

DOCTORAL CONSORTIUM

METHODOLOGY DEVELOPMENT FOR OPEN DATA MATURITY ASSESSMENT IN SMALL AND MEDIUM-SIZED ENTERPRISES – A LITERATURE REVIEW

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Over the past two decades, the global movement towards open government gained momentum, aiming to leverage vast amounts of data generated by government institutions to increase citizen participation in governing processes, increase the transparency of public resource allocation, and increase organizations' economic value. Despite legislative initiatives promoting the use of OGD little is known about its actual use and the impact it generates. The study aims to determine whether a model to measure and distinguish between different levels of OD maturity can be made. The scope of this research includes a review of the existing literature on OD and OGD, and models that measure the OD maturity level. We analyzed the research findings of the identified literature and models used to measure the preparedness of organizations to adopt OGD in their everyday processes. Nine models that measure the maturity level for OGD adoption have been identified. We discovered that no existing model is fully comprehensive in assessing the maturity level of SMEs to adopt and use OGD. A model that will explain the current OD maturity level of an SME and propose individualized actions to increase it yet needs to be developed.

Keywords:

open data, open government data, OD maturity model, OD maturity assessment, maturity multi-criteria decision model, small and medium-sized enterprises, DEX

1 Introduction

Over two decades have passed since the first initiatives to open public sector information appeared. Countries and companies have established processes that generate numerous data that could present a wealth of information for the economy. In the year 2003, Slovenia passed its first *Public Sector Information Access Act* (Republika Slovenija, 2003) and the European Union its *Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information* (European Commission, 2003) that initialized the collecting and publishing of open government data (OGD) that governmental institutions produce in the course of their daily processes. The initiatives expand beyond the public sector, aiming to incentivize private organizations to make their data publicly available as open data (OD). Openly accessible online portals now provide a centralized platform for users to deploy, access, and use OD and OGD as an integral part of it.

Despite countries' efforts to open their data to the public, very little is known about the actual use of OD. Initially foreseen benefits of OD were to increase transparency, enhance public engagement, and enable organizations to create added value (Attard et al., 2016). However, to this day, it remains unclear whether these benefits are being realized. In this research, the focus will be on the possibility of exploiting OD in small and medium-sized enterprises (SMEs) to increase organizations' resilience through better-informed decision-making and expedite its response to disruptive changes in their environment. To achieve this, enterprises need the organizational and technological capacities to adopt and use the vast amounts of OD and to transform them into useful information. To facilitate OD adoption, we initially need to establish an organization's OD maturity level. With this assessment, further actions can be identified to aid organizations' progression to higher levels of OD maturity.

With design science research (DSR) methodology, we intend to create an IT artifact - a model, that will explain the organization's OD maturity factors and propose unique actions to advance to the next level of maturity. In the scope of this research, we will focus on the rigor phase of the DSR, reviewing existing literature and models, and identifying their objectives, proposed dimensions, sub-dimensions, and requirements to achieve a certain level. With this analysis, we aim to identify the

existing measured aspects of OD maturity and the aspects that have previously been overlooked or inadequately explained in current models.

2 Methodology

For the research, we intend to follow the Design Science Research (DSR) approach (Hevner et al., 2004) where the output is an IT artifact designed on a real-world problem. The DSR consists of three main research cycles: scientific rigor, relevance to practice, and the central cycle of design and development. The research result of DSR is a developed artifact in our case a multi-decision model.

We initialize our research with a review of currently existing theories and models. In the central research cycle of design and development, we intend to employ a multi-parameter decision method the Decision Expert - DEX methodology (Bohanec & Rajkovič, 1990). A multi-criteria model implemented in a web-based solution will enable organizations to make a self-assessment, and based on the entered values provide individualized propositions to increase its maturity level.

The problem is that we do not know what factors comprehensively describe the maturity of an organization to successfully adopt, use, and advance the existing use of OD. Based on that we defined a research question:

RQ1: How can we develop a multicriteria model that would distinguish between different levels of OD maturity level?

RQ2: Which dimensions can be used to measure the OD maturity level of SMEs in Slovenia?

For this study, we will focus on the scientific rigor phase of the DSR with a systematic literature review. We will focus on what past research has addressed, what insights have been gained, and specifically what models have been proposed, their objectives, focus, and dimensions measured.

After a preliminary study, based on the research question, the best keywords to answer our research question were defined:

- Open data
- Open government data
- Open data maturity model
- Open data maturity assessment
- Maturity multi-criteria decision model
- Small and medium-sized enterprises
- DEX

We reviewed the following bibliographic databases, using specific combinations of keywords: Web of Science which yielded 88 resulting publications, Scopus with 154 results, ProQuest with 32 results and Google Scholar with 30 results.

To obtain results that corresponded with our research questions we excluded publications that:

- Did not focus on open data, it was only mentioned,
- Focuses on other keywords but does not relate to open data,
- The model did not assess OD or OGD maturity level,
- The maturity model did not in any way assess the implementation of OD or OGD concepts,
- The language was not English.

After applying the exclusion criteria, we used the “snowballing” method and further identified 21 publications from the references of previously gained publications.

The literature review research in the end resulted in 71 publications and 9 models, that have been included in this phase of our research.

3 Results

We divided the research into two areas: 1. the overall research on the open data, to establish the base for our work, to identify areas and aspects that have been addressed and areas where more research is needed; and 2. research on models that have been used, created, or adapted to measure the OD aspects.

3.1 The overall literature review

Academic society has, since 2009 devoted significant attention to the issue of opening the data to the public. Since then, research has been done investigating different aspects of OD, ranging from user perspective, through quality perspective, adopted policies, research categorization, drivers and barriers to impact, and maturity views of OD.

User perspectives have been investigated from various standpoints. Numerous authors have surveyed user intent to use OD by utilizing various existing models and theories e.g. Unified Theory of Acceptance and Use of Technology (Saxena & Janssen, 2017; Shao, 2023; Talukder et al., 2019; Zuiderwijk et al., 2015), Technology Acceptance Model (Weerakkody et al., 2017), Relevant Social Groups (Lassinantti et al., 2019), Information Systems Theory (Khurshid et al., 2022), and Social Cognitive Theory (H.J. Wang, 2020). The main findings suggest that the easiness of use, perceived usefulness, and social approval are the main motivations that indicate users' intention to use OD. Other research investigated the motivation that drives OD use in organizations, public institutions, and entrepreneurs (Alawadhi et al., 2021; Mustapa et al., 2022; H. J. Wang & Lo, 2020; Zhou, Wang, Jiang, et al., 2023). How user perspective influence the publication of OD, how to use OD platforms to resolve public problems, and what is the IT professional's responsibility in OD publication (Ruijter et al., 2020; Shepherd et al., 2019).

The opening of data has various anticipated benefits, as evidenced by case studies of actual OD use (Apanasevic, 2021; Coutinho & Freitas, 2021; Cruz & Lee, 2015; Jetzek et al., 2014; McBride et al., 2019; Ruijter & Meijer, 2020; Shao, 2023). The impact of open data on democratic processes has been acknowledged (Ruijter & Martinius, 2017). How the impact of OD can be measured through added value, and along what processes, during the lifecycle of OD, added value can be created has

been investigated (Attard et al., 2016; Magalhaes & Roseira, 2020). The impact of OD can be observed in the organization's innovations (Gottfried et al., 2021; Huber et al., 2022) and in public administration operation (Apanasevic, 2021; Coutinho & Freitas, 2021; Maccani, 2016; McBride et al., 2019; Wilson & Cong, 2021).

The aspect of OD policies has also been researched notably often in previous literature. A proposition of the maturity level of OD policies and their classification has been reviewed (Attard et al., 2015) and an analytical framework for the studying of OD policies developed (Ruijter & Meijer, 2020). In the initial phases of OD implementation countries adopted various OD policies resulting in different levels of implementation and usage. A benchmark for comparison of these various policies, levels of their implementation, and their impact has been developed (Zuiderwijk & Janssen, 2014) that has later been revised, updated, and implemented in comparison to OGD policies (Zuiderwijk et al., 2021). Based on conducted research new policies have been proposed (Lee, 2021; Van Loenen et al., 2020) to increase OD use and re-use. Additionally, other various research has been conducted on other individual aspects of OD policies e.g. factors influencing the performance of OGD policies (Hossain et al., 2021) and the impact of OGD policies on organizational performance (Zhou, Wang, Huang, et al., 2023).

Aspects frequently addressed in previous literature are the drivers and barriers of OD. The first OD drivers were government directives, such as Directive 2003/98/EC (European Commission, 2003), European Union (Granell et al., 2022), Open government initiative (Transparency and Open Government, 2009) and ZDIJZ (Republika Slovenija, 2003). After that, it was upon government institutions, organizations, entrepreneurs, civil society organizations, individuals, and academic society to advocate for OD publication and re-use. However past research has predominantly focused on the barriers hindering the widespread adoption of OD. The literature provides insights into organizational, technical, and legal obstacles to the implementation and use of OD (Çaldağ & Gökalp, 2023; Crusoe & Melin, 2018). Additionally, studies have concentrated on identifying barriers encountered during implementation and offered recommendations to successfully overcome these barriers (Huber et al., 2020; Sugg, 2022; F. Wang et al., 2019; Wiczorkowski, 2019).

The quality of the provided OD has been recognized as an important aspect, which is reasonable since any meaningful use of OD depends on the quality of OD, its correct value as well as the metadata giving it context. Previous research has focused on the quality of OD (Ham et al., 2019; Krasikov et al., 2020) and on the themes of its inclusion, maintenance and governance (Bachtiar et al., 2020; Schultz & Kempton, 2022). Low quality of available OD has been observed resulting in research focusing on the increase of OD quality to enhance its use (Moradi et al., 2022; Zuiderwijk et al., 2014).

Given the growing volume of research on OD, which has been increasing since the concept of OD appeared, required its categorization. In an analysis of 101 academic studies about OGD (Safarov et al., 2017) divided the research based on its main focus and suggested future directions for research. Based on a socio-technical model a framework for future categorization was proposed (Cruz & Lee, 2016) and academic research about OD tools for visualization has been categorized (Ansari et al., 2022). A more quantitative approach implementing hierarchical clustering (Ferencek et al., 2022) exhibited that the authors are generally focusing on one of two directions: one that summarizes government policies, initiatives, and portals for OGD sharing; or the other that summarizes regional use cases, adoption of OGD, platforms and barriers for OGD implementation. A review of empirical research by (Wirtz et al., 2022) resulted in the development of a framework, that showed that generally past research can be categorized into one of six groups identified.

Research investigating the maturity level of either companies, countries, or policies to adopt and use OD and to stimulate its utilization is another concept that has been addressed in past literature. A literature review by (Çaldağ & Gökalp, 2022) presented that existing maturity models do not cover all the OD aspects. Presented in the literature were models for evaluation of OD maturity for publication and re-use (Dodds & Newman, 2015; Solar et al., 2012) and benchmarks for the evaluation of the progress of OD adoption (Susha et al., 2015; Zuiderwijk et al., 2021). These models are theoretical and mostly assess the maturity of public sector institutions or open data portals for OD publication, not the maturity of organizations for OD adoption and infusion into its processes to add value to its services and/or products.

This examination of the literature did not identify a model that would comprehensively measure the OD maturity level. While various organizations measure OD maturity levels, these assessments are mostly based on questionnaires that do not provide insight into the state of an individual company.

The number of OGD research has been increasing since its appearance. User perspective for the use of OD has been investigated from many viewpoints, impact and OD policies have been addressed, the question of quality was emphasized, maturity of various aspects of OD has been investigated, and the categorization of the OD literature conducted. Nevertheless, until this day, still very little is known about the actual use of OD, what OD sets are used in enterprises to add value to its services and products, and the main drivers and barriers that promote or hinder OD use in organizations' processes.

3.2 Review of OD models

To measure organizational maturity level for the adoption of open data a theoretically supported model must first be defined. We surveyed existing literature to identify what models have so far been created, what were the main dimensions that they have been measuring, and what levels of maturity they have proposed. In the literature, we identified 9 models that meet our criteria.

3.2.1 E-government Openness Index – eGovOI

Veljković et al. (2014) introduced an index that enables an assessment of government performance in publishing OD as an essential element of open government.

The main dimensions proposed in this benchmark are: 1. The existence of Basic Data Sets, which are the data sets recognized as the big value datasets from previous literature. 2. Data Openness, which is evaluated on 8 open government data principles (Open Government Working Group, 2007). 3. Transparency, which is a dimension calculated from the Government Transparency and Data Transparency sub-dimensions. 4. Participation index dimension, which evaluates the possibility of citizen engagement; and 5. Collaboration index dimension, which evaluates the enablement for cooperation across different levels of government with private institutions or citizens. The eGovOI proposes a five-level openness scale, based on

a calculation derived from the values gained in the dimension evaluation. The levels of maturity can be seen in Table 1 below.

The index can be used to benchmark open governments to qualitatively evaluate whether e-government goals have been satisfied, and to assess the maturity of e-government to change and embrace open concepts.

3.2.2 Open government maturity model – OGMM

OGMM model by Lee & Kwak (2012) was designed specifically for the assessment of open government initiatives to enable public engagement.

The main dimensions of the model are the Data dimension, which evaluates whether data is available in a way that its potential can be achieved; and the Participation/Collaboration dimension, which evaluates the easiness of public engagement. The government entity can progress through five levels of maturity, based on their effort to engage the public in various government activities. A higher level can only be achieved if the requirements of the previous are fulfilled.

The model is designed to help government agencies implement their open government initiatives effectively through building technological and organizational capabilities.

3.2.3 Open data maturity model – OD-MM

The model by Solar et al. (2012) is designed to assess the commitment and capabilities of public agencies to implement open data practices for publication.

A three-level structure is proposed: domains, sub-domains, and critical variables. The main domains are 1. Establishment and Legal Perspective, which evaluates the organization's IT strategy alignment with its business strategy that implements a decision and a vision to be incorporated into open government. 2. Technological perspective, which establishes the technological capacities needed to incorporate open government; and 3. Citizen and Entrepreneurial Perspective establishes the organizations' ability to involve citizens to develop applications that improve transparency. Each domain contains three subdomains, and each sub-domain

contains three to four critical variables. To each critical variable, a capacity level is asserted ranging from 1. Inexistent capabilities to 4. Advanced capabilities. The capacity level of each critical variable is then weighted according to their importance and the result presents the capacity level of a sub-domain.

The OD-MM assessment yields the overall maturity level of the public agency to publish OD. Additionally, a roadmap for implementation is provided, outlining the steps necessary to progress towards a higher maturity level.

3.2.4 Open data maturity model – ODMM

How well an organization publishes and consumes open data is determined with the use of a model by Dodds & Newman (2015) who presented the model as a result of an Open Data Institute's effort to help organizations with the assessment of their operational and strategic activities regarding OD.

The model consists of five main dimensions: 1. Data management process, which identifies the key business processes that ground data management and publication. 2. Knowledge and skills dimension, which is focused on creating a culture of OD within an organization. 3. Customer support and engagement, which addresses the importance of engagement with both the data supplier as well as the data consumer. 4. Investment and financial performance, which highlights the need to have an insight into the cost and the value of data for publication and consumption. And 5. Strategic oversight describes the need for an organization to have a clear strategy and leadership with the responsibility and capacity to deliver that strategy. Each dimension is measured on a five-level scale from 1. Initial level to 5. Optimizing level. Another considerable benefit of this model is the beneficial effect for each of the activity of dimensions so that decision-makers have a clear view of the advantages of the implementation.

The model intends to provide guidance on potential areas of improvement and identify their strengths and weaknesses, adopt best practices, and improve their processes.

3.2.5 A stage model

A model designed to provide a roadmap for OGD use and to enable the evaluation of relevant initiatives' sophistication by Kalampokis et al. (2011) focuses on socio-technical issues related to organizational and technological challenges for the publication of data.

The model evaluates two dimensions: Added value and Organizational and Technological complexity. It proposes 4 levels of maturity: 1. Aggregation of government data, meaning simply gathering data from various sources and publishing it online; 2. Integration of government data in which a unified view is provided for the aggregated data; 3. Integration of government data with non-government formal data; to the final stage 4. Integration of government data with non-government formal and social data that enables public administration insight into real-world public opinion. With the organizational and technological complexity rising so is the possibility for higher added value.

With this model, a step-by-step model is proposed to implement OGD into an organization's everyday processes to exploit the available OD to create new or innovative added-value services and products.

3.2.6 Metric for evaluating Brazilian OGD – DGABr

A metric by Silva & Pinheiro (2018) is focused on the evaluation of the publishing of data sets by governmental institutions in Brazil. The metric could be, with appropriate modifications, applied for global use.

The model focuses on five dimensions of OD and gives each dimension a respective weight based on its importance. The first dimension is the Open Data perspective, which is evaluated based on the 8 open government data principles (Open Government Working Group, 2007) and the final two stages of the five-star linked data principles (Berners-Lee, 2012). The second dimension is the Legal perspective that evaluates compliance with legislation. The third is the Technical perspective, which evaluates the use of technical standards for publication of OGD. Next is the Managerial perspective, which involves the management related to the planning, monitoring, and control of published OGD. The last dimension is the Reuse

perspective which evaluates whether OGD is being reused in other applications. The metric proposes six levels of implementation from 0 to 5, of which the first three portray non-existence or non-fulfillment of the dimension, level 3 is the minimum for OGD to be reused. The maturity level value is obtained by the sum of 28 sub-dimensions, describing basic dimensions, multiplied by their respective weight. The score is calculated and the degree of maturity of the organization to publish OD is reflected by the result.

The GDABr metric provides a base for the evaluation of OGD publication. It represents an instrument to measure results obtained from the efforts and investments in the publication of governmental OD.

3.2.7 A trust-based conceptual framework on OGD

A model by Zainal et al. (2018) attempts to introduce a framework to identify the determinant factors that influence the user's behavioral intent to use OD by integrating the UTAUT and trust factors. The model presents acceptance factors of the UTAUT, namely *Performance expectancy*, *Effort expectancy*, *Social influence*, and *Facilitating conditions*; and extends the theory by adding trust factors that influence users' trust in OD websites: *Trust to government* and *Trust to technology*. This work presents a highly theoretical model that focuses on evaluating whether the proposed factors impact users' intention to use OD. No levels of implementation are assumed in this model.

The model describes and determines the factors that influence behavioral intention to use ODG from a user's viewpoint.

3.2.8 A model for post-adoption of OGD

The model focuses on the users' needs after accepting OGD. The study by Mustapa et al. (2022) attempts to propose a research model for OGD implementation in the post-adoption phase.

The Technology-Organization-Environment (TOE) framework and the innovation adoption process present the theoretical foundation for the model. The technological context represents the availability and characteristics of technology. In

the organizational context, the structure of an organization through its formal and informal systems of connections and hierarchy are considered. The environmental context represents the business features, the market structure, and legal regulations. The innovation adoption theory explains the dynamics of influences and adoption patterns in an organization. The model evaluates the TOE and innovation subdimensions considering their positive or negative influence on OGD acceptance in the public sector in the phases of Acceptance, Routinization, and Infusion of OD into the organizations' processes.

The proposed model observes the OGD adoption as an ongoing process rather than a one-time decision. It is anticipated that the model will assist policymakers develop such strategies that will enable long-term OGD implementation.

3.2.9 Digital maturity model

The model by Kljajić Borštnar & Pucihar (2021) does not directly address the OGD publication or use, it does however investigate and propose a model for organizations, specifically small and medium-sized organizations, to implement technological solutions to enhance their digital maturity level. From a viewpoint that OGD is one of the digital technologies that contributes to adding value in an organization the choice to include this model in our review seems natural. The proposed model addresses the problem of assessing digital maturity for SMEs, with a design science research approach, and presents a multi-attribute model as an IT artifact.

The main dimensions of the model are Organizational capabilities and Technological capabilities, each divided into meaningful sub-dimensions further divided until a basic level is reached and additional division would no longer contribute to the easiness of understanding for the assessor. Each dimension is assessed on a four-level scale and the result presents digital maturity of a SME. The levels of digital maturity range from 1. Lagging behind; 2. Initial; 3. Advanced; to 4. Digital winner.

The model serves as a valuable tool for SMEs, indicating their current digital maturity level and identifying their strengths and weaknesses in this domain. Furthermore, it proposes improvement activities, guiding SMEs to digitally evolve and achieve higher maturity levels.

The models, their objectives, focus, basic dimensions, and proposed levels by the authors are presented in Table 1:

Table 1: Maturity model review

Name	Authors	Objective	Focus (Publication / Re-Use)	Dimensions	Levels
eGovernment Openness Index eGovOI	Veljković et al. (2014)	Evaluation of eGovernment through an OD perspective	Publication	Basic Data Set Data Openness Transparency Participation Index Collaboration Index	0 - 5% Cradle 6 - 25% Basic openness level 25 - 65% Average openness level 66 - 82 % Openness level > 83% High openness level
Open Government Maturity Model OGMM	Lee & Kwak (2012)	Assessment of open government initiatives for enabling public engagement	Publication	Data Participation and collaboration	1. Initial conditions 2. Data transparency 3. Open participation 4. Open Collaboration 5. Ubiquitous engagement
Open Data Maturity Model OD-MM	Solar et al. (2012)	offers an in-depth insight into the maturity and existing capabilities of public organizations regarding OD initiatives.	Publication	Establishment & Legal Technological Citizen and Entrepreneurial	1. Inexistent Capacities 2. Emerging Capacities (informal) 3. Existent Capacities 4. Advanced Capacities
Open Data Maturity Model ODMM	Doods & Newman (2015)		Publication & re-use	Data Management Processes Knowledge and skills Customer support & engagement Investment & financial performance Strategic oversight	1. Initial 2. Repeatable 3. Defined 4. Managed 5. Optimizing
A Stage Model			Publication	Added value	

Name	Authors	Objective	Focus (Publication / Re-Use)	Dimensions	Levels
	Kalampokis et al.	To provide a roadmap for OGD re-use and to enable evaluation of relevant initiatives' sophistication		Organizational and Technological complexity	1. Aggregation of GD 2. Integration of GD 3. Integration of GD with Non-Gov Formal data 4. Integration of GD with Non-Gov Formal and Social Data
Metric for evaluating Brazilian OGD DGABr	Silva & Pinheiro	To evaluate the OGD in federal Public Administration of Brazil based on metrics and international indicators	Publication	Open data Legal Technical Managerial Reuse	0. Nonexistent 1. Under construction 2. Not executed 3. Partially performed 4. Existing results 5. Advanced results
A trust-based conceptual framework on OGD	Zainal et al. (2018)	An attempt to propose a new model for measuring the level of use of OGD by integrating UTAUT and trust factors.	Re-use	Trust to OD websites Acceptance Factors	
A research model for Post-adoption of OGD	Mustapa et al. (2020)	To propose a research model for OGD implementation in the post-adoption phase in (Malaysia's) public sector.	Re-use	Technological Organizational Environmental Innovation	Post-adoption phase: 4. Acceptance 5. Routinization 6. Infusion
Digital Maturity of SMEs	Kljajić Borštnar & Pucihar (2021)	Develop a multi-attribute model for the assessment of the digital maturity of SMEs		Digital capabilities	1. Lagging behind 2. Initial 3. Advanced 4. Digital winner

4 Discussions

The research findings will make contributions in various domains including scientific, economic, and social.

In the scientific domain, the contribution will be a developed artifact – a comprehensive methodology for assessing organizations' readiness for OD use. The model will present an innovative solution in the field of decision-making methods within organization and management studies. Based on this research – a systematic literature review – it was found that a model enabling companies to comprehensively assess their OD maturity level does not exist. The development of such a tool will introduce new knowledge and enable further research in the field.

In the economic domain, the contribution will present an insight into the state's economy OD maturity level to enhance its added value. The developed artifact will not only enable the assessment of individual companies' readiness, it will also provide individualized suggestions of activities to enhance their capabilities for OD use. This will enable organizations to improve their decision-making based on quality information. At a country level, the data gathered from a large number of enterprises will provide insight into the state of the population. This can enable further policy adoption to increase awareness, encourage adoption, and boost economic activities.

Key aspects representing significant progress at the societal level include raising awareness among citizens and organizations to advocate increased transparency and active citizen participation. The developed artifact designed for assessing OD maturity level along with essential recommendations for its enhancement will enable social organizations and individuals to become acquainted with OD and increase the possibility of OD utilization. Through their engagement, social organizations and individuals will be able to contribute to the formulation of legislation as well as monitor the transparency of public expenditure.

There are various models and tools for assessing the maturity of OD. The problem is that these models are theoretical, are not comprehensive, and mostly assess the maturity of public sector institutions or open data portals. We have not yet found such a model in the literature or in practice that comprehensively assesses the maturity level for the use of OD in companies and presents a transparent

interpretation of the results along with recommendations for future activities to improve the maturity level.

5 Conclusions

The comprehensive methodology for the assessment of OD use will provide feedback for any individual enterprise, but the analysis of a large number of assessed enterprises, will offer valuable information to the policymakers about the efficiency of their actions and support, and thus support further support actions planning.

In conclusion of this study, we can give initial answers to our research questions:

RQ1: With a DSR methodology, we could create a model that would measure the maturity level of an SME and distinguish between different levels of maturity.

RQ2: Based on the literature review we identified dimensions that could be used to measure OD maturity level of SMEs in Slovenia. Some dimensions have previously not been identified; however, based on the review, we can see that they could significantly influence the model. Both must be further analyzed, and based on that analysis, included, or excluded from the model that we are developing.

A comprehensive tool, the result of this research will contribute to the three main objectives of opening data: Increase transparency through public engagement, increase collaboration between government and its citizens, and increase economic activity through better-informed decision-making. Achieving these three key elements OD and a maturity model that offers guidance for enhancement of OD readiness level, can lead to enhanced societal well-being as a whole.

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