

Administrative Judicial Approach to Legal Building Information Modelling in Italy: Application of an Interdisciplinary Approach

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Building Information Modelling (BIM) has revolutionised the building industry. In 2014, the EU legislator stimulated the application of building information electronic

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modelling tools in public tenders. The response of the Italian legislator was immediate; first, with a secondary legal source, and in 2023, with a primary source (Code of Public Contracts of April 2023), requiring the use of BIM for all public tenders over EUR 2 million from January 2025. This scientific contribution informs readers of the administrative judicial approach to legal BIM in Italy through a case law study. In addition, it individuates the cases where BIM was not considered to be a method. Moreover, the paper proposes some reasons for the Italian judges' lack of an interdisciplinary approach to BIM.

Keywords: administrative jurisdiction, BIM, Italy, jurisprudence, method

1. Introduction

The construction industry is becoming one of the main drivers for the national economies of several European countries (UNECE, 2023). According to the United Nations Economic Commission for Europe, in 2022, the last available data, the share of construction in GDP was between 1.5% (the lowest in Ukraine) and 13.5% (the highest in Andorra).

Based on the importance of the construction industry in national economies, the EU legislator has underlined that in the case of public procurements, “Member States may require the use of specific electronic tools, such as building information electronic modelling tools or similar” (Art. 22/4 Dir. 2014/24/EU). The goal of this Directive is more than just creat-

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ing effective and fair competition, which can be achieved through public digitalisation.

In the scientific literature, the first scientific paper on Building Information Modelling (BIM) is deemed to have been published in 1992 (Santos, Costa & Griko, 2017). Since that moment, there has been increased interest in BIM (Sullivan, 2005; Sanders, 2004; Hoekstra, 2003). In terms of the scientific literature on natural science, it should be mentioned that in recent years, there has been interest in legal BIM. Most international or Italian national legal doctrine focuses on administrative law or public procurement law through the analysis of public bids (Veshi, Venditti & Picaro, 2023).

This paper poses the following research question: in the case of BIM, do Italian administrative judges use the correct terms? In other words, BIM is a construction method. However, in many instances, judges might consider it to be a modality, software, system, project, methodology, model, or technology. These labels are incorrect since the term method differs from the other terms, which may sometimes be similar but not identical.

After justifying the methodology applied, this paper has the following structure: section 2 provides a brief theoretical perspective of the legalistic paradigm in Italy by focusing on the introduction of legal BIM. Subsequently, section 3 uncovers the Italian administrative judicial approach to legal BIM. Section 4 focuses on the absence of an interdisciplinary approach by administrative Italian judges. This paper uses an interdisciplinary approach to apply insights from non-legal disciplines.¹ Its goal is to identify cases where BIM was not considered to be a method. In addition, this section proposes the reasons behind these mistakes. In the conclusions, the paper uncovers the reasons behind the judges' approach to BIM.

This paper entails an administrative case law study. This approach is based on the common law principle of *stare decisis*. In the common law system, the main driver for the legal decision is the precedent rather than the interpretation of the law. In other words, the judge bases their decision on the *ratio decidendi* (rationale for the decision), the key factual points or chain of reasoning in a case that drives the final judgment. Thus, the *obiter*

¹ It should be mentioned that sometimes multidisciplinary terminology is used in the doctrine. Nevertheless, this paper uses the term interdisciplinary because in the conclusions, the study will offer some more coherent and integrated solutions (Van den Besselaar & Heimeriks, 2001).

dicta (something said in passing) is not fundamental. Obviously, the main factual points or chain of reasoning are not identified by the first judge but by the other judges that shall justify the application of the precedent (Levenbook, 2000).

The Italian legal system is not part of the common law system. However, the importance of case law is also investigated and underlined in France (Ancel, 1934), the country where the tradition of *le juge est la bouche de la loi* (the judge is the mouth of the law) established by Montesquieu (Merlino, 2017) started. Moreover, the Consultative Council of European Judges has already observed that in civil law countries, judges are guided by case law, especially that of the highest courts, whose task includes ensuring the uniformity of case law (CoE, 2008).

The new administrative proceedings reforms should be read in view of these premises. Indeed, if administrative judges consider an appeal to be manifestly unprocessable, inadmissible, or unfounded, they can provide a short reasoning, including the previous precedent (Art. 74 Code of Administrative Procedure (CAP) of 2023).² This type of decision can be used not only in preventive measures (Art. 60 CAP), but also for the judgment regarding access (Art. 116 CAP), silence (Art. 117 CAP), or precedents of public works, services, and supplies (Art. 120/1 CAP). In addition, if the judge disagrees with the principle of law of the plenary session, with a reasoned order, they send to the latter the decision of the appeal (Art. 99/3 CAP). Although the CAP has not established fines or legal consequences for the absence of application of this rule, it shows the importance of the decision established by the plenary sessions.

To sum up, although Italy is not part of the common law system, the principle of *stare decisis* is also applied. For instance, in the case of administrative proceedings, decisions with a short reasoning that also includes previous decisions, can be used in different cases. In addition, Art. 99/3 CAP highlights the importance of the decisions coming from united or plenary sessions. These approaches are aligned with the Consultative Council of European Judges report (CoE, 2008).

² In the case of an appeal that is manifestly inadmissible, or clearly unfounded, the regional administrative tribunal and the Council of State decide with a succinctly reasoned sentence. The reasoning of the sentence may consist of a brief reference to the point of fact or law considered decisive, or, if necessary, to a compliant precedent. [authors' translation].

2. Introduction of BIM as a Legal Paradigm in the Italian Public Administration: A Theoretical Approach

This section defines a general theoretical approach to introducing legal BIM in Italy with the goal of providing (international) readers with a brief general overview of Italian administrative law. However, since Italy is one of the founders of the EU, as well as in view of Art. 22/3 Dir. 2014/24/EU that recommends EU Member States to apply BIM, a very brief outline of the European approach to BIM should be given.

In 2016, the EU BIM Task Group was established at the EU level. Its goal was to establish a collaborative environment among national experts of EU Member States to produce a common approach to BIM development. Among other recommendations, the EU BIM Task Group underlined the importance of harmonising national legislation with BIM. Based on this, a study published in 2020 reviewed the application of BIM integration in the national construction sector (Panteli et al., 2020). It concluded that some countries – such as the UK, Scandinavian countries, and the Netherlands – have more advanced BIM legislation than others. According to this study, Italy stands in the middle.

Our research focuses on the case of Italy because while the EU only recommends the application of BIM (Art. 22/4 Dir. 2014/24/EU), the Italian law requires it, since January 2025, for all public procurements over EUR 2 million (Art. 43 Code of Public Contracts of 2023). In addition, while in 2017 BIM was introduced with secondary rules – Ministerial Decree (MD) No. 560, modified by MD No. 312/2021 – in 2023, legal BIM became the primary legal source (Art. 43 Code of Public Contracts of April 2023). Moreover, MD No. 312/2021 introduced the possibility of awarding additional points for using BIM. Furthermore, the Code of Public Contracts of April 2023 again confirmed its mandatory application.

Without going into details of the literature, BIM should be considered as the digital representation of a building that includes all the required information (Sullivan, 2005). For this reason, there is a need for coordination among all the teams that provide different information – i.e., design, construction, and operation processes – about the building (Grilo & Jardim-Goncalves, 2010). This new method is cost-effective because it reduces clash detection and other mechanisms. Thus, most contractors using BIM do not intend to use traditional methods again (Fan, Skibniewski & Hung, 2014).

From a general theoretical approach, BIM is part of a new administrative reform of the Italian public administration, which started in the 1990s (Capano, 2003). Since the 1990s, Italian lawmakers have decided to modify the Code of Public Contracts several times by modernising its legislation (Ongaro, 2009). The first significant reform of public contracts was implemented with Law No. 109 in 1994. However, three different Codes of Public Contracts have been enacted in the new millennium: in 2006, 2016, and 2023. In the first two decades of the third millennium, one could say that the goal of the Italian Parliament was the harmonisation of national legislation with that of the EU since they aimed to adopt several EU directives, such as 2004/17/EC and 2004/18/EC (in 2006) or 2014/23/EU, 2014/24/EU and 2014/25/EU (in 2016) (Sandulli, 2019; As-tone, 2019). Still, in 2023, Italian lawmakers had a clear strategy: digitalising the public administration (Cati, 2024) or better put, introducing digital obligations in the Italian public administration (Ongaro et al., 2023). Focusing on the case of BIM, for the first time, legal BIM was introduced through a secondary legal source in 2017 (MD No. 560/2017), and then through a primary legal source in 2023 (Art. 43 Code of Public Contracts of April 2023). In other words, in 2023, the Italian Parliament decided to operate a large-scale administrative reform rather than re-articulating the previous Code of 2016 or modifying some of its parts since digital obligations in the public administration presuppose a paradigmatic change, which is a radical rather than incremental change based on marginal adaptation (Hall, 1993; Howlett & Ramesh, 2002).

Thus, the digital obligations of the public administration required a paradigm change. There was a need to harmonise Italian legislation with the new standards of digitalisation, which could only be done through a new structural change. In particular, focusing on the case of BIM, the natural science literature has underlined the importance of BIM as a new construction method (Fan, Skibniewski & Hung, 2014). In addition, while BIM was first introduced through MD No. 560/2017, the Council of State (CoS), through an incidental proceeding, declared the illegitimacy of MD No. 560/2017.³

In 2023, there was a need to “push” the innovation of public administration through a radical change and by including BIM in a primary legal source since – among other reasons – there was neither an alternative paradigm nor an “evolutionary” perspective *a priori* due to the incidental proceeding of the CoS of 2019.

³ Council of State, Opinion No. 01349/2019.

However, it should be mentioned that neither introducing digitalisation in the public administration nor the legal BIM through primary legal sources with the Code of Public Contracts in 2023 are a radical “revolution” since an embryonic form of legislation was already present. In the case of public digitalisation, several primary sources – among others, the Code of Digital Administration of 2005, which also included the digitalisation of administrative acts – included the digitalisation of the public administration. Nevertheless, the digitalisation of public administration obligations was not clearly included in a legal document that was called a Code. However, only in 2023 was BIM introduced with a legal document called “Code,” which *per se* presupposes an importance in the psychology of lawyers (Dellacasa, 2004).

Therefore, digital obligations, in general, or the new working methods in construction, in particular, required a radical change of administrative procedures that could only be achieved through a new Code. The introduction of digitalisation in public administration aimed to replace the general dissatisfaction over the efficacy of public policies related to the digitalisation of the obligations of the public administration.

Interestingly, while the Italian Civil Code of 1942 has been modified through various interventions, the Code of Public Contracts only had three radical paradigm modifications in the third millennium. The new Code of Public Contracts of 2023 aimed to adapt various external inputs or exogenous pressures. Focusing on the case of BIM, in addition to the EU impact (Art. 22/4 Dir. 2014/24/EU), there is also the digitalisation and transformation of the working method in the construction industry.

Indeed, based on the transformation of the Italian public administration with the current situation, considering the various problems that the traditional approach to civil obligations of public contracts includes (Veshi, Venditti & Picaro, 2023; Veshi, Venditti & Picaro, 2024), on 31 December 2024, the Italian lawmaker modified the Code of Public Contracts of 2023 by including in it the Collaborative Agreement (Art. 82-*bis* and Annex II.6-*bis* Code of Public Contracts). The new legal intervention of December 2024 is also based on the EU BIM Task Group (2017), which states that it is highly recommended that “obligations, liabilities, and associated limitations for BIM are incorporated into the contract, for example, as a BIM-specific appendix or protocol” (p. 60).

This section has described the study of the legal paradigm for the introduction of legal BIM, resulting in agreement with the majority of the doctrine (Christensen, Lègreid & Wise 2002; Pollitt & Bouckaert 2000;

Premfors, 1998; Guyomarch, Machin & Ritchie, 1998) that administrative reforms are the result of several external inputs, such as political, social, economic, and institutional factors. However, although a legal paradigm, its reform was not a radical “revolution” since an embryonic form of legislation, pieces of secondary legal sources, were already present.

3. Legal BIM and Administrative Judicial Approach in Italy

This research included the examination of 54 legal decisions issued until February 2024, in addition to the decision of the CoS which, in an incidental proceeding, declared the illegitimacy of MD No. 560/2017.⁴ The methodology of this paper is the following: the authors reviewed all the cases that contain the words: “BIM,” “Building Information Modelling,” “Building Information Modeling,” “Information Modelling,” “Building Modelling.” Although the only national official language in Italy is Italian, in the case of BIM, the terms are used in English, both by the legislator and by judges. After collecting all the decisions or ordinances, another selection was made, aiming to understand if the case law dealt directly – or at least indirectly – with BIM. In other words, if the legal case mentioned BIM just as part of the invitation of bids without dealing at all with BIM or tender specifications related to BIM, the case was not included in the investigation.⁵

⁴ CoS, Opinion No. 01349/2019.

⁵ Among others, CoS, Section V, Decision No. 00167/2022; CoS, Section V, Decision No. 04313/2020; CoS, Section VII, Decision No. 07521/2023; CoS, Section V, Ordinance No. 07650/2020; Regional Administrative Tribunal (RAT) Basilicata, Section I, Decision No. 00437/2021; RAT of Calabria, Section I, Decision No. 00101/2021; RAT of Calabria, Section I, Decision No. 00343/2020; RAT of Calabria, Section I, Decision No. 02151/2019; RAT of Calabria, Section I, Ordinance No. 01338/2020; RAT of Campania, Section I, Decision No. 03779/2021; RAT of Campania, Section I, Decision No. 04677/2020; RAT of Campania, Section I, Decision No. 05259/2021; RAT of Campania, separate section of Salerno (Section I), Decision No. 00585/2021; RAT of Campania, Salerno (Section II), Ordinance No. 01144/2020; RAT of Emilia-Romagna, Section I, Decision No. 00433/2023; RAT of Friuli Venezia Giulia, Section I, Decision No. 00157/2017; RAT of Friuli Venezia Giulia, Section I, Ordinance No. 00017/2017; RAT of Lazio, Section I/4, Decision No. 03740/2023; RAT of Lazio, Section II/3, Decision No. 03149/2020; RAT of Lazio, Section II/3, Decision No. 12042/2020; RAT of Lazio, Section II/3, Decision No. 00803/2020; RAT of Lazio, Section I, Ordinance No. 11724/2016; RAT of Lazio, Section II/3, Ordinance No. 00604/2020; RAT of Lazio, Section II/3, Ordinance No. 04876/2020; RAT of Marche,

This section aims to offer lawyers an overview of the administrative judicial approach in Italy in a single document, thus facilitating their job. The contribution is written in English since the goal of the Dir. 2014/24/EU is to increase fair competition at the EU level. Moreover, the literature has shown that judges have also considered the decisions of foreign judges on several occasions (Passaglia, 2022). Although the section on Legal Sources lists all the decisions reviewed, this section uncovers only the most essential decisions focusing on the cardinal administrative law.

While no legal decisions were found in the ordinary jurisdiction, several were found in the administrative jurisdiction. Most of the legal decisions are decisions, with few ordinances found. First of all, the review of the Italian judiciary approach to legal BIM shows that judges in public tenders still apply the fundamental administrative principles, both proceeding and substantial rules. Focusing on proceeding rules, general proceeding rules of administrative law – i.e., general proceeding rules of territorial competence,⁶ termination of the lawsuit due to the self-defence annulment,⁷ or possibility to impose preventive measures⁸ – will also apply to public tenders that include BIM.

Focusing on substantive rules, the public administration has technical discretion on public procurements, even when the BIM method is used. In other words, administrative judicial review aims to limit the discretion of the public administration in at least three cases. First, administrative judicial review enters the cases of abnormality in public administration,⁹ confirming cases of excess of powers.¹⁰ Second, there is a need for judicial review when the decision of the public administration is manifestly illogical, irrational, unreasonable, arbitrary, or based on an equally clear

Section I, Decision No. 00625/2020; RAT of Puglia, Section II, Decision No. 01099/2020; RAT of Puglia, Section II, Ordinance No. 00048/2021; RAT of Sicilia, Section I, separate section of Catania, Decision No. 00904/2021; RAT of Basilicata, Section I, Decision No. 00598/2020; RAT of Veneto, Section II, Decision No. 00912/2021; RAT of Veneto, Section II, Decision No. 00685/2020; RAT of Veneto, Section II, Ordinance No. 00101/2020.

⁶ RAT of Campania, Section II, Ordinance No. 01144/2020; RAT of Campania, Section I, Ordinance No. 03249/2020.

⁷ RAT of Campania, Section I, Decision No. 03779/202.

⁸ RAT of Campania, Section I, Decree No. 01991/2019.

⁹ RAT of Sicilia, Section II, Decision No. 00529/2023.

¹⁰ CoS, Section V, Decision No. 02276/2019.

and manifest misrepresentation of the facts.¹¹ Third, the judicial review is fundamental when public administration could have been in a gross error of fact, manifest illogicality, or unreasonableness.¹² Although these cases are formulated differently, the goal is similar, or possibly, identical. So, administrative judges cannot enter within the technical discretion of the public administration for the attribution of points regarding the evaluation of BIM *per se*¹³ or for the voice within the public tender that, among others, also includes BIM.¹⁴ This is because the assessment falls within the technical discretion of the judging commission that has reviewed the bids.¹⁵

The case of interpretation of public bids is strongly connected with technical discretion. In a few cases, there has been a division of them.¹⁶ Although the cardinal administrative principle is technical discretion, other principles are also applied. For instance, there is a need for coherence between the invitation for bids and the final decision of the evaluating commission. So, if the invitation for bids includes various tender specifications, the commission must establish more than just overall points.¹⁷ However, the public administration is not obliged to fragment the individual cost items since the evaluation has a global and synthetic nature,¹⁸ also because the offer shall be evaluated as a whole rather than by considering

¹¹ By constant jurisprudence, in the public procurement sector, the technical evaluations of the contracting authority, as an expression of technical discretion, are removed from the review of legitimacy of the administrative judge, unless they are manifestly illogical, irrational, unreasonable, arbitrary, or based on an equally blatant and manifest misrepresentation of the facts. [authors' translation] RAT of Emilia-Romagna, Section II, Decision No. 00452/2017.

¹² RAT of Toscana, Section I, Decision No. 01438/2019.

¹³ CoS, Section III, Decision No. 6058.

¹⁴ RAT of Toscana, Section I, Decision No. 00977/2022.

¹⁵ CoS, Section V, Decision No. 02276/2019; RAT of Lazio, Section IV, Decision No. 17947/2022.

¹⁶ CoS, Section V, Decision No. 09937/2023; RAT of Toscana, Section I, No. 00977/2022; CoS, Section V, Decision No. 09937/2023; RAT of Toscana, Section I, No. 00977/2022.

¹⁷ The work of the commission does not allow us to understand, and possibly dispute, which scores have been attributed to the individual parts of each attached project, as provided for in Annex G to the tender specifications. [authors' translation]. RAT of Liguria, Section I, Decision No. 00640/2018.

¹⁸ RAT of Liguria, Section I, Decision No. 00564/2021.

its single parts,¹⁹ even when, within the limits established by law, there is sub-contracting.²⁰ In addition, the plaintiff shall prove their claims, also in the cases of public tenders where BIM is used. This pertains to proving that the winning offer has margins of unreliability,²¹ or that the commission had a short time to assess all bids.²² In simple words, the plaintiff's reasoning shall not remain merely questionable,²³ and it shall prove that if the presumed missing points were given, the plaintiff would have won the public tender.²⁴

As stated in the introduction, BIM is a new method. This requires new knowledge and new professionals, such as BIM Coordinator, BIM Manager, or BIM Modeller. Their role has also been emphasised in Art. 2/5 Annex I.13 of the new Code of Public Contracts of April 2023, which recognises an increase of 10 percent in the total calculation of fees. The BIM bid proposal shall include the correct name of the BIM expert and a BIM file viewer programme.²⁵ They shall possess new BIM-related competencies,²⁶ proved by a certificate and not just mere participation.²⁷ Although various certifications will be presented in the bid proposal, there is a difference between the BIM certificate and other certifications that the contractor shall possess.²⁸ This certificate shall be held by the company that will do the concrete job,²⁹ or by a professional related to the contractor

¹⁹ CoS, Section V, Decision No. 07805/2019. The same approach was stated also in the decision of the first instance: RAT of Piemonte, Decision No. 00059/2019.

²⁰ CoS, Section V, Decision No. 02873/2023. The same approach was stated also in the decision of the first instance: RAT of Calabria – separate section of Reggio Calabria, No. 00878/2021.

²¹ RAT of Puglia, Section II, Decision No. 00106/2022.

²² RAT of Friuli-Venezia Giulia, Section I, Decision No. 00008/2020.

²³ RAT of Puglia, Section II, Decision No. 00106/2022.

²⁴ RAT of Friuli-Venezia Giulia, Section I, Decision No. 00008/2020; RAT of Lazio, Section II, Decision No. 09178/2018. RAT of Emilia-Romagna, Section II, Decision No. 00117/2020.

²⁵ CoS, Section V, Decision No. 08173/2023. The same approach was stated also in the decision of the first instance: RAT of Lazio, Section IV/2, No. 17487).

²⁶ RAT of Campania, Section V, Ordinance No. 00806/2019.

²⁷ RAT of Campania, Section VIII, Decision No. 05468/2023.

²⁸ RAT of Lombardia, Section I, Decision No. 01932/2019.

²⁹ RAT of Emilia-Romagna, Section II, Decision No. 00117/2020.

by being a collaborator,³⁰ or by an expert with a continuous contractual relationship.³¹ Additionally, having more than one manager is allowed; in this case, it is enough for only one of them to have all the requirements established in the call for bids.³² While it is clear that in the absence of this certificate, there are no points related to the tender specification,³³ the attribution of points according to the BIM certificate is part of the public administration's technical discretion.³⁴

To sum up, this section reviewed the Italian judicial approach to BIM. It showed that although BIM is a new method, the main principles of administrative law still apply.

4. Judicial Approach to BIM in Italy: Absence of an Interdisciplinary Approach

This section discusses the results of the judicial approach to BIM in Italy. While the previous section aimed to inform readers about the application of administrative principles in public tenders related to BIM, this section studies the possible lack of an interdisciplinary approach to BIM.

Italian jurisdiction is divided between ordinary and administrative jurisdictions. While the authors did not find any legal decisions on ordinary jurisdiction, the previous Section showed the administrative judges' judicial approach to legal BIM. Focusing on the administrative jurisdiction, based on Law No. 1034 of 6 December 1971, each region has one Regional Administrative Tribunal (RAT). Sometimes, some regions – i.e., Lombardia, Emilia-Romagna, Lazio, Abruzzo, Campania, Puglia, Calabria, Sicily – also have a separate section. While the RATs are the first instance, appeals are heard by the CoS except for Sicily, which has its own

³⁰ The correct term in Italian is *collaboratore*. RAT of Sardegna, Section II, No Decision. 00027/2021.

³¹ The correct term in Italian is *contratto continuativo di cooperazione*. RAT of Lazio, Section II/3, Decision No. 06281/2023.

³² RAT of Lazio, Section II/3, Decision No. 10474/2020.

³³ CoS, Section V, Decision No. 02078/2022. The same approach was stated also in the decision of the first instance: RAT of Sardegna, Section I, Decision No 683.

³⁴ CoS, Section V, Decision No. 07908/2020 of 10/12/2020. The same approach was stated also in the decision of the first instance: RAT of Friuli-Venezia Giulia, Section I, Decision No. 00008/2020.

appeal Court, the Council of Administrative Justice for the Sicilian Region (Giustizia Amministrativa, 2024). According to our study, all except five RATs – i.e., Abruzzo, Molise, Bolzano, Umbria, Valle d'Aosta – have dealt, at least once (i.e., Puglia, Sicilia, Trento, and Veneto), with essential issues related to BIM, with the highest number of decisions in Campania. According to Art. 33 of the Code of Administrative Procedure of 2023, the judge can decide by decisions (when the case is partly or completely resolved), ordinances (when they take precautionary or interlocutory measures, or decide on competence), and decrees (in the specific cases established by law). According to the Italian legal system, the CoS shall give its own opinion in specific cases established by specific laws (Giustizia Amministrativa, 2024/2). This study included one opinion, one decree, one non-final decision, three ordinances, and 47 decisions. Thus, although it focused on 53 legal pronouncements, in addition to the opinion of the CoS, there are only 36 concrete cases since this study also examined 12 decisions of the CoS, which is the appeal court for administrative issues.

As stated in the introductory chapter of this paper, BIM is an innovative work method. In general, BIM includes multiple models used across the project phases, mainly to plan, design, construct, and operate. This is why there is no general definition of BIM, since there might be different definitions according to the goal or phase (Borrmann et al., 2018). However, this study found two legal decisions from the tribunals of the first instance. While the RAT of Basilicata³⁵ defined BIM as a “3D virtual model, which displays all the building and plant elements,” the RAT of Liguria³⁶ defined BIM as “the digital representation of the physical and functional characteristics of properties”. Although the importance of defining BIM should be underlined, the definition given by the RAT of Basilicata is not perfectly correct since it limits BIM to 3D virtual models. Compared to 2D, BIM has several advantages, such as detecting in the pre-construction stage, making several simulations possible, or making reliable cost estimations in the bidding process (Veshi, Venditti & Picaro, 2023). Currently, BIM is generally applied in, but not limited to, 3D. Indeed, 4D BIM includes time (D'Amico et al., 2020; Kim et al. 2016), 5D BIM includes cost information (D'Amico et al., 2020; Kim et al. 2016), and in the future, there is also the possibility of 6D BIM, which includes information related to operation and facility maintenance (Wheatley & Brown 2007). However,

³⁵ RAT of Basilicata, Section I, Decision No. 00598/2020.

³⁶ RAT of Liguria, Section I, Decision No. 00564/2021.

it should be mentioned that, although judges are aware of 4D BIM,³⁷ sometimes³⁸ it is the invitation for bids that limits BIM to 3D.

The analysis of legal pronouncements found the absence of an interdisciplinary approach by judges in several cases. First, all the legal decisions analysed here, except two,³⁹ use the term “Building Information Modeling” rather than “Building Information Modelling”. However, in the literature, both these terms are used; it seems that one refers to the model and the other to the modelling process of the building. Nevertheless, it should be mentioned that the Italian legislator uses the term Building Information Modeling (Art. 2(5) Annex I.13 Code of Public Contracts of April 2023). Second, while BIM is a method, several decisions have considered it to be a modality,⁴⁰ software,⁴¹ system,⁴² project,⁴³ methodology,⁴⁴ model,⁴⁵ or technology.⁴⁶ Sometimes, different terms are used in the same decision, in different parts of the decision,⁴⁷ or even in the same

³⁷ RAT of Puglia, Section II, Decision No. 00106/2022.

³⁸ CoS, Section V, Decision No. 10640/2023; RAT of Lazio, Section IV, Decision No. 17947/2022.

³⁹ CoS, Section III, Decision No. 06058/2019; CoS, Section V, Decision No. 02078/2022.

⁴⁰ RAT, Section I, Decision No. 03779/2021; RAT of Campania, Section I, Decision No. 03779/2021; RAT of Campania, Section I, Ordinance No. 03249/2020; RAT of Campania, Section II, Ordinance No. 01144/2020; RAT of Campania, Section II, Ordinance No. 01144/2020; RAT of Emilia-Romagna, Section II, Decision No. 00117/2020; RAT of Emilia-Romagna, Section II, Decision No. 00117/2020.

⁴¹ CoS, Section V, Decision No. 07805/2019; RAT of Piemonte, Section I, Decision No. 00059/2019.

⁴² RAT of Marche, Section I, Decision No. 00398/2018.

⁴³ RAT of Sicilia, Section II, Decision No. 00529/2023.

⁴⁴ RAT of Friuli-Venezia Giulia, Section I, Decision No. 00008/2020.

⁴⁵ CoS, Section V, Decision No. 08173/2023; RAT of Lombardia, Section I, Ordinance No. 02237/2016; RAT of Piemonte, Section II, Decision No. 00103/2016.

⁴⁶ RAT of Emilia-Romagna, Section. II, Decision No. 00452/2017.

⁴⁷ CoS, Section V, Decision No. 07908/2020 (the terms used are: methodology, model, system); RAT of Campania, Section I, Decision No. 00319/2023 (the terms used are: methodology and modality); RAT of Lazio, Section I, Decision No. 06281/2023 (the terms used are: BIM logic and BIM software); RAT of Lazio, Section II/3, Decision No. 10474/2020 (the terms used are: modality, process, methodology); RAT of Liguria, Section I, Decision No. 00930/2018 (the terms used are: process, method, and system); RAT of Liguria, Section I, Decision No. 00640/2018 (the terms used are: method and system); RAT of Liguria, Section I, Decision No. 00930/2018 (the terms used are: system, method, process); RAT of Lombardia, Section I, Decision No. 01210/2017 (the terms used are: model, format, project, and modality).

sentence.⁴⁸ In most cases, it is difficult to understand if the errors come from using the same expression as in the lawyers' claims, invitation for bids, or if it is the judge's reasoning. In other words, this study examines only the final pronouncements of judges without having access to the invitation for bids or lawyers' claims. However, sometimes it is clear that judges have been influenced by the expression used in the invitation for bids or lawyers' claims. For instance, in several cases, judges have used the same expression as the one used in the invitation for bids. This has been observed for different terms, such as modality,⁴⁹ technology,⁵⁰ process,⁵¹ or methodology.⁵² In one case, the term from the invitation for bids influences not only judges but also lawyers.⁵³ Indeed, in other cases, the invitation for bids limited BIM to 3D, and judges used the same approach.⁵⁴ The problems regarding the use of the correct term are not related only to the pronouncements that have dealt with BIM issues, but also to other decisions where BIM was part of the invitation for bids, but the claims did not relate to BIM issues.⁵⁵ However, the invitation for bids is not the

⁴⁸ CoS, Section V, Decision No. 02873/2023, where the invitation for bids required "the possession of adequate software and hardware technologies for BIM".

⁴⁹ RAT of Campania, Section I, Decision No. 03779/2021; RAT of Campania, Section II, Ordinance No. 01144/2020.

⁵⁰ CoS, Section V, Non-final Decision No. 00048/2022.

⁵¹ RAT of Lazio, Section II/3, Decision No. 10474/2020. In this case, the decision used different terms (i.e. modality, process, and methodology). However, while the invitation for bids used only modality and process, the judges used process and methodology.

⁵² RAT of Trento, Unified Section, Decision No. 00176/2023.

⁵³ For instance, in the RAT of Veneto, Section III, No. 01709/2022 – modelling and moot-modelling are stated by the invitation for bids and by the lawyers and then also by the judge.

⁵⁴ CoS, Section V, Decision No. 10640/2023; RAT of Lazio, Section IV, Decision No. 17947/2022.

⁵⁵ Among others, in the invitation for bids, BIM was considered to be a modality in the following decisions: CoS, Section V, Decision No. 04313/2020; CoS, Section V, Ordinance No. 07650/2020; RAT of Calabria, Section I, Decision No. 00101/2021; RAT of Calabria, Section I, Decision No. 00343/2020; RAT of Calabria, Section I, Decision No. 02151/2019; RAT of Calabria, Section I, Ordinance No. 01338/2020; RAT of Campania, Section I, Decision No. 03779/2021; RAT of Campania, Section I, Decision No. 04677/2020; RAT of Campania, Salerno (Section II), Ordinance No. 01144/2020; RAT of Emilia-Romagna, Section I, Decision No. 00433/2023; RAT of Lazio, Section I/4, Decision No. 03740/2023; RAT of Lazio, Section II/3, Decision No. 03149/2020; RAT of Lazio, Section II/3, Decision No. 12042/2020; RAT of Lazio, Section II/3, Decision No. 00803/2020; RAT of Lazio, Section II/3, Ordinance No. 00604/2020; RAT of Lazio, Section II/3, Ordinance No. 04876/2020; RAT of Marche, Decision No. 00625/2020; RAT of Puglia, Section II, Decision No. 01099/2021; RAT of Puglia, Section II, Ordinance No. 00048/2021; RAT

only document that influences judges. Two examples can be given. First, in one case, judges have used the same term – in that case, system – as in the lawyers' claims.⁵⁶ Second, in another case, the CoS used the same term – specifically, system, as the tribunal of first instance.⁵⁷

Without going into details of the natural sciences literature, there is a difference between method and the other terms (i.e., modality, software, system, project, methodology, model, or technology). First, while modality is a way in which something happens or is experienced (Johnson-Laird, 1978), a method is a systematic way of doing something or achieving a particular outcome (Koen, 1985). So, although both focus on how something is done, method is concerned with the systematic approach, while modality is concerned with the nature of existence or expression. Second, according to the Cambridge Dictionary (Cambridge Dictionary, 2024), software is defined as the instructions that control what a computer does. Software is so complex that plenty of different design aspects interact with each other. But BIM is not software. Third, while system refers to the interconnection between various components forming a whole project, method focuses on the systematic approach used within that system to achieve a certain output (Buede & Miller, 2024). Fourth, method is used to achieve a goal within a project (Wardani & Horman, 2006). Fifth, methodology includes a broader theoretical framework that informs the methods applied, while method refers to a specific procedure or technique used (Bryman, 2008). Sixth, while a model represents a system or

of Veneto, Section II, Decision No. 00912/2021; RAT of Veneto, Section II, Decision No. 00685/2020; and RAT of Veneto, Section II, Ordinance No. 00101/2020. Among others, in the invitation for bids, BIM was considered to be a system, in the following decision: RAT of Campania, separate section of Salerno (Section I), Decision No. 00585/2021. Among others, in the invitation for bids, BIM was considered to be a project, in the following decision: CoS, Section V, Decision No. 00167/2022. Among others, in the invitation for bids, BIM was considered to be a model, in the following decision: RAT of Sicilia, separate section of Catania (Section I), Decision No. 00904/2021. Among others, in the invitation for bids, BIM was considered to be a software, in the following decisions: CoS, Section VII, Decision No. 07521/2023; and RAT of Basilicata, Section I, Decision No. 00598/2020. Among others, in the invitation for bids, BIM was considered to be a technology, in the following decisions: RAT of Basilicata, Section I, Decision No. 00437/2021; RAT of Campania, Section I, Decision No. 05259/2021. Among others, in the invitation for bids, BIM was considered to be one of the main activities, in the following decisions: RAT of Friuli-Venezia Giulia, Section I, Decision No. 00157/2017; RAT of Friuli-Venezia Giulia, Section I, Ordinance No. 00017/2017; and RAT of Lazio, Section I, Ordinance No. 11724/2016.

⁵⁶ RAT of Marche, Section I, Decision No. 00398/2018.

⁵⁷ CoS, Section V, Decision No. 02276/2019, which is the appeal decision of the RAT of Marche, Section I, Decision No. 00398/2018.

concept, a method is a systematic approach or procedure used to accomplish tasks or goals (Winter, Gericke & Bucher, 2009). Indeed, the Italian legislator has also confused method with methodology (Art. 2/5 Annex I.13 of the new Code of Public Contracts of April 2023).⁵⁸ Seventh, according to the Cambridge Dictionary (Cambridge Dictionary, 2024/2), technology is the study and knowledge of the practical, primarily industrial, use of scientific discoveries. Thus, technology is both a means to an end and a human activity, since to posit ends and procure and utilise the means to them is a human activity (Heidegger, 1997). Simply put, all manufacturing and utilisation of equipment and tools belong to technology. However, for all these activities, there is a need for human activity. While the method is a particular way of doing something (Cambridge Dictionary, 2024/3), technology seems to be a broader concept. Last but not least, it should be noted that in several cases judges used the correct term.⁵⁹

In summary, while there are no legal pronouncements by the ordinary jurisdiction, almost all the RATs have dealt with BIM. In addition, although BIM is a method, several legal decisions have confused it with other notions, such as modality, software, system, project, methodology, model, or technology.

5. Conclusions

This paper delves into the unique approach of the Italian judiciary to BIM, a case that stands out in the EU context. While EU law merely encourages the application of BIM, Italy has taken a bold step by making it a mandatory requirement for all public tenders over EUR 2 million from January 2025. As part of the legal paradigm, this significant move was first introduced in 2017 as a secondary rule and then reaffirmed in April 2023 as a primary legal source.

⁵⁸ Art. 2/5 Annex I.13 of the new Code of Public Contracts of April 2023 states that the determination of the amount to be used as a basis for the tender, in relation to contracts for which the adoption of the *Building Information Modeling* (BIM) [italics by authors] methodology is mandatory, a percentage increase of 10 percent must be applied on the overall calculation of fees and before the application of the percentage relating to expenses and additional charges, which are also calculated on the BIM percentage increase.

⁵⁹ RAT of Liguria, Section I, Decision No. 00930/2018. However, it should be mentioned that in this decision, BIM is considered to be a method, system, process; RAT of Liguria, Section I, Decision No. 00640/2018; RAT of Toscana, Section I, Decision No. 00977/2022.

Italy, despite not being part of the common law system, places significant emphasis on the role of judges. This is evident from the perspective of doctrine and the Consultative Council of European Judges, as well as in recent administrative proceedings reforms. This paper aims to shed light on the judicial approach of Italian lawyers and to explore whether Italian judges adopt an interdisciplinary approach to BIM.

Although the paper focuses on the Italian case, its results can be applied to other judges. Indeed, the contribution shows that the main principles of administrative law are still used, even if public tenders include BIM. This is because, in the case of administrative law, judges apply a literal interpretation of the invitation for bids. On the other hand, teleological interpretation – considering the legislator's general *ratio* – might give judges more discretion, while the main administrative principle is that judicial review of administrative discretion is limited. This is also the view of the EU Court of Justice, which limits the judicial review to the manifest error of assessments or misuse of powers.⁶⁰

Moreover, the research has uncovered the need for an interdisciplinary approach to BIM. While BIM is a working method, several court pronouncements used terms connected or similar to method but used for other goals. In concrete, in several pronouncements judges used other terms, such as modality, software, system, project, methodology, model, or technology instead of method. This is because the invitation for bids used a different term rather than method. Moreover, the contribution shows that judges limited BIM to 3D since the invitation for bids also limited it to 3D. In addition, the judges' knowledge is sometimes under the influence of the terms used by lawyers. In one case, the judges for the appeal used the same term as those of first instance. Last but not least, the Italian Parliament recently confused method with methodology (Art. 2/5 Annex I.13 of the new Code of Public Contracts of April 2023).

To sum up, in recent years, Italian legislators have also recognised the role of judicial power. Italian administrative judges have applied the same administrative principles, even if BIM is part of public tenders. In addition, although judges have mistaken BIM for modality, software, system, project, methodology, model, or technology, this might be due to the mistake made in the invitation for bids. Moreover, in 2023, regarding BIM, the Italian Parliament also confused method with methodology.

⁶⁰ Case 42/84, *Remia and Others v. Commission*, para 34.

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ADMINISTRATIVE JUDICIAL APPROACH TO LEGAL BUILDING INFORMATION MODELLING IN ITALY: APPLICATION OF AN INTERDISCIPLINARY APPROACH

Summary

This paper considers the administrative judicial approach to Building Information Modelling (BIM) in Italy. BIM was chosen as an innovative construction method. In addition, the Italian legal system has been chosen as a model because while the EU law only encourages countries to implement building information electronic modelling tools, the Italian legislator has established their mandatory application. Although Italy is not part of the common law system, recent reforms have underlined the importance of the role of jurisprudence. Thus, the paper includes a case law study. This contribution is innovative not only because it applies a judicial approach to legal BIM, while other scientific papers focus on its physical or legal implementation, but more importantly, it proposes some of the reasons why judges make the mistake of not classifying BIM as a method. Moreover, this contribution informs readers of the public procurements dealing with BIM in Italy. So, in other words, it shows that in Italy, administrative judges have dealt with several public procurements including BIM. The review of the Italian administrative judicial approach to legal BIM has shown two main results. First, although BIM is a new method, the main principles of administrative law still apply. Second, although BIM is a method, several legal decisions have confused it with other concepts, such as modality, software, system, project, methodology, model, or technology. The absence of correct classification by Italian administrative judges might be due to the mistake in the invitation for bids, or due to the fact that the Italian Parliament also needed clarification on the question of method versus methodology.

Keywords: administrative jurisdiction, BIM, Italy, jurisprudence, method

UPRAVNOSUDSKI PRISTUP MODELIRANJU INFORMACIJA O GRAĐEVINAMA: PRIMJENA INTERDISCIPLINARNOG PRISTUPA

Sažetak

Ovaj rad razmatra upravnosudski pristup modeliranju informacija o građevinama (MIG) u Italiji. MIG je odabran kao inovativna metoda projektiranja gradnje. Nadalje, talijanski pravni sustav odabran je kao model jer, iako pravo EU-a potiče zemlje samo na implementaciju elektroničkih alata za modeliranje informacija o građevinama, talijanski zakonodavac utvrdio je njihovu obveznu primjenu. Iako Italija nije dio common-law pravne tradicije, nedavne reforme naglasile su važnost uloge sudske prakse. Stoga rad uključuje istraživanje sudske prakse. Navedeni je pristup inovativan ne samo zato što primjenjuje sudski pristup MIG-u, dok se drugi znanstveni radovi usredotočuju na njegovu fizičku ili pravnu provedbu, već, što je još važnije, izlaže razloge zašto suci griješe ne klasificirajući MIG kao metodu. Štoviše, ovaj članak informira čitatelje o javnim nabavama koje uključuju MIG u Italiji. Drugim riječima, pokazuje da su se u Italiji upravni suci bavili s nekoliko javnih nabava koje uključuju MIG. Pregled talijanskog upravno-sudskog pristupa MIG-u uputio je na dva glavna rezultata. Prvo, iako je MIG nova metoda, glavna načela upravnog prava i dalje vrijede. Drugo, iako je MIG metoda, nekoliko sudskih odluka pomiješalo ju je s drugim konceptima kao što su modalitet, softver, sustav, projekt, metodologija, model ili tehnologija. Nedostatak ispravne klasifikacije talijanskih upravnih sudaca mogao bi biti posljedica pogreške u pozivu za podnošenje ponuda ili činjenice da je talijanski parlament također trebao pojašnjenje o pitanju metode naspram metodologije.

Ključne riječi: upravno sudstvo, modeliranje informacija o građevinama, Italija, sudska praksa, metoda