indicates the dynamic component of one's social status. The individual possesses a status that is socially allocated to them in relation to other statuses. Linton expressed that *"when he puts the rights and duties that constitute the status into effect, he is performing a role."* The role and status are linked to one another, and distinguishing them is solely of academic relevance. No status exists without a role, and no role exists without a status. However, they have different functions. Every individual has a set of roles derived from the numerous patterns in which he participates, as well as a general role that symbolizes the sum total of these roles and dictates what he does for his society and what he can expect from it (Linton, 1936; Howick, 2014).

Regardless, Linton's work did not focus on role conflict in particular, his book established the groundwork for future scholars to investigate how individuals navigate role conflict. Linton's concept of social roles suggests that different members of the role set may have quite varied role expectations for the focal individual. Following this concept, in 1962 the authors, Wolfe and Snoek, describe role conflict as the presence of many pressures that make it difficult or impossible to comply with one. Two years later, Kahn (1964) wrote

that different role sets individuals may put pressure on a single individual at any time to engage in various types of activity. As a consequence, he will experience conflicts if these role pressures cause role forces within him. Role conflict can be characterized in two ways: as the opposition of sent role pressures (objective, such as supervisors, colleagues, or clients) versus the opposition of role forces (subjective). Role conflict occurs when a person is faced with two or more roles that require distinct behaviors, and behaving in one makes acting in the other difficult or impossible (Kahn et al., 1964).

While acknowledging the definition of role conflict, Kahn et al., (1964) classified role conflict into four main types, such as "intra-sender conflict," "inter-sender conflict," "inter-role conflict," and "person-role conflict." Anyway, the study employs another classification regarding the role conflict, which is more adequate to give a response to the research question.

As mentioned, the role theory posits that professionals occupy two or more roles within an organization, each with its own set of statuses, expectations, and responsibilities. Therefore, role conflict is more obvious when these roles force conflicting demands or one role interferes with another role by negatively affecting job performance. It is possible that clearly defined job duties and responsibilities could assist the affected professional in determining which of the conflicting demands is more important to pursue or satisfy first, as well as how to cope with the primary demand with the least amount of adaptive effort (Fried, 1998; Carlson et al., 20002; Nawungkrida et al., 2024).

As a consequence, the role conflict can have three possible effects, such as job satisfaction, job-related stress, and the likelihood of leaving the organization. There are a lot of other possible outcomes. Nonetheless, the three factors chosen may be connected to significant issues facing public administration, like performance quality (Senatra, 1980).

Moving from the role conflict theory to the theoretical framework, we will explain the main framework that we will follow to better answer the research question. Introducing role conflicts from Tummers et al., (2012) as a theoretical framework. The purpose of this theoretical framework is to highlight the three main role conflicts of ICT professionals

while implementing ICT projects in the public sector and to explore the main findings and examples of the role conflicts of ICT professionals in the public sector literature.

This study will use the words “ICT projects” and “ICT professionals” instead of “the policy” and “professionals.” Concretely, three main conflicts will be employed to use and analyze the complexity of conflicts among ICT professionals while implementing ICT projects.

According to Tummers et al., (2012), the study will classify the role conflict of ICT professionals in three types of roles, such as

ICT project-ICT professionals role conflict:

This occurs when the ICT project demands conflict (such as technicalities, knowledge and perceptions, budget, and time requirements) with the ICT professional norms, values, or standards that the professional themselves holds.

Organizational-ICT professional role conflict:

This occurs when the organizational demands conflict (such as culture, structure, tasks, aims, or directions) with the ICT professional norms, values, or standards that the professionals themselves hold.

Government/Politics—ICT professional role conflict:

This occurs when the client demands conflict (such as with the government strategies and approvals and legislation) with the ICT professional norms, values, or standards that the professionals themselves hold.

3 RESEARCH FRAMEWORK

The main objective of this thesis is to answer the main research question: What role conflict do ICT professionals in government face while implementing ICT projects in the public sector?

To address this question, a structured strategy has been developed. The following sections of this chapter outline the steps taken to answer the research question, incorporating a qualitative methodology. As mentioned earlier, the role conflicts experienced by ICT professionals in the public sector remain an underexplored topic. The case study of ICT professionals in Belgium's public sector will provide a more precise understanding of these conflicts and contribute to achieving the study's objective.

3.1 Research Processes

According to Sanders, Lewis, and Thornhill (2009), a research study should follow a clear academic structure by establishing a multi-stage process. The exact number of steps can vary, but it's suggested to include a well-topic formulation, reviewing the literature, research design, collecting and analyzing the data, and writing. Therefore, this study will adapt and pass all the stages suggested by Sanders et al., (2009).

Since the beginning of conducting the research, the researcher should be as clear as possible regarding what you are doing and why you are doing it (Sanders et al., 2009). To achieve the objectives of the study, it is required to follow a research design framework, as Walliman (2018) explained in his work each researcher of a high-quality research study is required to address several questions. Specifically, the questions that the study will conduct for better clarity and integrity of the study are "what," "why," how," and "when.

Question: "What" is used to identify the research subject and find a problem area.

Question: "Why", is used to identify the research problem

Question: "Why", is used to study the research background and write a research proposal

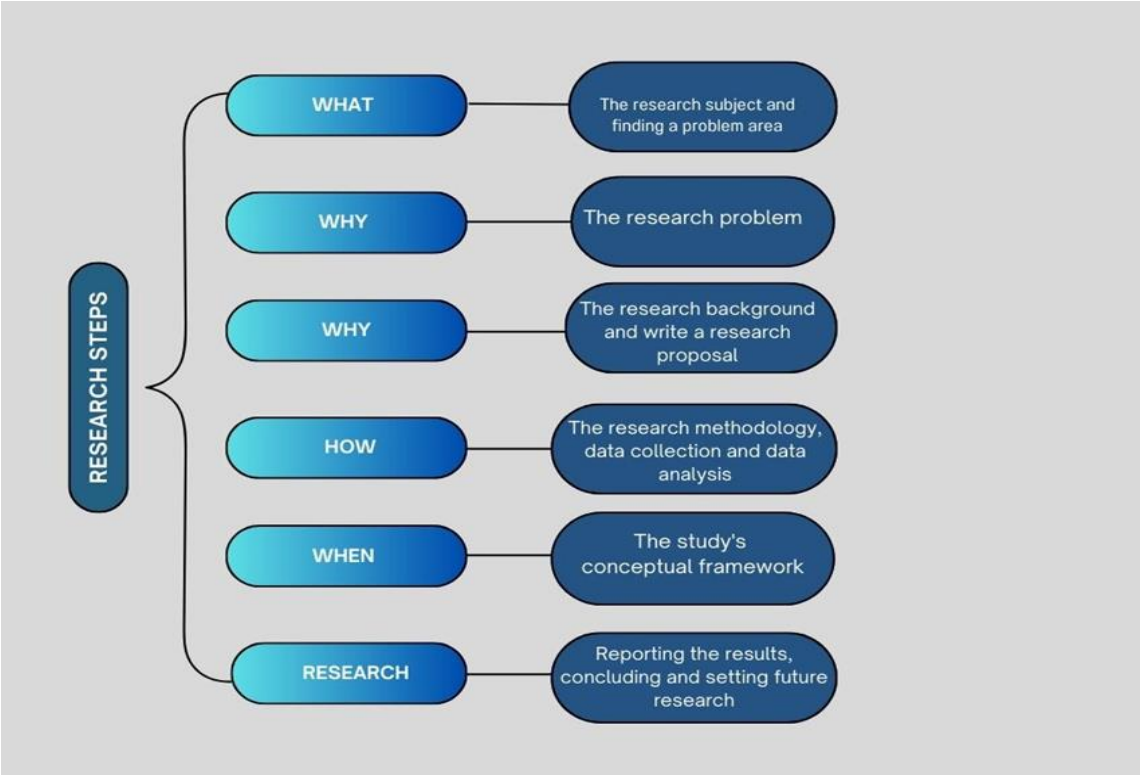
Question: "How", is used to define the research methodology and data collection and data analysis

Question: "When", is used to choose the study conceptual framework

Research: Reporting the results, concluding, and setting future research.

Initially, we explored a general topic for further investigations related to the system-level role of bureaucrats. However, due to its broad scope, and with the guidance and suggestions of the supervisor, we decided to focus specifically on the role conflict of ICT professionals in the public sector.

After defining the research subject and scope, the primary objective was to formulate a clear research problem and question. During the final semester, we consulted and received feedback from various peers and professors while extensively reviewing academic articles, papers, and books; listening to podcasts; discussing the topic with the supervisor; and engaging in discussions with fellow students. Only after this thorough process were we able to formulate a final research problem and question. As a result, a more refined research problem and topic were established. The figure below illustrates the research phases and processes used to define the study problem and questions.



Source: Own elaboration

Figure 1 Research Steps According to the Second Edition form Walliman, (2018)

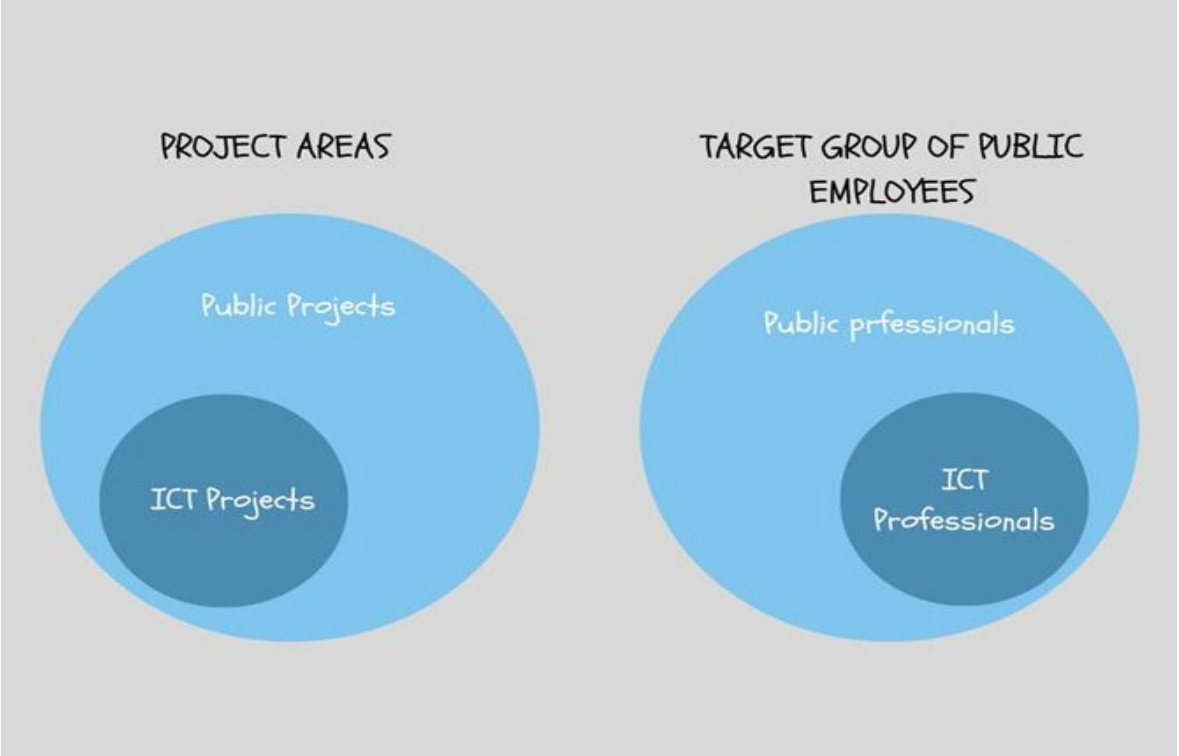
Despite the insights provided by Tummers et al. (2012), most existing studies offer a very limited perspective on role conflict among public employees and what role conflicts they

do experience during their work. Moreover, often focusing on a specific period or the implementation of a particular project. These studies typically categorize different types of role conflict across a broad range of public professionals without concentrating on a specific group or project, as noted by Tummers et al., (2012).

To effectively apply the Tummers et al., (2012) framework in this study, adjustments are needed regarding the target group and project type. Therefore, this research will focus on a specific group: ICT professionals engaged in government ICT projects. Tummers et al., (2012) proposed that researchers could further adapt their framework to align with the specific scope and subject of their studies. Building on this academic foundation, we have made appropriate terminology modifications to suit the scope and objectives of this thesis.

This thesis study introduces specific terminology adaptations: instead of using the broad terms “the policy” and “professionals,” used by Tummers, we have refined these expressions to reflect the concrete project area and specific group of professionals relevant to the thesis scope and subject.

For example, Tummers et al., (2012) tailored terminology in their research by specifying “DRG policy” and “healthcare professionals” to suit their field of study. Following the same approach, this thesis study adopts more precise terminology, using “ICT projects” and “ICT professionals” instead of the broader terms. This refinement ensures full alignment with the thesis’s scope and research question. Consequently, this master’s thesis focuses on the role conflict of ICT professionals in the public sector domain. Refer to the figure below for a clearer understanding of the project area and the targeted professionals in this thesis.



Source: Own elaboration

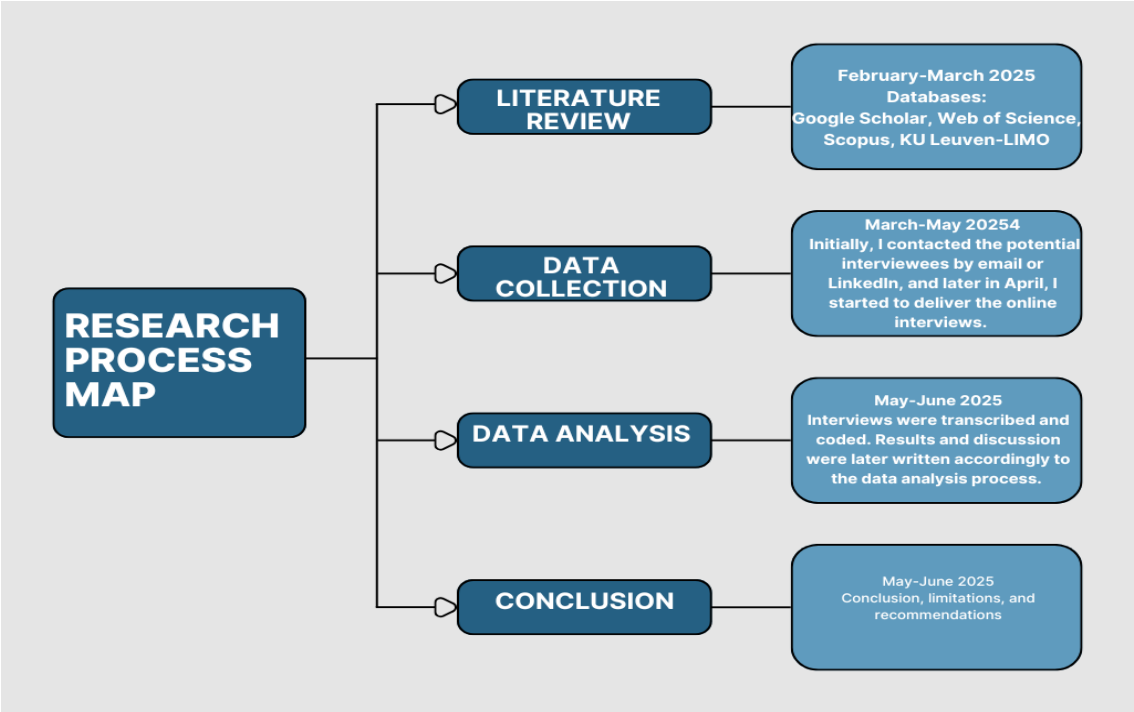
Figure 2 Defining the Research Subject

According to Bell (2005), each researcher should be clear about some specific parameters, such as the language, subject area, business sector, geographical area, publication period, and type of literature. We investigated the role conflict by giving answers to these questions too. This master's thesis study lasted an academic semester of sixteen weeks in total. We started writing the thesis in February 2025 until early June 2025. During this time will be conducted the literature review, data collection from the interview process, data analysis, and conclusions. In this figure, we aim to present a clearer representation of the research process map, intending to support future students in navigating the steps of their master's thesis research. Following the selection of the topic related to role conflict, the first phase involved identifying relevant academic literature. We focused exclusively on credible academic sources, consulting the databases listed under the "Literature Review" label in the figure. Given the novelty of the topic and the limited existing academic research, this phase was particularly time-consuming.

In March, we initiated the data collection process. We compiled a list of potential ICT experts working in the public sector and involved in ICT projects in Belgium. This stage

presented both challenges and opportunities. The interviews were conducted online via Microsoft Teams.

By May, the data analysis phase commenced, involving transcription, coding, and interpretation of the interview data. The findings were then synthesized in the results and discussion section, where expert perspectives were contextualized using existing literature on role conflict. Finally, the conclusion section was drafted, summarizing the key insights and contributions of the study.



Source: Own elaboration

Figure 3 Research Process Map

3.2 Research Methods and Research Question Definition

This section outlines the research approach to better answer the research question. Moving further, explaining why a qualitative method was selected for this study. Therefore, to better answer the research question-"What *role conflicts do ICT professionals in government experience while implementing ICT projects in the public sector?"*

The choice of research approach is selected to answer the research question based on the target group, scope, and subject; whether qualitative, quantitative, or a combination of both depends on the research question and the explanations for using inductive or deductive reasoning (Sanders et al., 2009). While academic studies may begin with either an inductive or a deductive approach, they often combine elements of both in practice (Yin, 2009).

Given this study's aim to understand the perceived role conflicts of ICT professionals in government, a qualitative approach was deemed most appropriate. Qualitative research allows for in-depth exploration using various methods, such as interviews (Dey, 1993). For this research, the primary data collection involved interviews, which generated detailed field notes and interview transcripts.

3.3 Research strategy and the Case Study

In this section we will reveal the strategy followed to conduct the thesis. The 2023 strategy The Digital Decade Country Report is closely related to the scope and the objective of the thesis. The master's thesis aims to investigate what role conflicts ICT professionals within the government experience while implementing ICT projects. Furthermore, deep research is conducted based on the existing literature review, and in addition, a case study is conducted that focuses on what type of role conflict ICT professionals experience. This approach is fully aligned with Yin's, (2009) suggestion that researchers can answer the research question based on exploratory case studies when there is a gap of theoretical implications. Such is our case, where there is a lack of academic work on the role conflict of ICT professionals in government.

The case study will investigate further the role conflict of ICT professionals within the Belgian government, as both the student and the supervisor are living in Belgium and are more familiar with the ICT projects in Belgium. Therefore, it is easier to collect primary data and conduct different interviews.

3.3.1 The Case Study Background

The Kingdom of Belgium is a federal state and a constitutional kingdom, with a current population of 11,744,521, a 0.25% increase from 2024. Belgium is composed of three speaking communities: the Flemish, French, and German speakers, and three regions: the

Brussels-Capital Region, the Flemish Region, and the Walloon Region (Belgium.be, 2022; Macrotrends.net, 2025).

The federal government and the federal parliament are the primary federal institutions, but the communities and regions also have their own legislative and executive branches. Belgium's three communities, separated by language, have primary responsibilities for education, culture, youth support, and healthcare policy. The three regions are responsible for “territorial concerns” such as public works, agriculture, employment, town and rural planning, and the environment. The country is further divided into 10 provinces and 565 municipal councils (Belgium.be, 2022; Macrotrends.net, 2025).

3.3.1.1 ICT Projects in Belgium

Belgium is expected to contribute positively to the EU’s collaborative efforts to meet its Digital Decade ambitions. The country has improved its performance, particularly in the digitalization of public services, but it lacks digital infrastructures, despite efforts on 5G rollout and overall coverage. The various digital strategies across the country, coordinated at the federal level by the Digital Decade Working Group, are in line with the Digital Decade Policy Program. Belgium is working with other member states to investigate the idea of establishing a European Digital Infrastructure Consortia on Genome to facilitate effective and safe cross-border access to repositories of personal genomic material. Belgium is one of the Member States that has jointly submitted a formal application to establish the European Blockchain Partnership and the EDIC on European Blockchain Infrastructure, which will assist EU-wide cross-border public services. Moreover, Belgium’s Recovery and Resilience Plan allocates EUR 1.6 billion (27%) of its total allocation to digital services, of which EUR 1.4 billion is expected to be used to achieve the Digital Decade objectives (Digital Decade Country Report, 2023).

Belgium ranks around the EU average in terms of the population's basic digital capabilities and above the EU average in terms of the proportion of ICT specialists, and it's working on decreasing the gap in citizen digital skills. Belgium is working on increasing the number of women in ICT (Digital Decade Country Report, 2023).

Belgium continues to strengthen its digitalization of public services and is making a significant contribution to meeting the Digital Decade ambitions. Belgium continues to outperform the European average in terms of digitalizing public services and achieving the goal of having 100% online access to important public services (Digital Decade Country Report, 2023). Belgium has boosted public services digitalization by undertaking several initiatives at both the federal and regional levels. An estimated sum of EUR 586 million is invested by Belgium for the digitalization of the public administration, including the digitalization of the justice system and, in particular, of court proceedings (Digital Decade Country Report, 2023). This is a big picture of Belgium's efforts toward the digital component of improving public services.

3.4 Data Collection

Rigorous data collection processes have a significant impact on study outcomes and trustworthiness. The semi-structured interview is a typical data collection method that will be employed for this thesis (Kallio et al., 2016). Interview data will be collected to support the study results and discussion part, and data collected from various academic and trustworthy literature will be used as secondary data.

3.4.1 Primary Data

I collect qualitative data through interviews. Interviews are based on an interview guide. An interview guide is created and is executed too, according to the suggestions of Kallio et al., (2016). For more details, check Appendix A. Further steps are undertaken to guarantee a trustworthy result, such as a screening of different papers related to the topic by retrieving and using the existing knowledge, writing the guide, testing the guide, and implementing it (Sanders et al., 2009; Kallio et al., 2016).

Participants were strategically selected to provide insights relevant to the research question. In total, 21 ICT experts were contacted from the public sector, mostly through LinkedIn. In addition, four ICT public organizations within the Flanders region are contacted through officials' emails to ask for possible interviews. Initially I proposed it was possible to conduct interviews physically in their organizations so I would have the opportunity to do group interviews and observe their role conflict while implementing ICT projects. In that way, all the processes of collecting the data from the organization

would happen at once for one week. This scenario was not visible at all, mostly because of the lack of time, as lots of the contacted persons were on vacation and also out of the offices because of the Easter holiday season. Also, after the COVID-19 crisis, they are working two days remotely from home, so that will make the process more difficult to have the results as planned. Regardless of the lack of the opportunity to deliver the interviews on the spot, I was happy to have responses for the online interview. After some time, nine public officials replied positively to my request. The interview process was conducted from March 2025 to May 2025. Initially, we contacted the potential interviewees by email or LinkedIn, and later in April, we started to deliver the online interviews. On April 14th 2025, was conducted the first interview, and on May 7th 2025, was conducted the last one. The participants were expected to give their point of view and elaborate upon the role conflicts experienced by ICT professionals engaged in government ICT projects.

The interviews took place online they lasted from 30 min. up to 1 hr. 10 min. The platform used is Microsoft Teams, which has integrated an AI tool for transcribing the interviews. The AI is used also for grammar check and for making the transcribed text more coherent. The AI didn't add or remove anything from the transcripts that affects the context and the point of view of ICT experts. Semi-structured interviews and open-ended questions were answered by illustrating with examples. Interviewees were requested to consent to the recording of the conversation, and only valid information was utilized for data analysis. For more details of the consent form, see Appendix B. This thesis does keep the anonymity of experts. For more clarity, see the table below.

No.	Code name	Organization	Position
1	Expert A	Digital Flanders	Senior Expert
2	Expert B	Digital Flanders	IT Expert
3	Expert C	VEKA, the Flemish Government Agency for Energy and Climate	IT Expert
4	Expert D	Chancellery and Foreign Office	Senior Expert
5	Expert E	City of Antwerpen	Digital Officer

6	Expert F	Digital Flanders	Data Governance Officer
7	Expert G	Chancellery and Foreign Office	Advisor
8	Expert H	Wegen en Verkeer	Computer Engineer
9	Expert I	Wegen en Verkeer	ICT Coordinator

Source: own elaboration

Table 1 The list of coded names of experts who participated in the interviews

The above table lists the code names of the experts, organizations, and positions. In the discussion section of the thesis, general terms are used instead of specific organization names to maintain confidentiality.

3.4.2 Secondary Data

In this subsection we did a collection of information based on public and online publication resources in the Google platform. He reached online resources that contain academic studies, such as Google Scholar, Web of Science, and Scopus, because of their large coverage across multiple disciplines (De Winter et al., 2014). Regardless of the online databases, we used another resource, such as Limo.libis.be from KU Leuven. The Literature is divided into e-source, physical collection, and digital storage for scientific KU Leuven publications. For all resources mentioned, the access was done by using the official student account from KU Leuven.

To retrieve the right information, we started by writing down what words are important for the topic based on the research question and topic. Moving further, we tried to find synonyms and morphological differences and narrow the terms. The information was retrieved based on predefined terms and Boolean operators. To facilitate the retrieval of information, a list of keywords was prepared and inserted into the research engines, such as “Role conflict*” AND “ICT professionals,” “Role conflict*” AND “Government,” “Role conflict*” AND “ICT projects,” and (Role conflict OR ICT professionals OR ICT professionals) AND “Government.” In addition, the high number of citations was another condition for selecting trustworthy articles.

The gathered academic information on the topic includes academic articles, conference proceedings, dissertations from experts in the field, and grey literature. Additionally, official Belgian government websites and EU reports were consulted to ensure the most up-to-date insights on Belgium and its ICT projects for the case study.

3.5 Data Analysis

The qualitative research approach used in this study incorporates both inductive and deductive reasoning, followed by data collection and analysis. Data analysis is conducted in accordance with Williams and Morse (2019), following several crucial steps. The first step involves contacting all the experts who participated in the interviews. The next step was recording and transcribing each interview, allowing the researcher to examine and analyze the transcripts, take notes, and identify thematic connections, both in relation to existing patterns established by Tummers et al., (2012) and new themes based on identified role conflicts. Once the interviews were transcribed, we proceeded to the next step: coding the interviews. This is a fundamental process in qualitative research that enables researchers to identify, organize, and develop theories. Through the use of Microsoft Teams and selective coding, it was possible to fully engage with the data and work toward achieving the study objectives. All selected information from the transcription is incorporated into the results section. Another step is data analysis, which enhances analytical precision and facilitates accurate thematic categorization according to the role conflict drivers. In addition, a new category recommended by the interviewees is introduced in the results and discussion section. Nowadays, qualitative research is easier thanks to software systems that help organize and simplify the process. Finally, the last step involves organizing all findings into a structured written format, such as the result and discussion sections, to support the study's conclusions.

Moreover, integrating generative AI techniques into academic writing is an invaluable resource for improving the quality of the thesis. Initially was used Chat-GPT (free model) for language coherence. Mostly, in the preparation of this thesis, Microsoft Copilot has been utilized primarily as a linguistic aid to improve grammatical accuracy, enhance coherence, and ensure more clarity in written text. By utilizing the Microsoft Copilot for

these reasons, the thesis's general readability and cohesion have been improved while keeping the integrity of its academic content. (KU Leuven, 2025)

The responsible use of AI aligns with several principles and guidelines followed at the KU Leuven website. Therefore, the basic principles designated by the KU Leuven guideline to be followed are transparency, verification, respect, and responsibility. Ultimately, the use of AI in this thesis reflects a commitment to responsible technological usage in academic writing by following the rules set by KU Leuven. The AI is used only and exclusively as a supplementary tool rather than a replacement for critical thinking. By adhering to ethical and academic principles, AI assistance contributes to the refinement of written expression while preserving the originality and intellectual contribution of the research.

4 RESULTS

This chapter covers the results section of the thesis. The qualitative data presented here was collected through interviews. Additionally, supporting literature relevant to Belgium is included in this chapter.

The theoretical framework developed by Tummers et al., (2012) on role conflict is used to explain and categorize the expert perspectives on role conflict experienced by ICT professionals within the Belgian government. The analysis of each interview transcript, based on this framework, aims to shed light on the role conflicts encountered by these professionals during the implementation of significant ICT projects.

4.1 Why a Belgian Perspective?

There are several reasons for focusing on a Belgian perspective in the study of role conflict among ICT professionals. Belgium's federal system, characterized by multi-level governance and a regional approach, results in a diverse range of software applications and administrative procedures. This diversity and democratic plurality are evident not only in the varying digital agendas of different public agencies but also in fundamental aspects such as the multiple official languages, which reflect distinct cultures. The interviews conducted for this research were with participants from the Flanders region, where Dutch is the primary language, although the interviews were conducted in English.

Expert D provided insights into the complexities arising from multi-level governmental demands on ICT projects, which align with the reasons behind the case study selected, *"…To deliver our public services, we use different digital tools requested from multiple government stakeholders…"* He continued to give example, of different systems dictated to be use from different level of national government institutions and beyond *"…for our organizational needs, we use the Customer Relationship Management system, where all our internal and external contacts are hosted in that database… At the federal level, we use the KALEIDOS system."* The expert continues his viewpoint, delving into more details on the technological requirements of the Flemish government and the implications for various governmental and political actors. *"We also have a link with the Flemish Parliament, of course, because certain decisions have to be taken by the Parliament and not by the ministers"* Besides the systems built to support initiatives of Belgian

government, organizations design applications based on the request of the EU. The Expert D stated: "…we create *applications to fulfill the requests of the EU legislation level as well, such as the application to support the import and export of fuel goods and weapons…".*

Regarding this, Expert H also shared his opinion on the effects that regional structures have on their ICT projects, *"…our agency is quite big with around 300 workers and it's divided into six regions… Then we have to align all the different regions and their ways of working. Having this alignment is the most important thing we need in order to develop applications with our available funds…"* In addition, the multi-level governance diversity is further illustrated by Expert E, who discussed the local government approach, using the Antwerp case as an example, which differs from other government level organization *"…We manage ICT projects within the project portfolio for the City of Antwerp, but we also work closely with another key agency in the ICT field, "Digipolis Antwerp." This agency serves as our expert partner, providing the ICT knowledge and support needed to help us realize most of our digital projects…"*

Therefore, it is evident that Belgium's public governance is quite complex with multi-level public agencies and requires significant collaboration among various stakeholders to ensure the effective delivery of public ICT services to citizens, but also to fulfill the inner organizational needs in terms of digital transformation and ICT systems.

4.2 Organizational-ICT Professional Role Conflict

Moving away from the country's characteristics and its impact on the ICT projects, the focus will now shift to explaining the role conflict of ICT professionals in government based on the reflections, views, opinions, and examples of the experts interviewed from April to May 2025.

In particular, based on the framework of Tummers et al. (2012), one of the types of role conflict is specifically "Organizational-ICT professional" role conflict, which occurs when organizational demands (such as culture, organizational objectives, structure, or directions) conflict with the norms, values, or standards held by ICT professionals.

Public organizations have their own goals and missions and operate under short- to medium- to long- term objectives. ICT staff also adhere to these objectives while implementing ICT projects.

The organizational-ICT professional role conflict has its own drivers that directly impact its existence. Following these drivers identified from literature and the interview process, we clustered the participants' viewpoints based on these drivers. The experts interviewed mentioned several challenges related to organizational role conflicts, primarily concerning a lack of human resources, communication issues, organizational culture, stakeholder demands, and task conflicts.

4.2.1 Organizational Mission and Objectives Demand

This role conflict based on this driver is reflected in the interview of Expert D, where he says, *"…We work to support the needs of our organization, and our ICT department has implemented a system that facilitates its day-to-day operations…".* In addition to that, the Expert F also stated the importance of following the strategic planning of the organization: *"…we work on the long-term strategy as well because we're also responsible for policymaking and monitoring."* Therefore, the organization's vision, mission, and goals are shaping the work of ICT staff as well. Expert D also commented on the importance of following the organizational agenda, specifically of ICT departments within public organizations: *"…It's a rolling-based planning. It's not fixed and only once…".*

Moreover, in their group interview, Experts H and I emphasized the importance of following the organizational plan according to the organization's needs and the strategic objective they aim to achieve: *"…our organization works with flexible planning, and the plans are updated regularly."* Also, the long-term perspective it's important for better sustainability of technology implication. He continued supporting this idea by saying: *"However, it's also important to think long-term, as we need to anticipate what's coming next. That's why we maintain both long-term and mid-term markers to guide us. It's not just about deciding what we want to do tomorrow…"*

Therefore, in most of the cases, the ICT professionals need to follow organizational requirements simply because they are part of the organization, and these responsibilities

apply to everyone equally. Expert E, illustrated this approach by sharing his opinion *"…Then there's another aspect. The organizational requirements. These may not be your own goals as an ICT professional, but because you're part of the organization, certain responsibilities come with that…"* To make more visible for the audience the expert illustrated the organization-ICT professional role conflict by adding an example from his own perspective: *"…for example, you have to comply with GDPR, accessibility standards, and similar regulations. These aren't always driven by business needs, but they are mandatory simply because you are part of the organization...".*

Regardless of organizational planning and objectives, ICT departments/units also have their own agendas and sub-objectives to fulfill organizational needs. In some cases, ICT units plan and work like any other project, as confirmed by Expert G, *"…It's like any other project lifecycle in project management, where you always need a plan. First, I identify the targets, and then clear roles, budgeting, and so on…"*

Building on that perspective, other experts mentioned more specific planning tools and approaches that fulfill organizational demands in terms of achieving their mission and objectives through ICT projects. Expert A, for example, explained that *"…it depends on whether you're using a traditional waterfall approach, where everything is designed upfront before development begins. However, in our ICT department, we increasingly use Agile methods.* The expert continues to highlight the importance of choosing the right project management tool to implement ICT projects and align them with the organization planning program and agenda. "…*In Agile project management, we rapidly build a series of prototypes, which makes it easier to determine whether different stakeholders inside or outside the organization are satisfied with what we're creating. Agile development allows for quick feedback, so it's easier to see early on whether stakeholders are happy with the direction of the product. In this way, we continuously double-check the outcomes of the ICT projects against organizational demands."* Regarding that Expert I, added, *"…we mostly use sprint planning from the Scrum framework to perform ICT projects within the organizational objectives and demands…".* In addition, the Expert E, shared the same opinion highlighting that the alternative methods of managing the ICT projects such as the Agile, Scrum or Sprint methods, helps for a better management of the public ICT project complexities "…*often use agile methods like sprints to keep progress manageable despite the complexity…*"

Therefore, ICT departments find ways to meet the demands that come from the organization and their departments. In this context, ICT professionals face pressure in determining which priorities to address first and which project management tools to use for better alignment with organizational demands. Overall, the conflict raised between those two roles and influenced by this driver was noted by Expert D as well, who says, *"...Yes, organizational demands are usually high. There are often more demands than there are human resources or budget to execute them. Our ability as an ICT unit to complete certain ICT projects within a year is limited, so we have to carefully choose which ones to take on…."*

4.2.2 Organizational Culture Driver

Furthermore, ICT teams experience organizational pressure not only during the implementation of ICT projects but also afterward, as new services come into use and affect existing ones. This can create a sense of responsibility for introducing new IT tools. Expert I, supported this, stating, *"...first, we work to introduce a new technological service, and then ensure its acceptance. This involves not only technical changes but also organizational, cultural, and other forms of change, which are equally challenging…"*

With this in mind, the Expert H further added insights on the resistance of implementing new technology in public organizations: *"...Another challenge comes during rollout, getting everyone to actually adopt the new IT tools. This can be harder in a government setting compared to the corporate world. It's public sector culture. In a company, a manager can give a directive, and employees are expected to follow it. In government, people often have more resisted, and change can take longer to implement…"*

Nowadays, the ICT teams are working in a mixed team and are often flexible to changes, yet it requires time to time, some adaptations and a cultural mindset change. For example, Expert E says on that, *"...Our organizational goal is to establish for the future a culture in which every ICT project is developed by a mixed team that includes both ICT professionals and business stakeholders. However, since this is not yet fully embedded in our organizational culture, we need to continuously reinforce it. Each time a new ICT project begins and a new team is formed, we must actively promote this collaborative approach to help it become a standard part of how we work…".* In contrast, organizational culture does not significantly impact the work of ICT professionals,

particularly when the ICT unit is small and receives most of its support from external ICT agencies such as Digital Flanders. For example, Expert G stated: *"…We have a small ICT department, and our primary role is coordination. For large-scale ICT projects, we receive support from Digital Flanders. As such, I cannot speak extensively about organizational conflicts, as we have a well-functioning setup and experience minimal internal issues…."* Another insight comes from another expert, where he mentioned the importance of the learning culture created in his organization, and that helped the ICT team. By saying that, the Expert F, emphasized the importance of adoptive and learning culture within the public sector *"…In our organization, there is a developing learning culture. For example, we often recognize that the approach taken in a previous major project may not be entirely suitable for a new one, and we adjust accordingly to our organizational demands. There are also opportunities to reflect on what did not work well, allowing us to improve and deliver better results in future ICT projects…".* In other governmental organizations, tensions between different actors within the organization occur quite frequently. Every organization, including those in the public sector, contains a group that embodies the fundamental design aspects of the technology that supports its operations and possesses expertise in its application. This professional group extends across nations and industries and can best be described as the "engineering culture," which is diverse from the organizational culture and is created based on the ICT professional's knowledge background and their perceptions (Kunda, 1992).

On the other side, Expert B shared from his experience the how organization culture influence on ICT professionals working style, therefore he explained: *"…This reflects a typical cultural tension between business and IT that I often observe in government agencies. While the Flemish Government has made significant progress—arguably more than any other government I've worked with—in becoming innovative and citizen- and customer-oriented, traces of the traditional bureaucratic mindset remain. Historically, the approach was, "This is the law, and our role is simply to implement it"*

Although this culture is still prevalent, particularly at the federal level, the Flemish Government has evolved toward a more problem-solving and citizen-focused model. That said, the Expert continued giving an example: *"…many departments remain culturally siloed. Teams are often narrowly focused on their specific legal mandate rather than considering how their work fits into a broader, citizen-centered solution. This creates*

organizational friction, as some parts of the system embrace a more agile, user-driven culture, while others remain anchored in legacy thinking…."

Organizational culture varies from one institution to another, depending on factors such as legacy, tradition, size, and scope. In contrast to other opinions, Expert I, holds a different viewpoint compared to other experts, such as, *"…In our organization, we foster a culture of trust and transparency, which go hand in hand. Our approach is based on the principle that if someone is capable of making a decision independently, they should be empowered to do so. We avoid unnecessarily escalating decisions to higher levels of management and instead place confidence in individuals to act within their area of responsibility… Transparency is embedded in our ways of working. Within our teams, there is visibility into each other's contributions—through tools like sprint reviews, retrospectives, and open communication with team leads and developers. This level of openness supports accountability while reinforcing mutual trust… At the same time, we believe in trusting our colleagues to do their best. Everyone understands the boundaries of their responsibilities and decision-making authority. This cultural foundation of empowerment and openness enhances both individual ownership and collective performance…".*

4.2.3 Outsourcing Driver

Almost all interview participants expressed concerns about outsourcing technology and ICT human resources. This has become a trend in the Flemish public sector, particularly for developers and AI experts. According to the interviewees, they shared the pros and cons of this trend, adding that they almost have now accepted this phenomenon and are used to working in mixed teams. However, for some ICT projects, they still prefer to retain the know-how within the organization rather than outsource it.

The public sector continues to hire external ICT experts, often because they struggle to find the right specialists for full-time internal positions. In such cases, they outsource human resources, particularly software developers and AI experts. This trend raises the question of whether it leads to increased tensions between permanent staff and external hires. Expert A elaborated on this by highlighting, *"…Another challenge is the lack of necessary ICT human expertise within the government itself. We're often very dependent on external partners to help us build our AI and ICT systems. This is especially true for*

AI experts, where finding the right expertise is even more difficult. And even if we have the budget and the right people, every new ICT project introduced in government brings change. That change, adapting the organization to make the best use of the new system, is always a significant challenge."

This leads to a potential loss of control within the organization, as these experts are outsourced rather than being members of the organization. This concern is raised by the Expert F, who stated regarding this trend at the local level, *"…We're going to outsource many end-users support processes, where we'll act more as a middleman and have less direct control. We also outsource expert IT roles, such as software developers, but those are more task-specific rather than full-service roles…".* This concern also appears to be present at other levels of government. Regarding this approach in the public sector, Expert H supported this view.

However, in contrast to his colleague, he explained that instead of fully outsourcing entire ICT projects, they prefer to retain control within the organization by assigning specific tasks to IT experts rather than handing over the entire project. This approach allows them to maintain the supervision, preserve internal expertise, and ensure alignment with organizational goals while still benefiting from external expertise when needed. *"… We do have ICT project managers, but all other software development is carried out by external experts. This setup works well for us. We tend to treat external staff as part of our internal teams, rather than assigning entire projects to a single outside organization… We prefer to keep control in-house, but we're required to outsource due to government regulations. There are limits on the number of full-time staff we're allowed to have in our organization, and since software development isn't considered a core function, we're not permitted to hire in-house developers, so all development is outsourced."* As this solution appears to be a trend in other organizations as well, a point that will be further elaborated on in the discussion section covering the outsourcing of not only the human resources but the technology as well.

Building on that light Expert F continued offering a more critical perspective on outsourcing and the role conflicts it creates within organizations. *"…we operate in a very hybrid model. Some IT experts within our team are fully outsourced, and I think having that choice is valuable, but it requires strategic awareness. You need to clearly*

understand your key processes, your core capabilities, and where you rely on external expertise."

The expert continued to further elaborate on this issue, based from his experience. He explained that hiring external IT experts is not always the most convenient approach for all kinds of ICT projects. Instead, he would prefer and strongly recommend investing in capacity building within the organization. In his view, outsourcing should be approached reservedly, primarily for large and scalable ICT projects where external expertise is truly needed. Therefore, the Expert F, building on this perspective, continued his conversation by adding that "… *In my view, if you depend heavily on certain external ICT expertise, you should have that capability in-house. For scalable execution, outsourcing is often easier and more efficient. One of the main challenges for me is how to effectively manage outsourced capabilities. Are we speaking the same language? Because the language of contracts isn't the same as the language of ICT projects. I do think we're improving in this area. Outsourcing is fine, but only if you have trusted, long-term partners. When those relationships are solid, it's much easier to make outsourcing work, "…. That said, it's always a cycle: outsourcing works, but over time it can become too expensive. Then insourcing seems better, but sometimes it leads to underperformance. So, it's really a balancing act; it's a continuum."*

Meanwhile, Expert G, shared a real case experience with the problem of outsourcing ICT professionals, where an external ICT manager was unsuccessful, and the ICT project was led in a second phase by an internal ICT manager. He also emphasized the difficulties in technical communication between ICT staff and other employees: *"…We initially hired an external ICT project leader to kickstart the effort. Unfortunately, that didn't go as well as we hoped. In my opinion, for big ICT projects like this, the project manager should at least have some internal knowledge or connection within the organization. In the second phase, we asked someone internal to take the lead, and that worked. I'm not saying internal is always better, but in my experience, we often underestimate the talent we already have and overestimate the value of external consultants. Yes, we may not have enough people, but the ones we do have are very capable, even in ICT project management."*

The same expert continued by highlighting the different work culture backgrounds that exist between permanent staff and external hires. He pointed out that external IT experts,

due to their highly technical focus, sometimes lose connection with the broader organizational background. As a result, the ICT department is the first to encounter this role conflict, as they must navigate the challenges of integrating external IT specialists while maintaining alignment with internal processes and objectives *"... As a manager, I want things to be clear and actionable, but too often, the technical language gets in the way. It's not that ICT people are uncooperative—most are great, but the terminology and technical complexity can create barriers. Business stakeholders just want to understand what can be done and what problems will be solved, without getting lost in the details. That disconnect has always been a source of frustration for me...".*

4.2.4 Drivers of Task Conflict

In the public sector, not all ICT projects can be implemented within the year, and in some cases, prioritization is necessary based on the most urgent activities aligned with organizational requirements. In this context, several factors must be considered, as they impact role conflicts, including a lack of communication, unclear guidelines, and task prioritization.

Building in this perspective, Expert B also described how lack of communication with different project managers and mixed teams puts pressure on ICT professionals regarding which activities to prioritize, and in some case can't do anything but performing the activities as they are without having the space to shape based on your IT knowledge *"...there is some pressure, and it's something I often discuss with the teams. Most of the time, it's not about critical issues—when it is critical, I escalate it to senior management and make it clear that the situation is unacceptable. For medium-level issues, I try to communicate with my managers and explain that my proposed intervention could save us a lot of money in the long run.* Through this experience, he realized the importance of clear communication and the need to make ICT experts feel valued by acknowledging their professional opinions, which are rooted in their education and expertise. He further elaborated on the challenges of not being heard, emphasizing how a lack of recognition can hinder innovation and effective decision-making "… *Still, the response is often, "No, we're not going to invest in this. It's too long-term, too strategic". In the end, I compromise. That's part of the job—especially when working in a mixed team with government staff, outsourced IT professionals, and even people from competing*

organizations. I know I'll often have to find common ground… That said, I continue to advocate for my ideas within the organization. I highlight the potential benefits and the risks of not acting—such as increased future costs or slower performance. But if the answer remains no, I accept it and move on…".

This often leads to a task conflict that forces ICT professionals to make conditional choices. The roles and tasks are often well-structured, but ICT projects differ from other projects due to their agile approach, which sometimes creates tension within the team. Expert I, gave a long explanation illustrating with example which management tools can avoid the role conflict, *"… First of all, we are ISO 9001 certified. So, we do have formal processes in place, including a designated quality officer who evaluates and ensures compliance. That structure is clearly documented. We're a formal organization with defined lines of responsibility. However, because we work in a complex environment with knowledge workers and engineers, it's not always easy—or practical—to strictly define every task procedurally. There are responsibilities, like the Chief of Digitalization, but whether he completes a task himself or someone on his team does it depends on factors like expertise, availability, and scheduling… In development teams, it's similar. While we follow structured methods like "Sprints," where responsibilities are clearly assigned—what software developers do, what the functional analysts do, what team leads or architects do—there's still flexibility. Every sprint defines who will work on what, based on the team's needs and the individuals' strengths… So while we have a clear framework, the actual execution is adapted to fit the dynamic nature of the work and the ICT people involved…"*

In addition, Expert A also mentioned the importance of having a clear organizational structure with roles and responsibilities, so the ICT staff can avoid the role conflicts. He gave his point of view based on his long experience in public sector…*at my organization we have a clearly defined structure for IT roles… Each person within the agency holds a specific role, with associated responsibilities and expectations. This clarity helps everyone understand what is expected of them based on their position. For example, the tasks, responsibilities, and deliverables of a senior policy advisor are clearly outlined. These form the basis for our annual performance evaluations. The agency uses what we call a "family house" model—a kind of visual framework showing all the different roles and the levels at which they exist within the organization. You might be a Junior or Senior*

Policy Advisor, a Junior or Senior ICT Project Manager, and so on… Overall, the roles and responsibilities are well defined across the agency…".

In contrast with Expert A, and Expert C, described the conflict he experienced within his organization due to a lack of clear responsibilities, communication, and task demands, largely because it was a new organization: *"…The organizational structure and management at the organization I work is still under development. When I joined the organization, we were a new organization, no established IT department…I was given broad autonomy and instructed to address all data-related issues. The directive was clear but unspecific: establish a data platform, assemble a team, and resolve the problems. How I chose to do so was left entirely up to me. Fortunately, I am comfortable operating in such an environment and took the initiative to define my responsibilities, develop a roadmap, and plan actions on a month-by-month basis."*

These insights from his perspective clearly highlight the importance of organizational accountability and task responsibility, especially in ICT projects. When these elements are missing, they can lead to role conflicts and disrupt project efficiency. However, this autonomy also presented challenges. He continued illustrating the issues of a high autonomy without accountability by saying *"…Approximately every three months, senior management would raise different concerns. Their reaction typically revealed a lack of awareness regarding the work we were doing or the rationale behind it. While I had substantial freedom, there was insufficient clear roles and oversight or communication from management, which occasionally led to friction… In my view, these issues stemmed primarily from a lack of managerial competence within certain segments of the governmental organization*."

Furthermore, Expert F also experienced role conflict, which was negatively impacted by the lack of clear instructions. This issue stemmed from working in a newly established agency that lacked solid foundations: *"…We are a fast-growing agency, which brings about several organizational challenges that I need to address. One of my key responsibilities is ensuring that everyone within the ICT team understands their role within the larger organization. I must also stay fully informed about the overall strategy of the agency and the activities of other departments so that I can provide relevant context to the team…"* It is essential that everyone know their responsibilities and understand how their work intersects with that of others *"…This way, they are able to keep me*

informed and aligned. So, in this case, my role is not only that of an IT manager but also that of a team manager…".

In contrast to that, Expert B shared his experience within a well-known and established organization for digitalization in the Flemish area, a significantly larger and more mature organization that, in his opinion, is much more structured and effective: *"… roles and responsibilities are clearly defined. For instance, if one is appointed as an AI Solutions Architect, the assigned projects and objectives are explicit from the outset. While there may be additional responsibilities over time, priorities are well-communicated… Moreover, the organization maintains a healthy balance in terms of governance and feedback. Weekly check-ins, monthly strategic meetings, and other scheduled interactions ensure that project alignment is regularly reviewed. Although this approach offers slightly less autonomy as an IT staff, it provides clarity, accountability, and efficiency…".*

4.2.5 Stakeholders Demands

Nowadays, public agencies are not as bureaucratic as they used to be. With ultimate project management practices and the massive adoption of digitalization, these organizations are now providing ICT public services not only to citizens but also to businesses and other stakeholders. However, this shift has led to tensions, as ICT professionals must handle numerous tasks and demands from various actors both within and outside the organization.

Expert A shared his experience, highlighting the role conflict demands from stakeholders both inside and outside the organization. His ICT department is responsible for building systems not only to meet internal organizational needs, such as SharePoint systems, but also to support business operations. This dual responsibility adds complexity to their work, requiring them to balance priorities and ensure alignment between different expectations. "… *Sometimes, I personally feel a conflict when we build ICT systems. We're not only building these systems for our customers—Digital Flanders itself has become, not exactly a commercial entity, but an organization that provides services at a cost and expects to be paid… Therefore, when we develop something, it's not just with the end user in mind—we also consider our own interests. Are we going to generate revenue by offering this service? In many cases, our services are designed to meet both user needs and our own goal of being financially sustainable… This can sometimes create tension*

with our partners, who would prefer to receive services for free" Of course, in some cases that's not always possible. For example, he mentioned *"... if you want us to help build and host a website, there's a cost involved for the infrastructure and support. That's a typical case where we develop something not just to serve others, but also to help fund our own operations..."*

In addition to that, another Expert from the same organization, Expert F, expressed the importance of collaborating with different stakeholders within the organization but also outside, as public organizations are offering services to the public. For example, he explained that *"...as we operate in an innovative field, my organization is constantly asking us to come up with new ideas and emerging technologies. However, this often leads to a role conflict, particularly when there is pressure to implement the next big technology."* Therefore, sometimes, these emerging technologies may not be fully functional or mature enough to be deployed effectively into the context of public sector... *In our domain, we provide essential public data for the government, such as addresses, basic maps, and road registers. These are critical services, and if they fail, it can cause widespread disruptions. This creates tension and presents a challenge: should we take the risk of implementing innovative features or focus on maintaining stable, reliable services? Given the significant investment required, it can take years to determine whether such innovations will impact the core functions of our systems."*

Moreover, he continued discussing these issues, providing an example from his experience. He emphasized that in some cases the main challenge is not ICT technicalities, a lack of knowledge, or budget restrictions. Rather, the real difficulty lies in aligning all stakeholders, ensuring they share a common vision, and developing a solution that effectively meets their diverse needs "… *Currently, we are testing new features, such as event streaming for address data. The primary challenge is not the IT aspect itself—given sufficient funding, we can implement these features—but understanding the broader impact on our IT systems, scalability, and supporting processes. It's not just about the technology; once the value is delivered, we must consider service delivery aspects like 24/7 support and other operational considerations… We are responsible for the entire value chain, not just the IT project. There are various stakeholders in our work, including those who use our data portal. Since it's open data, we don't have registered users, though I know some through personal experience. Other*

stakeholders are the Flemish agencies that entrust us to publish their data through our portal. These are our supply-side stakeholders, distinct from the users of the data…". Overall, this is an example of how ICT professionals provide solutions based on their expertise, ensuring the best possible outcome that aligns with the organization's needs, budget, and regulatory requirements. In addition, the same expert continued further explanations by involving stakeholders influence *"…we have societal stakeholders who advocate for transparency, political stakeholders who highlight the portal as a good example in the EU, and many others. Depending on the context, we must recognize which stakeholders' voices carry the most weight. For instance, when securing funding, it is essential to engage with the stakeholders who are directly invested in the project, rather than those who are not financially involved… Ultimately, when role conflict arise regarding what we want versus what others may want, it's up to us to conduct thorough fact-finding, prepare various scenarios, and determine the best course of action…"*

Ultimately, the role conflict between ICT professionals and organizational demands is an ongoing process, as both sides attempt to advance their own priorities, often resulting in tension and disagreement. This dynamic is also reflected in the perspective of Expert H, who emphasized the significant role of organizational demands in shaping the responsibilities and expectations of ICT professionals: *"…I think you have to adapt to your own organization. In our case, management sometimes pushes for things we as IT may not fully agree with…but that's common in any public organization. Most of the time, we follow through and try to make it work…".*

4.3 ICT project-ICT professional role conflict

Another role conflict, as defined by Tummers et al., (2012) framework, emerges between the ICT project and the ICT professional. This conflict arises when the demands of an ICT project, whether technical specifications, knowledge requirements, budget constraints, or strict timelines, clash with the professional's own norms, values, or standards.

Similar to all other projects, ICT projects also come with their own specific demands that ICT professionals must consider. These drivers vary and include factors such as budget, time constraints, knowledge, and perceptions.

4.4 Budget Driver

The public sector is often characterized by limited funding, requiring organizations to plan carefully. On the other hand, ICT projects are known for their large budget requirements, which can sometimes create tensions within ICT teams. Experts in the field have shared their perspectives on this issue, particularly on how financial limitations impact role conflicts among professionals.

The implementation of ICT projects often presents numerous challenges, leading to internal pressures within the ICT team and external tensions with various stakeholders. These issues stem from diverse origins, with budgeting frequently identified by ICT staff as a primary driver that influences the project's input, processes, and eventual outcome. Expert H elaborated on this, highlighting how funding significantly impacts the entire lifecycle of an ICT project, stating that, "*...For us, the main challenges are securing funding and using it effectively.* B*y that, I mean we first need to clearly understand the real problems we're trying to solve. We mainly develop software to support our internal staff, so it's essential to gather the right information, such as what do they actually need? That requires good business analysis, besides the ICT experts… We are one large state agency with about 300 employees, divided across six regions. So, we have to align the way all these regions work. Agreeing on shared priorities and deciding what we should develop with our limited resources is one of the biggest challenges…*"

ICT projects are distinct from others because they necessitate continuous maintenance and upgrades, which inherently drive-up costs and demand increasing funds. Expert A emphasized the significance of this funding aspect, noting that budgeting directly influences the role conflict experienced by ICT professionals and the demands of ICT projects, as these experts constantly require more resources to develop and build systems: "*...one of the biggest constraints we face is the budget. Typically, if you ask for more funding, you won't get it—so you have to work with what's already allocated… First, it's essential to secure an appropriate budget for the ICT project itself. But what's often more difficult—and frequently overlooked—is obtaining the necessary funding to maintain and support the system after it's been developed… It's often easier to get money for something new and impressive, but people tend to forget that ongoing support and maintenance also require funding. Without that, it becomes hard to keep the system up and running in the long term…*" Consequently, financial resources and budgetary allocations directly

determine the scope and achievable outcomes of ICT projects, often compelling concessions.

Moreover, the Expert D, affirmed this, illustrating it with the budget procedural steps involved to better prioritize the implementations of ICT projects within public sector "… *We start by making a list of all the ICT project demands. At first, we don't assign any priorities. Then, we present this list to the ICT Governance Board and say, "Here's what we could do—these are the options, and this is the available budget."* Sometimes, project demands surpass budget constraints, leading to significant shifts in scope. An ICT project may begin on a small scale but expand as additional requirements come up. Conversely, a large-scale project with extensive technical complexities may be streamlined over time due to other alternatives. These dynamics highlight the need for careful planning and strategic decision-making to balance feasibility with organizational objectives. The Experts D, continued: "…*That's when we face a role conflict: we are expected to deliver certain things, but we simply don't have the resources to do so… In In such cases, we go through a risk acceptance process. We evaluate the likelihood and potential impact of not delivering certain projects. For example, we assess whether the absence of a feature, like not publishing the original signed documents, could become a problem… Currently, we don't publish the signed documents themselves, only copies. The originals are stored in a secure database, and we've allocated budget for that setup…*".

As a consequence, the inherent role conflict becomes evident. To mitigate this situation, Expert D, suggested a trick that works in public administration including ICT projects as well "*We review and revise the list of projects two to three times a year to ensure priorities are still aligned with available funding and changing needs.*"

The same perspective regarding budget limitations was affirmed by another interviewee. However, he further elaborated, explaining that, in some cases, ICT projects start small but eventually grow into large-scale initiatives, while others begin with significant scope but later scale down. Specifically, Expert G viewpoints on this matter highlight "*...One of the main challenges in ICT projects is the budget. In my experience, ICT projects are almost always more expensive than initially planned. I've never seen an ICT project where the budget was fully sufficient. There are the development costs, of course, but what's often underestimated are the recurring maintenance costs that follow… Even with good planning, unexpected issues almost always arise. That's just the reality of ICT*

projects, and that we ICT's experience the role conflict… So, the key here is accurate and realistic budgeting. Ideally, budgets should include a margin, because costs can easily double or even triple in ICT projects within government…"

Regardless of differing opinions on the role conflict between ICT professionals and ICT project demands concerning budget, Expert F successfully transformed this weakness into an opportunity. He advocated for a strategy wherein a lack of budget prompts a shift towards smarter solutions, prioritizing the centralization and development of a single system for a given purpose, rather than funding multiple disparate systems. "… *When it comes to budgeting, it's important to remember that it's not the end users who secure the funds—it's the government who trusts us and holds the purse strings. So, when planning for the next few years, we need to focus on convincing the right people. Conflicts often arise between what different stakeholders want. It's up to us to do the fact-finding, prepare different scenarios, and determine what's truly needed. Even before an ICT project starts, there are already multiple levels of refusal, no budget, no extra staff, and no additional resources. Then, once the project begins, we often need to narrow the scope of the ICT project."*

With this in mind, ICT professionals often develop strategies to implement ICT activities while working within budget constraints. The same expert provided a solution to mitigate role conflict, offering an example from his own work. He explained that designing centralized systems, rather than decentralized ones, can be a more efficient approach. While decentralization can sometimes lead to higher costs due to duplication and complexity, centralizing systems allows for better resource allocation, ultimately reducing financial risk and ICT project role conflicts. "… *For example, when we talk about centralized systems—like access management—we can show that doing it once, properly, can be far cheaper than having multiple systems serving the same purpose across departments. But we must support this with strong business cases… It's the same with concepts like "interoperability by design." Initially, it might seem more expensive for everyone. But with time and momentum, the long-term savings and efficiency gains become clear… This kind of role conflict is part of the job, and managing it well is how we deliver real value…*"

In contrast, Expert E advocates for a distinct perspective on ICT project funding, positing that accountability and emphasis ought to reside with the ICT team, rather than the project

sponsor. "*…When it comes to project budgets, we need to divide resources across different parts of the organization. If one team uses more time or materials than planned, it impacts everyone else—so careful coordination is essential… That's why we place strong emphasis on the business case. We ask teams to clearly define what they need, what the project will deliver for them, and agree on a realistic scope… Once that's set, it becomes the responsibility of the project team to deliver on time and within budget. Staying aligned and disciplined is key to ensuring success across the entire organization."*

Moreover, interestingly, one of the experts interviewed did not find the budget limitations to be a major obstacle, largely because he worked on big ICT projects. Expert B supported this perspective, stating, "…I worked to set up the AI team, which operated *with a high level of autonomy. We were given a substantial budget, several million euros, from the Minister to develop AI-driven innovations… We had the freedom to decide which AI projects were relevant, but we took that responsibility seriously. We regularly organized demos for users, government managers, the cabinet, and even the Minister to show how we were using the funds and to collect feedback… This autonomy didn't mean we were just spending money on things we liked. Our focus was always on what citizens needed. Just like companies are customer-focused, we are citizen-focused. The goal was always to solve real problems for people, and that mindset shaped everything we did, even within an autonomous AI tool…*"

4.4.1 The Deadline Driver

Time stands as a key demand in ICT projects, often creating role conflict for ICT professionals concerning project deadlines. It appears that these professionals experience such conflict due to the numerous deadlines imposed by various governmental levels and stakeholders.

Building upon these foundations, Expert A emphasized the importance of meeting deadlines and how this factor influences role conflict in the implementation of ICT projects. He explained that tight schedules often create pressure among ICT professionals, especially when balancing technical complexities with ICT project expectations. Delays

can lead to tensions from stakeholders, while delayed projects can compromise quality. As a result, managing timelines effectively becomes a key aspect of reducing tensions and ensuring smoother collaboration between teams. The Expert A, says, "*...Time constraints can be very important, especially when ICT projects are tied to political deadlines or legal obligations, such as compliance with European regulations. In these cases, there are hard deadlines that must be respected, which can significantly impact your professional life… Sometimes, meeting these deadlines means working harder for a few weeks, which can be exhausting and make you experience the role conflict. Whether this affects your personal or professional growth depends on the outcome. If the project succeeds, it reflects well on you and can support your career development. But if the project fails or is delayed, it may limit future opportunities and bring tensions within the team…*"

Demands from ICT projects can pressure ICT professionals to complete them on schedule, which sometimes requires sacrificing quality. Expert D explained how ICT professionals encounter conflicts with these project requirements: "*...Every ICT project is mostly limited by three key factors (money, people, and time), often called the "triple constraint." The idea is that you can only fully achieve two out of the three: If you want it good and fast, it won't be cheap. If you want it cheap and good, it won't be fast. If you want it fast and cheap, it won't be good… You have to choose wisely depending on your priorities…*"

The same expert further explained, using an example, that time constraints are sometimes poorly defined and do not align with the technical complexities of ICT projects. He noted that steering committees often set deadlines without adequately considering the technical concerns raised by the ICT team. Expert D presented a case where an ICT project failed to meet its deadline because of this very conflict. He provided the following details: "*…There was a system we had to build, a rather complex one, in the environmental field. The organization wanted to develop a system using GIS (Geographic Information Systems) to determine whether a specific part of land was contaminated. This was around 25 years ago, and back then GIS technology wasn't as advanced or performant as it is today. From the IT department, we warned that the concept was theoretically sound but technically unfeasible at the time. The system needed to process thousands of land parcels within 24 hours, something that simply wasn't possible with the available computing*

power… However, the vendor of the GIS software was also on the project's steering committee. They insisted it would work and pushed ahead despite our concerns. They built the system, and, as we predicted, it failed… That led to a role conflict between the IT department and ICT project demand... We had warned them, but our input wasn't accepted. Eventually, when the system didn't deliver, we were proven right. After that, we were given full freedom and trust to redesign the system the way we originally suggested… So, while time and money were lost, a positive outcome was that our team earned credibility and greater autonomy moving forward…"

In contrast to the above expert experience, Expert G offered a different perspective on the pressure of time constraints. During specific periods, such as global crises, timely delivery is crucial for systems essential to citizens. He affirmed this by stating, "*... During the COVID-19 crisis, we received a request to build a system that had to be delivered quickly, as it was of utmost importance to the government. We gave it full priority. When such urgent requests come from the government, the ICT department always treats them as a top priority. However, that doesn't mean everything else stops or that the same urgency applies to all tasks… We were proud to support our organization during a crisis and to deliver a functioning system within such a short timeframe without feeling the conflict…*"

The role conflict caused by the factor of strict deadlines comes not only from ICT project demands but, in some instances, also from a prevailing culture where public sector ICT projects typically require more time for execution compared to those in the private sector. Consequently, this creates a complex mix of demands between organizational and ICT project expectations, leading to conflict for ICT staff. New insights were given from Expert E emphasizing that, "*...Our way of working is a bit different from that of a private sector software company… However, bureaucratic processes often slow things down, adding extra time before a project can even begin…*"

When ICT professionals face role conflicts, they can debate with their managers about the potential time-related problems that might happen if their technical advice is ignored. Expert B explained this by saying, "*...I always try to show the benefits, like explaining that if we don't take action, things will be slower, take more time, or lead to more errors. But I won't repeat this message five times, because managers can get annoyed and may end up sidelining you or moving you to another position…*"

4.4.2 ICT Knowledge and Perception Driver

Role conflict between ICT professionals and ICT project demands also arises when an ICT expert or team wants to apply their IT knowledge and the latest techniques but encounters obstacles from project requirements, often due to strict regulations like GDPR. Expert B, clearly explained that in some ICT projects, he cannot fully implement his IT knowledge mainly because of these rigid project demands: "*... since I work in data and AI, we have to ensure GDPR compliance and follow a privacy-by-design approach. In Flanders, there is a government body called the "Vlaamse Toezichtcommissie voor de verwerking van persoonsgegevens," the Flemish Supervisory Commission for the Processing of Personal Data. This commission provides advice on privacy compliance when government agencies plan to move to the cloud or develop AI solutions…"* However, the organization often lacks updated technical knowledge, especially regarding modern data security and AI methods. They tend to advise against most initiatives by default. The Expert B, gave an example, *"…they might reject using AI to analyze income data, claiming it's biased or unsafe. In response, I often have to explain, using practical examples (from the private sector), that we have techniques to anonymize, pseudonymize, and reduce bias. I show how we implement strict access controls and auditing so that any interaction with sensitive data is logged and traceable…*"

Furthermore, ICT professionals sometimes experience role conflict with their high-level managers, particularly in the public sector, where managers may lack sufficient ICT knowledge and thus not accept technical suggestions regarding ICT projects. In such instances, a mediator capable of bridging the gap between the business and ICT levels is required, as articulated by Expert E, "*…You want business managers to create a clear vision and strategy. But that vision also needs to be technically aligned. Sometimes challenged, without diving too deep into specific solutions too early… It's important to bring both the business and ICT sides together early on. You need to understand the landscape: what's possible, what's easy, what's more difficult, and what the emerging trends of technology are. This helps set priorities and assess what really matters… In this role, people that have mixed knowledge, without going too deep into IT solutions, can support that process. This expert can challenge management, suggest better solutions, and help visualize the ICT team ideas in a practical way…*"

The role conflict between ICT professionals and ICT project demands does not always result in a mutually beneficial outcome. This is because certain project activities must be implemented by an ICT professional without the opportunity to propose alternative, potentially superior solutions. Expert H mentioned that, "… *They often say, "You must be compliant" and set many constraints, but they don't explain how to implement the technical solution. Some of these constraints are so strict that they don't align with how we as developer work or what's technically feasible… As technical experts, we can assess the risks and propose alternatives, but sometimes they still push through with their demands. When that happens, we escalate the issue to our own organization, especially when these rules come from Digital Flanders…*"

To conclude this section, ICT professionals sometimes experience multiple role conflicts simultaneously, encompassing demands from the organization, government, and the project itself. Expert H illustrated this complex situation: "*... Sometimes, conflicts arise when the business side goes directly to a vendor without involving us. The vendor presents a solution that seems perfect, claiming they can do everything—but is that really true? Most of our conflicts don't come only from our own management but from the broader Flemish government context. The central digital institution, responsible for digitalization across all entities, often pushes broad, one-size-fits-all solutions. Then the public organizations are still held responsible for implementation, even if the solution doesn't fit their needs… For example, we currently use Google, which is much cheaper, but are now required to switch to a government-mandated solution that is ten times more expensive, simply because a central decision was made that everyone must follow it. These top-down decisions often lead to technical conflicts and inefficiencies…*"

4.5 The Role Conflict of Government/Political Demands and ICT Professionals

This type of role conflict happens when the demands of government as a political entity (such as the legislation and governmental strategic requirements) clash with the professional standards, beliefs, or values held by ICT professionals.

Initially, it might seem that ICT professionals do not interact directly with government or political matters. However, their work is still affected by political decisions.

4.5.1 Government Approval Driver

ICT projects play a crucial role in government operations. In addition, eGovernment has transformed the way governments deliver services, with ICT professionals playing a key role in this field. All these initiatives must be approved and aligned with strategic governance guidelines.

Upon this spirit, the Expert E further explained his experience with role conflict driven by government and political factors in terms of receiving approvals and the outcome concerns "… *Our way of working is a bit different from that of a private sector software company. Every project must first be approved at the political level, meaning we need permission in advance to allocate public funds… This makes it essential for us to deliver on time, within scope, and on budget as designated by the government. However, bureaucratic processes often slow things down, adding extra time before a project can even begin… Unlike companies like Spotify, which have more flexibility, larger budgets, and full control over their products, we must work within tighter constraints. That's why we structure our work in well-defined projects and often use agile methods like sprints to keep progress manageable despite the complexity…*"

In the Flemish region, the government oversees its digital strategy through the Digital Flanders agency. As a government body, this agency follows political directions. Expert I described his role conflict effected from government strategy and how they influence the organization's independence. "*...In the Flemish Government, we have a central organization that rolls out mandatory software solutions for all entities to use. The issue is, while use of the software is mandatory, we are still responsible for ensuring it complies with GDPR.* T*his creates a conflict: we are required to use a tool, but we also bear the risk if it doesn't meet data protection standards. Sometimes we believe stricter GDPR compliance is needed, but we have no choice—we still have to use the software. If we raise technical concerns, the response is often, "That's your responsibility." This creates a difficult situation where the obligation and the risk don't align…*"

Expert H also holds a similar point of view, and in addition to that is more critical of government restrictions, and their bureaucratic way of working "… *In discussions, technical issues like GDPR often lead to a long list of strict requirements set by the government. They might say, "You need to do this," without fully understanding the*

technical or operational impact. As technical experts, we sometimes push back: do you really want things to be so strict that, for example, four people need to review every single change? At some point, this level of control becomes a barrier to efficiency and slows down necessary innovation…"

Moreover, the government in some cases affects the work of ICT professionals by requiring them to use certain systems, even if these are not their preferred tools. Some experts have shared their insights about this situation. Expert F, expressed a desire for the government to be more flexible about using different systems, "… *From my perspective, open-source solutions could be used more in government contexts. However, many legacy systems are still Microsoft-based licenses… But in some cases, we see applications underperforming, situations where open-source alternatives might actually be a better fit…*" As previously noted, Expert H confirmed his preference for using an alternative system but is required to use one mandated by the government. Therefore, regardless his will to use another system he is oblige to follow what strategic documents dictate "*… For example, we currently use Google, which is much cheaper, but are now required to switch to a government-mandated solution that is ten times more expensive, simply because a central decision was made that everyone must follow it. These top-down decisions often lead to technical conflicts and inefficiencies…*"

ICT professionals often express reservations about government directives on the scope and functionalities of ICT projects. However, in certain instances, government pressure to adopt a particular system, contrary to professional preferences, has resulted in successful outcomes. Expert H shared his experience regarding unique identification in Belgium, explaining that, initially, he was resistant to the idea. However, over time, he recognized its efficiency and effectiveness in streamlining processes: "*…for example, the central digital agency in Flanders requires us to use certain components. Initially, we often questioned those choices, thinking they were poor solutions. But in many cases, they turned out to be very effective… Ten years ago, we disliked having to rely on a central registration system; we preferred doing it ourselves. But now, we can't imagine working without tools like eID or ItsME. They've become essential and should be standard… So, some solutions are frustrating at first but prove valuable in the long run. Others remain challenging. Overall, it's a balance."*

Therefore, in this sub-section, we recognize the significance of governmental power in shaping priorities based on political programs and agendas. Governments utilize their authority to direct digital transformation strategies, ensuring alignment with their program objectives.

Expert H also highlighted concerns regarding government transitions, noting that ICT projects often face restrictions or require adjustments over time. With each new administration, there is a possibility of system revisions to accommodate evolving governmental needs and visions. In his interview, he stated: *"... From a political perspective, government and parliamentary changes can create uncertainty. Successors may revoke funding decisions, prioritizing other needs. This poses challenges for project development, requiring adaptation to shifting towards new goals."*

4.5.2 Legislation Driver

Governments and parliaments exercise their power through decisions and legislation procedures, including the digitalization of public services and their compliance with GDPR regulations. However, ICT professionals are often excluded from the process of drafting legislation that impacts digitalization. Instead, their involvement is typically limited to the implementation phase. This disconnects leads to role conflicts between ICT professionals and other political entities.

Insights from the interviews expressed that political factor, in various ways, are an integral part of the digital transformation of public services, and this directly affects the work of ICT departments within Belgian public agencies. Expert D discussed the influence of politics on ICT work: "*...When the Flemish Government makes a decision, it's essentially part of a broader digitalization of the political process, involving different ministers and cabinets. We also have a direct link with the Flemish Parliament, since some decisions must be made there rather than by the ministers alone… All of this is integrated into our systems. In this situation what remain is to support the political decisions with our main applications and it's absolutely critical… That's why it's so important—these are high-level decisions involving powerful people in the Flemish Government. We do everything we can to ensure the systems keeps running smoothly…*"

As ICT professionals are used to working in flexible environments and have more autonomy in decision-making, including choosing systems that best meet their needs. In contrast, the government tends to be more traditional, operating with its own bureaucratic structures and strictly adhering to legislative frameworks. This view is supported by the thoughts of Expert B: "…*This is the law, and we'll just follow it. That's how things were done 50 years ago. In many ways, the federal government still operates like that today….*"

Another point concerning the role conflict between ICT professionals and government or political entities is that ICT perspectives are often overlooked or excluded from many decision-making processes. Expert H illustrated this situation from his perspective: "*...In some situations I do not understand why certain decisions are being made. Often, we're left asking. Why are you deciding this? The real issue is that we don't always have the full context. Political or high-level decisions can seem disconnected from the reality on the ground. From my perspective, I may believe that I know what works best. But without insight into the broader reasoning or goals behind those decisions, it's hard not to push back… In many cases, simply having more explanation or transparency could reduce that friction. If we understood the "why" better, we might not end up in conflict so often. Clearer communication could go a long way in aligning perspectives and reducing unnecessary resistance."*

4.6 Multifaceted Role Conflict—A New Role Conflict?

While the results section is based on Tummers et al., (2012) role conflict framework, it is important to highlight that the interview process revealed new insights and perspectives. Some ICT experts reported experiencing at least two role conflicts within a single ICT project, or even all identified role conflicts within one ICT project.
This raises a key question: In which of the three role conflict categories does this situation fit? Does it align with existing role conflict definitions, or does it introduce a new category that will require further discussion? While additional investigations may provide deeper insights, I am presenting the multifaceted role conflicts that some interviewed ICT experts have encountered

Therefore, ICT professionals sometimes face two or more role conflicts simultaneously. For instance, this situation can occur when demands from both the organization and the government clash at the same time. A situation like this might arise when, to meet a

governmental strategy or legal requirement, the organization pressures the ICT department to implement a project at the lowest possible cost. In such scenarios, the ICT expert wants to ensure the project fully complies with the legal act while also staying within budget, placing significant pressure on the ICT department. In addition, Expert D, provided an example of these parallel conflicts. Here is long explanation that the expert did: "… *We are currently rehosting the KALEIDOS system of the Flemish Government, and we aim to do this as cost-efficiently as possible. However, there are non-functional requirements, particularly related to information security, that must be met. In our system, we follow an information classification model: Level 1: Public, Level 2: Internal, Level 3: Confidential, Level 4: Restricted (e.g., personal data under GDPR), Level 5: Top Secret (extremely sensitive data). According to GDPR, if personal information is stored in the system, it must be classified at Level 4. This classification requires strict technical and physical security measures such as encryption at rest, encryption in transit, and encryption in memory. These measures significantly increase hosting costs. For example, hosting a Level 4 system can cost up to twice as much as a Level 3 system. This becomes a challenge given our budget constraints. In the KALEIDOS system, we handle the "Rijksregister mummer" (national registry number), which is a unique, immutable identifier for every Belgian citizen—similar to the Social Security Number in the US. This number is extremely sensitive under GDPR… With the introduction of digital signing, ministers use their eID to sign official documents. The signature includes their "Rijksregister mummer", encrypted with their private key. While the signed documents are stored securely in a database, only copies (without the sensitive data) are made publicly available… the "Rijksregister mummer" is part of the system; It elevates the entire system to Level 4, triggering all the required (and expensive) security measures. But with the current budget, implementing these measures is not feasible… This creates a conflict: we are legally required to meet Level 4 standards, but we lack the funds. In such cases, we follow a risk acceptance process, where we assess, what is the likelihood of the "Rijksregisterr mummer" being exposed? What mitigation steps are in place (e.g., not publishing signed documents)? Often, rules like these are created with good intentions but without fully considering their financial or technical impact. This case highlights the tension between legal compliance and financial reality…"* Therefore, in this case, the expert experienced role conflicts both within the organization and in relation to government and political drivers.

Building upon this situation, in addition, one of the experts expanded the analysis of facing the multi-role conflicts, moving beyond the tension between ICT professionals and the government, created by identifying responsibilities not only with the government for its unclear legislative implementation guidelines but also with ICT departments, which often operate in isolation from other organizational units, and ICT projects that don't take into consideration the opinion of ICT experts involved in the project. The Expert C, largely explained a role conflict influenced by the unclear legislation driver. Organizational pressure and ICT projects unclear demands, "… *Often, ICT departments interpret the law in a very narrow way. For example, the law might say, "Build a database for heating systems," and the agency takes exactly what is written, without considering if others are doing something similar. This case led to five or six separate databases being created for things like solar panels, oil heating, and other energy systems. Each was built in isolation, without taking into consideration what other teams are working for, with separate budgets, and often by different vendors. So, the project didn't take in consideration the all these factors… When I got involved, I realized they were all doing essentially the same thing, just without coordination. There was no interoperability, no shared vision. And by that point, no one wanted to build integration layers on top of them. This siloed approach comes from how decisions are made: one piece of legislation, one directive from a minister, or one isolated ICT team. Everyone focuses on their own mandate instead of thinking more broadly or long-term. It's not citizen-centric, and certainly not future-proof. We try to reverse that mindset where we can, but it's still very present in many parts of the government, and that is difficult to change…*" Therefore, if an expert's voice is not considered in the initial stages, organizations may later find themselves needing to rebuild, upgrade, or centralize their systems. This can result in wasted time and financial resources while also creating conflicts with legal regulations, organizational structures, and the project itself.

5 DISCUSSION

5.1 A Belgian Perspective?

Understanding the role conflict experienced by ICT professionals in Belgium requires careful contextualization within the country's characteristics of federal and administrative structure. The choice of Belgium as a case study is not random; it is primarily because of Belgium's complex structure of political systems, organizational dynamics, and ICT big projects, which can give an opportunity to investigate what role conflicts ICT professionals in the public sector do experience. Moreover, the selected country case study was also chosen based on logistical considerations. Since we live in the Flemish region of Belgium, it is easier for me to travel, collect data, and utilize KU Leuven's resources to support my thesis more effectively.

Belgium's federal system, with competencies split across federal, regional (Flanders, Wallonia, and Brussels), with several governments, and local levels, contributes to a governance structure that is quite complex (Dierickx, 2003). Interview findings, particularly those with Experts D, H, and E, revealed how this multi-level governance generates diverse and sometimes conflicting ICT requirements across regions and administrative layers. This situation is reflective of what Tummers et al. (2012) define as "institutional ambiguity," where project implementation environments lack coherence due to multiple authorities exerting influence.

The existence of several overlapping systems was particularly evident in ICT systems like KALEIDOS and CRM software, e-ID, and itsMe, where regional initiatives must be synchronized with federal mandates and European Union legislation. This interdependence creates grounds for role conflict, especially when ICT professionals are expected to satisfy a multitude of legal and functional expectations from several stakeholders.

Furthermore, Belgium's multilingualism adds another layer of complexity to administrative practices and communication. The need to adapt systems for Dutch-, French, and German-speaking populations affects user interface design, documentation, and even staff collaboration. As a result, ICT professionals are compelled to navigate not just technical requirements but also sociolinguistic expectations, leading to "cultural role

conflict," a subtype not always explicitly mentioned in Tummers et al. (2012) but relevant when discussing perceptions and identity-based role strain in multicultural administrations (Bovens, 2018).

Therefore, the Belgian context exemplifies how macro-level political structures can cascade down into operational challenges for ICT professionals, reinforcing the need to consider local administrative ecosystems when assessing role conflict in public ICT projects.

5.2 Discussion on Role Conflict

5.2.1 Organizational–ICT professional Role Conflict

This role conflict arises when the internal organizational culture, organigram, and structure, or strategic and operational direction of an organization misalign with the professional knowledge, perceptions, and standards upheld by ICT professionals. This specification aligns with the definition provided by Tummers et al., (2012), who note that role conflict is especially developed in public service contexts when organizational demands negatively affect the ICT professional's autonomy and task clarity. The interviews with Belgian ICT professionals reveal three dominant sources of organizational-role conflict: unclear or conflicting task priorities, outsourcing human resources and technology, and organizational culture affecting the ICT departments. For a better understanding of the drivers of role conflict between the organization and ICT professionals, the table below illustrates the combination of these drivers, supported by expert opinions and the literature review.

Drivers of the Organizational–ICT professional role conflict			
Drivers	**Descriptions**	**Interview evidence**	**Academic literature**
Unclear work flow processes or tasks conflicting	Unclear responsibilities and accountability often came from a poorly organizational and managerial structure or overlapping of	Expert I- *"In ICT environment (with knowledge workers and engineers) …it's not easy to strictly define every task procedurally."* Expert C- *"Lack of managerial*	Tummers et al., 2012; Dias de Lima, 2009

	tasks, less autonomy, etc.	*competencies… caused frictions"* Expert H-*"Delivering new systems also means managing change."*	
Outsourcing	Nowadays, outsourcing the ICT human resources and technologies for the public sector is a trend and often brings conflict between internal ICT professionals and the external	Expert A – "…*the lack of necessary ICT human expertise within the government itself"* Expert F- *"We also outsource expert IT roles, such as software developers."*	Lacity et al., 2009
Organizational culture	Differences between ICT knowledge and perception and organizational culture	Expert B- *"Typically organizational cultural tensions…IT vs. organization role conflict."*	Ferlie et al., 2005

Source: Own elaboration

Table 2 Drivers of the Organizational–ICT professional role conflict

All these drivers have an impact on the organizational change management. On one side is the aspect of the hard side. The workflow, systems, strategies, tactics, and technologies that will support the implementation of ICT changes. While on the other side is the aspect of the soft side, such as the behavioral and attitudinal changes, communication, and reassuring, influencing, and motivating, that will enable the success of the hard ICT changes (Dias de Lima, 2009). These drivers are discussed below, referring not only to the literature review but also to the expert's viewpoints.

Many interviewees (Experts H, I, D, and C) mentioned the difficulty of aligning long-term organizational strategies with the agile nature of ICT project delivery. In public organizations, priorities are shaped by steering committees, boards, budgetary constraints, and sometimes urgent agendas. ICT professionals, on the other hand, operate by specific task demands, engineering standards, and knowledge, prioritizing optimization, efficiency, and sustainability. This makes them flexible in executing tasks.

Expert I, highlighted this flexibility within development teams, noting that even within structured methods like “Sprints” where responsibilities are clearly assigned to software developers, functional analysts, team leads, or architects, there is still adaptability.

On the other hand, ICT professionals working in a well-structured and bureaucratic public sector environment may experience fewer role conflicts. Expert B supports this approach, emphasizing that in his organization, clearly defined roles and responsibilities enhance clarity, accountability, and efficiency, even though they offer slightly less autonomy for IT staff.

Expert I, stated that every new ICT project introduced in government brings change, and adapting the organization to make the best use of the new system is always a significant challenge. This indicates that role conflict also appears in change management, where ICT professionals must support transformation while managing organizational resistance. Therefore, ICT teams experience organizational role conflict not only during the implementation of ICT projects but also afterward, as new services come into use and affect existing ones. This can create a sense of responsibility for introducing new IT tools. On the other side, Expert C highlighted the importance of organizational guidance and specific requirements, noting that directives from the organization were often clear but not specific and not task-oriented, which led the ICT staff to interpret vague organizational directions into technical architectures.

Another driver that affected the role conflict is the tension surrounding the outsourcing trend. Several Experts (I, H, F) discussed the government's reliance on external IT vendors due to hiring constraints or lack of in-house ICT expertise. Large-scale IT outsourcing projects have been driven by poor budget performance, suggesting that the main strategic intervention has been cost reduction. However, in recent years, outsourcing has been considered for broader strategic purposes beyond merely cutting costs. These include improving information systems, enhancing business processes, and leveraging commercial opportunities (Lacity et al., 2009).

While outsourcing provides flexibility and access to specialized skills, it also introduces management complexities and questions of ownership, leading to conflicts within the existing ICT team. Expert F expressed concerns about technical language mismatches between external ICT experts and permanent staff of the ICT project, a form of semantic

conflict and also criticized organizational behavior toward these concerns. He mentioned that some IT experts within their team are fully outsourced and that having that choice is valuable but requires strategic awareness.

On the other hand, Experts I and H also expressed concerns about this trend but have come to terms with it, recognizing that such decisions are beyond their control. Instead, they choose to treat external developers as integral members of their mixed teams. They noted that they outsource expert IT roles, such as software developers, but these are more task-specific than full-time roles, and they tend to treat external staff as part of their internal teams rather than assigning entire projects to a single outside entity. Tummers et al. (2012) emphasize that professionals may feel their roles are undermined when critical decisions are influenced by actors external to their professional ethic or jurisdiction. In Belgium's case, this is made somehow formal restrictions on the public sector, forcing ICT units to outsource core functions they might prefer to keep internal, leading to internal-external conflict (Van der Voet et al., 2014).

Finally, interviews expressed that the culture of an organization shapes how ICT professionals perceive and manage their role conflicts. Several experts described cultural tensions, such as those between autonomy and hierarchy, innovation and stability, and ICT and business perspectives. The case between a new organization and a solid organization provided a useful contrast. In the case of the newly established organization mentioned by Expert C, emergent structure led to ambiguity, inconsistent communication, and role confusion.

Meanwhile, the well-established central institution mentioned by Expert B was distinguished for clear role definitions, feedback, and performance expectations. This supports the findings of Christensen and Lægreid (2007), who argue that clarity in hierarchical roles reduces professional ambiguity and fosters alignment between institutional goals and technical execution. In some cases, organizational culture was evolving towards agility and inclusion (mixed project teams), which reduced conflict over time. These insights are supported by the author Ferlie et al., (2005), who observed that the success of ICT reform in public institutions depends not only on ICT infrastructure but also on cultural alignment and governance mechanisms.

5.3 The, ICT project-ICT professional Role Conflict,

This role conflict focuses on how project technical knowledge, perception, budget, and time requirements clash with the professional's established norms, values, and standards. The interview data from Belgian ICT professionals highlight key drivers of role conflict and their implications for project implementation. These drivers are presented in a table to provide a clearer understanding of the role conflict between ICT projects and ICT professionals. The table is supported by insights from expert interviews as well as findings from academic literature.

Drivers of the ICT project-ICT professional role conflict			
Drivers	**Descriptions**	**Interview evidence**	**Academic literature**
Budget	The public sector is often characterized by limited funding, requiring organizations to plan carefully.	Expert H- *"For us, the main challenges are securing funding and using it effectively."* Expert A- *"one of the biggest constraints we face is the budget."* Expert G- *"One of the main challenges in ICT project is the budget."* *Expert F- "…because of lack of budget, we often need to narrow the scope of the ICT project."*	Bannister & Connolly, 2014; Dawes, 2009
The strict deadlines	Time stands as a key demand in ICT projects, often creating role conflict for ICT professionals concerning project deadlines	Expert A- "*…when ICT projects are tied to political deadlines or legal obligations, such as compliance with European regulations."* Expert G- "*When such urgent requests come…"* Expert E- "…*bureaucratic*	Fountain, 2001

		processes often slow things down, adding extra time before a project can even begin."	
ICT Knowledge and perception	Lack of implementing IT knowledge and the latest techniques because of obstacles from project requirements, often due to strict regulations like GDPR	Expert B- *"The organization tend to advise against most of our emerging trend's initiatives by default."* Expert E- "*The ICT expert can challenge management, suggest better solutions, and help visualize the ICT team's ideas in a practical way."*	Schein, 1997

Source: Own elaboration

Table 3 Drivers of the ICT project-ICT professional role conflict

One of the main drivers of the role conflict between the ICT project and ICT professionals is the budgetary constraints consistently shown as a fundamental source of role conflict for ICT professionals in public sector projects. Interview data indicate that public fund limitations directly influence project scope and outcomes, often requiring compromises. Expert H highlighted securing and effectively utilizing funding as a primary challenge, encompassing both initial development and critical ongoing ICT projects maintenance. This aligns with academic literature identifying funding as a significant obstacle in public sector IT project management (Twizeyimana & Andersson, 2019).

The inherent need for continuous maintenance and upgrades in ICT systems further escalates cost demands. Expert D described a process where initial demands often exceed budget, leading to direct conflict, requiring formal risk acceptance. ICT professionals frequently perceive projects as more expensive than planned, with underestimated maintenance costs. Expert G, experience of lack of funds regarding what expected to implement big ICT projects, contributing to role conflict as Professional's work to deliver complex systems within financial limits (Bannister & Connolly, 2014). Interestingly,

some experts, like Expert A and Expert F, reframe budgetary limitations as opportunities for strategic centralization and single solutions over multiple systems, leveraging scarcity for efficiency (Dawes, 2009).

In addition, Expert A explained that in specific cases his ICT department is delivering services such as building and maintaining systems also for outside stakeholders such as the private sector, and so they generate income for this service. Even though this is a corner part of the ICT job. ICT engineers acknowledge the human element and build accordingly. However, their aim is to maximize automation, and security is integrated into the designs themselves (Schein, 1997).

However, the responsibility for budget management remains debated, while some focus on stakeholder convincing, Expert E advocates for primary accountability residing with the ICT team. Notably, Expert B, involved in large-scale ICT initiatives, did not perceive budget as a significant impediment, attributing this to substantial funding and autonomy.

Time is another key driver in ICT projects, creating significant role conflict for ICT professionals concerning project deadlines. The interview data consistently show that these professionals experience such conflict due to the numerous deadlines imposed by various governmental levels and stakeholders. These time constraints are particularly urgent when linked to political mandates or legal obligations, imposing “hard deadlines” that demand intense effort. This aligns with findings in public sector IT, where political cycles often impose unrealistic timelines (Fountain, 2001).

The pressure to meet strict timelines often compromises the quality of the project. This pressure is stated by Expert D to be due to the “triple constraint” (money, people, and time), where achieving two objectives often sacrifices the third. The example of a GIS project failing due to ignored technical concerns illustrates a direct clash between professional judgment and externally imposed, unrealistic deadlines. While deadlines often create conflict, time pressure is sometimes accepted, especially during crises such as the COVID-19 pandemic. The Expert G, noted that during the COVID-19 crisis, urgent public need prioritized an ICT system, leading to rapid delivery without significant perceived conflict. Furthermore, the pressure related to “time” stems not only from ICT project demands but also from a prevailing culture where public sector ICT projects typically require more time for execution compared to those in the private sector due to

bureaucratic processes. Expert E emphasized that public sector bureaucracy often slows down project initiation. To navigate these conflicts, ICT professionals communicate the consequences of disregarding their technical goals. Expert B highlighted the strategy of explaining how ignoring ICT technical advice and knowledge could lead to delays or errors, though this requires careful management.

Moreover, role conflict arises when an ICT expert wants to apply their IT knowledge and the latest techniques but encounters obstacles from project requirements, often due to strict regulations like GDPR. Expert B expressed frustration over limitations placed on his ability to apply advanced data and AI techniques due to strict interpretations and often outdated technical knowledge from public regulatory agencies. This points to a role conflict where professional expertise and innovative approaches are affected by external factors, sometimes unclear tasks and demands, leading to technical autonomy that negatively influences the ICT team and managerial level. This issue is often happening when high-level public sector managers lack sufficient ICT knowledge and hesitate to accept technical suggestions. Expert E identified the need for a “middleman” to bridge this gap, translating complex ICT ideas and challenging management for better solutions. Finally, the role conflict between ICT professionals and ICT project demands does not always result in a mutually beneficial outcome. Certain project activities must be implemented by an ICT professional without the opportunity to propose alternative solutions.

Also the Expert H noted that while technical experts can assess risks and propose alternatives, external organizations (like Digital Flanders) or even internal management often impose strict constraints without fully explaining the technical impact. Expert A highlights how the central government's imposition of “one-size-fits-all” solutions, such as the forced transition to more expensive software systems, shows that top-down decision-making can lead to better outcomes. Instead of decentralizing systems, this approach helps reduce role conflicts and improve efficiency. This driver is supported academically as well, because ICT professionals are mostly oriented to a more technology-centered approach, as it's completely aligned with their educational background rather than influenced by the organization (Schein, 1997).

5.4 The Government/Political-ICT Professional Role conflict

A dynamic interaction where the demands and expectations of government or political entities clash with the ICT professional standards, knowledge, beliefs, or values held by ICT professionals. While ICT professionals might initially seem removed from direct interaction with government or political matters, the interview data show the opposite—that their work is affected by political decisions. In this role conflict domain, there are also entities from outside the public administration, such as government policies and legislation, that bring changes and directly affect ICT professionals and their ICT project outcomes (Nograšek, 2011). The table below explains the drivers of role conflict between government/political demands and ICT professionals, particularly elements such as government approval and legislation. These insights are based on expert opinions and academic literature.

Drivers of the Government/Politics demands and ICT professionals' role conflict			
Drivers	**Descriptions**	**Interview evidence**	**Academic literature**
Government approval	The ICT projects within the public sector must be approved and aligned with strategic governance guidelines.	Expert E- *"Every project must first be approved at the political level..."* Expert I- *"In the Flemish Government, we have a central organization, that approve the IT projects and rolls out mandatory software…"* Expert H- "*At some point, this level of control becomes a barrier to efficiency and slows down necessary innovation."*	Signore & Pallotti, 2005: Koops, 2006
Legislation about the ICT implications	Governments and parliaments exercise their power through decisions and legislation	Expert D- "*...When the Flemish Government makes a decision, it's essentially part of a broader*	Nograšek, 2011

	procedures, including the digitalization of public services and their compliance with GDPR regulations	*digitalization of the political process, involving different ministers and cabinets"* Expert B, "…*This is the law, and we'll just follow it."* Expert H- "*Political or high-level decisions can seem disconnected from the reality on the ground."*	

Source: Own elaboration

Table 4 Drivers of the Government/Political and ICT Professional's role conflict

Hence, here are more explained based on the expert's feedback. Expert E explained in his interview that the role conflict driven by political drivers by highlighting the difference in operational models between public and private sectors. He noted that in public agencies, every project requires political approval for allocating public funds, making on-time, in-scope, and on-budget delivery essential. However, bureaucratic processes often slow down project initiation, adding significant time even before work begins. Unlike private companies with more flexibility and control, public sector ICT operates within high constraints, necessitating structured projects and agile methods like sprints to manage complexity. These concerns highlight the importance of governments focusing on flexible and adaptive legislation rather than drafting strict laws without considering the rapid evolution of technology. There are so many governments in the world that draft regulations and laws so quite technology specific and avoid the restriction in some technological areas (Koops, 2006).

Government drafts legislation and other strategic documents to implement ICT projects in the use of public administration and its citizens. In specific countries, eGovernment is regulated with specific laws, such as the case where the Digital Code for Public Administration drafted fully supports the digital technologies in all activities of government, including public administration and citizens, knowledge management systems, teleconferences, reuse of technologies, cooperation, digital transmission of documents, digital signatures, etc. (Signore & Pallotti, 2005).

In the Flemish region, the government oversees its digital strategy through the Digital Flanders agency. As a government body, this agency follows political directions. Expert I described his role conflict spanning from government strategy and how it influences the organization's autonomy. He highlighted a situation where mandatory software systems are rolled out by Digital Flanders for all government entities. While use is mandatory, public agencies remain responsible for GDPR compliance. This creates a role conflict; they are required to use a tool but bear the risk if it fails to meet data protection standards, and the implementation is all in the ICT team's hands, as a consequence, the responsibilities as well.

Expert H also holds a similar view and is more critical of government restrictions. He noted that discussions around technical issues like GDPR often lead to extensive lists of strict government requirements without a full understanding of their technical or operational impact. He questioned the practicality of such high levels of control, suggesting that requiring multiple reviews for every change can hinder efficiency and slow down necessary innovation. Nowadays, it’s evident that emerging technology advances more rapidly than legislation. To ensure long-term continuity, ICT legislation must be adaptable to technological advancements. Laws that create too specific systems oriented may not cover future improvements, necessitating early adaptation (Koops, 2001).

The government affects the work of ICT professionals by requiring them to use certain systems, even if these are not their preferred digital tools. Some experts have shared insights about this situation. Expert F expressed a desire for the government to be more flexible about using different systems, suggesting that open-source solutions could be more widely adopted, especially in cases where current applications underperform and open-source alternatives might be a better fit. As previously noted, Expert H confirmed his preference for using an alternative system but is required to use one mandated by the government. He provided an example where a switch from a cheaper Google solution to a ten-times more expensive government-mandated alternative was imposed simply due to a central decision. These top-down decisions often lead to technical conflicts and inefficiencies for the implementation of ICT projects in public organizations.

While ICT professionals often express reservations about government directives on the scope and methods of ICT projects, in certain instances, government pressure to adopt a particular system, contrary to ICT professional preferences, surprisingly has resulted in successful outcomes. Expert H shared his experience concerning unique identification in Belgium. He noted that the central digital agency in Flanders requires the use of certain components, and while initially questioned, many of these choices proved very effective. He cited examples like eID and itsME, which were initially disliked but have become essential and standard tools, illustrating that some solutions, though frustrating at first, prove valuable in the long run. This highlights that the overall situation presents a balance.

Insights from the interviews further suggest that political factors, in various ways, are an integral part of the wider digitalization of public services, directly affecting the work of ICT departments within Belgian public agencies. Expert D discussed the influence of politics on ICT work, explaining that government decisions are part of a broader political digitalization process involving various ministers and cabinets, often requiring parliamentary approval. All these decisions are integrated into their systems, and supporting these political decisions with core applications is critical. He emphasized the importance of these being high-level decisions involving powerful officials in the Flemish Government, with ICT teams trying to ensure systems run smoothly.

ICT professionals are used to working in flexible environments and have more autonomy in decision-making, including choosing systems that best meet their needs. In contrast, the government tends to be more traditional, operating with its own bureaucratic structures and strictly adhering to legislative frameworks. This view is supported by Expert B, who noted that a strict adherence to law and old practices still characterizes parts of the federal government.

5.5 Multifaceted Role Conflict (new role conflict)

Additionally, ICT professionals sometimes face two or more role conflicts simultaneously, stemming from clashing demands between the organization, government, and ICT project demands. This multifaceted role conflict is particularly present when governmental strategies or legal acts force specific ICT project implementations, while the organization continues to pressure for the lowest possible cost. An illustration of this multifaceted role conflict was provided by Expert D concerning the rehosting of the

KALEIDOS system, where cost-efficiency clashed with GDPR security requirements. Despite legal obligations, budget constraints made full compliance infeasible, leading to a risk acceptance process.

Also, the Expert C expanded the analysis of multifaced role conflict when stating that ICT departments sometimes interpret laws too narrowly, leading to duplicated projects and decentralized systems. For example, an article to “build a database for heating systems” resulted in five or six separate, unnecessary databases for different energy systems, built in isolation by different IT teams and external IT vendors. This isolated approach, driven by fragmented decision-making (one piece of legislation, one directive, one isolated ICT team), focuses on specific units rather than broader or long-term government vision, making system solutions not citizen-centric or sustainable. As a consequence, experiencing role conflict with all the actors, organization, government, and project specifications. This demonstrates the tension and pressure between legal mandates, technical necessity, and financial reality, highlighting how rules can overlook practical implications (Heeks & Bailur, 2007).

Refer to the picture below for an overview of the types of role conflict experienced by interview participants. It also illustrates the potential evolution of the current role conflict into a new form, “the Multifaceted Role Conflict,” where ICT professionals encounter all role conflicts within the same ICT project. Regarding the potential new role conflict, a concern emerged during interviews with some participants. They mentioned that, in certain ICT projects, they felt they had experienced at least two or more role conflicts simultaneously. This was not asked by the interview guide rather than by the ICT experts themselves. The question here may be: Which of the existing role conflicts identified by Tummers et al. (2012) this may align with. If none of the existing role conflicts, then could be a case for further investigation by collecting additional data from ICT experts in the public sector.

Source: Own elaboration

Figure 4 The evolution, of "the Multifaceted Role Conflict"

5.6 Experts Recommendations for a New Type of Role Conflict

In this section will be presented the recommendations that come from the participants during the interview process. At the results section are presented all the finding and discussed as well. Therefore, the findings from the interviews suggest that ICT professionals often experience multifaceted role conflicts, where they must experience tensions from the organization, ICT projects, and government/politics together in one. In this moment this thesis will not dive into more investigations, but to properly address these challenges, several measures can be considered from future research.

First, one of the main challenges explained by the participants in the interview is the importance of a clear communication channel inside and outside the organization for stakeholders, including the ICT teams, organizational management, and government representatives. Many role conflicts arise due to unclear legislative guidelines or isolated

decision-making, leading to inefficiencies such as redundant databases or unrealistic GDPR security requirements. Establishing active consultation processes where ICT professionals provide their professional opinions at the early stages of ICT project development could mitigate the risk and additional potential failures.

Second, balancing legal requirements with budget restrictions should be a priority. As demonstrated by the KALEIDOS system case, strict security classifications can increase costs, and yet organizations may lack the funds to implement them. Policymakers and public budget decision-makers should collaborate with ICT professionals to assess the maturity of ICT projects that meet legal requirements without compromising feasibility.

Third, enhancing communication and collaboration across ICT departments can prevent siloed approaches that lead to inefficiencies. As Expert C highlighted, when legislation requires building a specific system, various teams often develop separate systems without considering alignment or shared goals, leading to role conflict of ICT with other actors involved. Moving towards a more integrated and centralized system would allow projects to align better with broader governmental strategies while avoiding redundancy.

By addressing these areas, the public sector can ensure that ICT professionals have a recognized voice in ICT countries' strategy development process and organizational decision-making.

6 CONCLUSION

This thesis primarily aims to identify the role conflicts that ICT professionals in the public sector experience while implementing ICT projects. Through literature review, role conflict theories, semi-structured interviews, and data analysis, it became clear that the ICT professionals in the public sector experience all three role conflicts. Referring back to the role conflict literature review and theoretical framework from Tummers et al., (2012) the ICT professionals experience role conflicts arising from their organizational and ICT project demands and governmental strategies and legislation. In addition, one extra multifaceted role conflict came up as a suggestion for the participants of the semistructured interviews. We will explain in more detail in the recommendation section.

One of the main role conflicts ICT professionals face comes from their own organizational drivers, such as the culture, organizational objectives, organigram and structure, or organizational directions. Therefore, public sector institutions have their own mission, vision, objectives, goals, cultures, and structures that may not always align with the professional and academic background of ICT professionals. For example, organizational demands often pressure ICT professionals to implement solutions that fit bureaucratic processes rather than the most optimal ICT technical choices. Some ICT experts experienced the role conflict because of the outsourcing trends of ICT human resources and technologies. Where public organizations rely massively on external IT vendors (such as Microsoft) instead of creating tailor-made systems and investing in internal ICT capacity building. Additionally, organizational culture contributes to role conflict between the ICT professionals and the organization, as ICT experts in some cases might struggle to integrate their agile and sprint management tools. Some others face role conflict because of the lack of the possibility to integrate a technology-driven mindset into strong, hierarchical administrative structures.

Regarding the role conflict of ICT professionals and ICT project demand resulted mostly from drivers such as the lack of a budget, strict project deadlines, ICT knowledge, and perception. Many ICT professionals face role conflict as a result of budget constraints, forcing the ICT professionals to compromise technical quality and security, and designing alternative systems that, in some cases, don’t include all functionalities asked for in the project. This is a sacrifice that should be made to be in budget. In addition, strict deadlines

play a significant role, particularly when ICT projects are tied to political deadlines or strict regulatory frameworks. Therefore, ICT experts work within limiting flexibility in ICT project implementation. Furthermore, ICT professionals sometimes experience role conflicts because they do believe in their education, knowledge, and perception more than the ICT projects demand. This can result in ICT experts being required to follow projects and bureaucratic procedures that do not align with best practices or engineering standards, leading to role conflict.

Beyond organizational and ICT project conflicts, ICT professionals also experience government and political role conflict. Many public ICT projects require approval from government structures, often leading to delays due to bureaucratic administrative processes. Sometimes, ICT teams must work to meet legislative requirements, such as GDPR regulations, which directly affect the ICT department. These regulations impose additional costs and technical constraints on ICT projects. In some cases, government or parliamentary decisions require the use of specific systems, even when ICT professionals find them inefficient or unnecessarily high cost. While some experts acknowledge that certain centralized software system decisions have proven beneficial, others highlight the challenges caused by rigid government mandates that do not consider ICT technical feasibility.

Finally, one of the most interesting findings of this research was finding out the ICT professional's multifaceted role conflict, where ICT professionals in some cases experience tensions from multiple sources and statuses. The interviewees, ICT experts, reported situations where organizational demands, ICT project drivers, and governmental regulations negatively influenced all together the work of the ICT expert.

In conclusion, the role conflict framework proposed by Tummers et al., (2012), managed to successfully achieve the thesis objective. ICT professionals in public administration work in a dynamic and often challenging management environment. Their role conflicts arise from organizational pressures, project-specific demands, and political constraints, all of which affect their ability to work effectively. While these role conflicts create challenges, they also emphasize the importance of improving collaboration between ICT professionals and other actors who experience these conflicts too.

6.1 Research Limitations and Future Recommendations

This thesis research aims to provide significant insights regarding the role conflict of ICT professionals within government. A potential limitation is the lack of external validity, where qualitative research can be used for other patterns, populations, or contexts beyond a specific study (Bornhöft et al., 2006). For this study, the main limitations will be the subject of the section and will be addressed properly.

The case study is exclusive to the role conflict of ICT professionals in the Belgian public sector, and findings might not be fully implementable nationwide in the Kingdom of Belgium due to differences in federal organizational level, regulatory framework, societal culture, political aspects, and ICT initiatives.

Another limitation of this study is the lack of academic literature specifically addressing the role conflict of ICT staff in the public sector, as well as a broader gap in academic resources in this field, as highlighted in the literature review. All interviewees were drawn from Flanders government organizations at various governmental levels—regional and local. Their professional perspectives and opinions may be influenced by the interests and backgrounds of the organizations they represent. Additionally, incorporating another method, such as direct observations without intervention in ICT job roles, could provide a more holistic perspective on the role conflict of ICT professionals in government, paving the way for future research.

Although this study relies on a qualitative method, the interviews were conducted only once and with a small group of experts, without further doing any direct observation. A quantitative approach that engages a larger number of ICT professionals working in government could potentially provide broader insights and enhance the study's impact for readers.

Hence, in light of role conflict theory, the Belgian case study, and the anticipated future ICT developments, it can be argued that role conflicts in ICT should no longer remain hidden. Instead, they should be made visible and thoroughly examined to develop recommendations that help mitigate their negative impact on ICT professionals in government and ICT project outcomes.

Although the primary objective of this thesis was simply to identify the role conflicts experienced by ICT professionals in public administration, with a focus on Belgium, the proposed framework and academic literature could serve as a valuable instrument, not only for Belgian ICT professionals but also for future scholars or researchers shaping agenda-setting initiatives. Additionally, they may be useful for practitioners in other government environments where large-scale ICT projects are implemented.

6.2 Recommendations for Practice

This section bridges the gap between academic theory and hands-on applications, exploring how interview participant's responses regarding the role conflict in the ICT domain. The thesis focuses on identifying the various types of role conflicts experienced by ICT professionals while implementing ICT projects in the public sector.

In this section, we revisit key academic insights from the literature review on role conflict and eGovernment in ICT professionals. The primary beneficiaries of these recommendations include ICT professionals in the public sector, researchers and scholars studying role conflicts, eGovernment, and public administration reforms, as well as public organizations at different levels implementing large-scale ICT projects, government entities, and policymakers in the field of ICT.

The challenges identified in this research can be addressed across three levels of role conflict: organizational, ICT project domain, and governmental. First, various drivers such as organizational mission and objectives, culture, task conflicts, and outsourcing contribute to role conflict between the organization and ICT professionals. A key recommendation is to foster better collaboration and involve ICT professionals in the early stages of ICT planning, where their expertise and opinions matter. Establishing agile, sprint, scrum, or hybrid teams can enhance efficiency. In projects with a high number of stakeholders, experts suggest appointing an intermediary expert who can facilitate clear communication between the business side and the ICT team.

Secondly, factors such as limited budgets, strict deadlines, ICT knowledge gaps, and differing perceptions contribute to role conflict between ICT project demands and ICT

professionals. Experts recommend granting ICT professionals greater autonomy in executing project tasks and activities while ensuring timely completion. However, this sometimes necessitates compromising on quality. Increasing the ICT budget could help mitigate these conflicts and enhance project outcomes.

Lastly, governmental approvals and legislation impact the role conflict between policymakers and ICT professionals. Many ICT experts feel excluded from the policymaking process, as most directives for system implementation are issued through a top-down approach, creating a sense of disconnect. While this is not a primary concern for ICT professionals, they often express tensions over the lack of clear guidelines and support. Instead of being left to navigate these demands independently, structured coordination can help prevent gaps and inefficiencies, particularly in cases where ICT departments operate in silos, leading to overlapping systems. Improved coordination would positively influence the resolution of role conflicts in this sector.

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Appendix

A Interview Guide

Thank you for participating in this interview. I am Enrriko Kapiti, a final-year Erasmus Mundus master's student in Public Sector Innovation and eGovernance at KU Leuven et al. I am conducting research for my master's thesis on the "Role conflict of ICT professionals in government while implementing ICT projects," the case of Belgium. A part of my master's thesis focuses on the role conflict that ICT professionals experience in ICT projects in the Belgian government.

This interview will span different questions on role conflict you experienced while implementing various ICT projects within the Belgian government.

It will take around 30-40 minutes, and now I would like to ask your permission to record the conversation for my personal use. I will also anonymize the sensitive data.

The following 10 questions were asked depending on the interviewee's profile, each aiming to reveal different aspects of the research question.

1. Could you briefly introduce your role and the type of ICT projects you are involved in within your public organization?

2. What are the main challenges you mostly face while working on ICT projects?

3. How clearly defined are your responsibilities and tasks in your current role, and how does this clarity (or lack thereof) affect your job performance?

4. How does the task demand sometimes conflict with your professional standards, and how do you determine which task to prioritize?

5. Have you experienced role conflict between the technical requirements of ICT projects and your professional knowledge, values, or ethics? Could you share an example?

6. In what ways do you think organizational demands influence your decision-making in ICT projects? Could you share an example?

7. How do you usually navigate situations where multiple stakeholders have conflicting priorities or expectations regarding your role in an ICT project?

8. To what extent do politics, government, or organizations provide clear guidance and support for managing and mitigating role conflicts?

9. From your viewpoint, does role conflict negatively impact ICT project outcomes within your organization? Could you elaborate with an example?

10. How often do you feel pressured to compromise your professional performance due to budget, time, or resource constraints, and how does this affect your professional growth?

Thank you for your time. I will keep you informed about the outcome of this study.

B Interview Consent

Informed consent for the MSc Thesis

Please adapt this form (delete, add, or specify where necessary) to the specific study.

Title: What Role Conflict Do ICT Professionals in Government Experience While Implementing ICT Projects? Case of Belgium

- I have received sufficient information about the purpose of the research.
- I understand what is expected of me in the study.
- I am aware that I will participate in the following interview:
- I consent to the interview(s) being audio (video) recorded.
- I understand that my participation may involve risks or inconvenience.
- Taking part in the study may provide the following benefits to me or others:
- I understand that my participation in this study is voluntary. I am aware that I can discontinue my participation at any time. I will not have to provide a reason for this, and I will not suffer any disadvantages.

  Alternative 1 (if the study is commissioned by a public authority or the results will be made public)
  Under the GDPR, the data collected during the study will be processed on the grounds of public interest. This means that if I withdraw from the study, any previously collected data can still be lawfully processed and does not need to be deleted by KU Leuven.

  Alternative 2 (if the study is commissioned by an agency/company where the results will not be made public)
  I can also request at any time to have the processing of my data stopped and, where appropriate, to have the collected data deleted.

- The findings may be used for research purposes and may be published. My name will not be published; anonymity and confidentiality are guaranteed at every stage of the research project. The complete dataset can be made available to the research community in the anonymized manner described.

- I understand that I will receive no/the following payment for participating in the research.

- I would like to be informed of the results of this research. The student researcher may contact me at the following e-mail address:

- I understand that I can contact Enrriko Kapiti at enrriko.kapiti@student.kuleuven.be for any questions or to exercise my rights after participating in the study.

- For any complaints or other concerns about ethical issues relating to this study, I can contact KU Leuven's Social and Societal Ethics Committee: smec@kuleuven.be.

I have read and understand the information above and have received answers to all my questions regarding this study. I agree to participate in the study.

Date:

Name and signature of the respondent/participant,

Name and signature of the student researcher

Enrriko Kapiti

Declaration of Authorship

I hereby declare that, to the best of my knowledge and belief, this Master Thesis titled "What Role Conflict Do ICT Professionals in Government Experience While Implementing ICT Projects? Case of Belgium" is my own work. I confirm that each significant contribution to and quotation in this thesis that originates from the work or works of others is indicated by proper use of citation and references.

Leuven, 02 June 2025

Enrriko Kapiti

Consent Form

for the use of plagiarism detection software to check my thesis

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What is plagiarism? Plagiarism is defined as submitting someone else's work or ideas as your own without a complete indication of the source. It is hereby irrelevant whether the work of others is copied word by word without acknowledgment of the source, text structures (e.g., line of argumentation or outline) are borrowed, or texts are translated from a foreign language.

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