A MODEL FOR EXPLORING LEGITIMIZATION STRATEGIES USED IN ARCHITECTURAL DESIGN COMPETITIONS

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ABSTRACT

A MODEL FOR EXPLORING LEGITIMIZATION STRATEGIES USED IN ARCHITECTURAL DESIGN COMPETITIONS

Studying the legitimacy of strategic decision has become one of the topical research areas in management due to the increasing demand for ensuring social acceptability and reliability of organizational decisions. Recently, studies dealing with the built environment have also started to examine legitimacy concerns in detail. This thesis aims to explore the concept of legitimacy in the field of built environment by focusing on architectural practice. The main reason to focus on architectural practice is the controversial approaches that prevail about the legitimacy of architectural actions and decisions.

A conceptual model is proposed based on an in-depth analysis of the concepts of legitimacy and strategic decision-making in the context of architectural practice. The proposed conceptual model is validated by analyzing thirty-two architectural design competitions. Pragmatic, moral and cognitive legitimacy strategies are analyzed at different phases of competitions that are guidelines, questions, project and jury reports.

Research findings, based on the analysis of competition transcripts through Histogram and K-means clustering methods, provide valuable information to understand the legitimacy strategies of different stakeholders better. The research findings also guide stakeholders to improve their justifications for achieving more reliable, valid and socially accepted design decisions. The proposed research methodology constitutes an effective decision analysis approach to evaluate the legitimacy strategies in the built environment.

ÖZET

MİMARİ TASARIM YARIŞMALARINDA KULLANILAN MEŞRULAŞTIRMA STRATEJİLERİNİ İNCELEMEK İÇİN BİR MODEL

Stratejik kararların meşruiyetinin araştırılması, örgütsel kararların sosyal kabul edilebilirliğini sağlamaya yönelik artan talep nedeniyle, yönetimde güncel araştırma alanlarından biri olmuştur. Son dönemde, yapılı çevre ile ilgili çalışmalar da meşruiyet sorunlarını detaylı bir şekilde incelemeye başlamıştır. Bu tez, mimarlık pratiğine odaklanarak yapılı çevre alanında meşruiyet kavramını araştırmayı amaçlamaktadır. Mimarlık pratiğine odaklanmanın temel nedeni, mimari eylemlerin ve kararların meşruiyeti hakkında öne çıkan tartışmalı yaklaşımlardır.

Mimarlık pratiği bağlamında meşruiyet ve stratejik karar verme kavramlarının derinlemesine analizine dayalı bir kavramsal model önerilmektedir. Önerilen kavramsal model, otuz iki mimari tasarım yarışması analiz edilerek doğrulanmıştır. Pragmatik, ahlaki ve bilişsel meşruluk stratejileri yarışmaların farklı aşamaları olan şartname, sorular, proje ve juri raporları üzerinden analiz edilmiştir.

Yarışma metinlerinin Histogram ve K-means kümeleme yöntemleri aracılığıyla analizine dayanan araştırma bulguları, farklı paydaşların meşruiyet stratejilerinin daha iyi anlaşılması için değerli bilgiler sağlamaktadır. Araştırma sonuçları aynı zamanda paydaşların daha güvenilir, geçerli ve sosyal olarak kabul edilmiş tasarım kararları alması konusundaki gerekçelerini geliştirmek için paydaşlara yol göstermektedir. Önerilen araştırma metodolojisi, yapılı çevrede meşruiyet stratejilerini değerlendirmek için etkili bir karar analizi yaklaşımıdır.

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LIST OF ABBREVIATIONS

ADC	: Architectural Design Competition
AIS	: Active Information Sheet
DQI	: Design Quality Indicator
RDO	: Risk Defusing Operator

CHAPTER 1

INTRODUCTION

1.1. Problem Statement

When the purposes of (1) *strategic decision-making*, which aims to achieve a competitive advantage and to become compatible with their environment by taking into consideration social, political, moral, cognitive and rhetorical aspects, and (2) *legitimacy*, which aims to achieve "the quality of being reasonable and acceptable" (Cambridge Dictionary), are examined; it is observed that these two concepts are complementary to each other due to their multi-dimensional efforts to be accepted by their environment. While strategic decision-making processes have begun to be examined under the influence of legitimacy in recent organization management studies (Diez-Martin, Blanco-Gonzalez and Prado-Roman 2019, Akintola, Venkatachalam and Root 2017, Barraket and Loosemore 2018, etc.), these issues have been rarely examined in the field of built environment.

In the built environment, projects and services have been conducted in the complex and dynamic relationship networks, where the awareness given to the values of projects and stakeholders is inevitable to attain a competitive place. Because of the value given to the environment, organizations and products, it is important to make strategically valid, reliable and trustworthy decisions. Therefore, it is also critical to question the legitimacy of decisions from the early phases of construction and design projects. Especially in architectural practice, the strategic decision-making process is an intersection point of criticism, communication and judgment. It is because decisions involve various concerns based on subjectivity, personal views and interpretation. Here, it becomes more essential to assess accountability, transparency, fairness and legitimacy of decisions in order to filter out these concerns arising from attitudes of different stakeholders.

In the light of the above considerations, this thesis finds answers to three main research problems. It first queries how to reveal the relationship among studies in organization management and the built environment, which focus on the issue of strategic

decision-making. As a result of this inquiry, a map of strategic decision-making approaches is figured out to analyze differences between the two domains.

Second, how legitimacy affects the strategic decision-making process is examined to understand how to evaluate the legitimacy strategies of the different decision-makers by emphasizing the roles of legitimacy strategies.

How the effects of legitimacy analysis in strategic decisions at the built environment are differentiated is further examined with a focus on architectural practice. This is done to understand in which ways stakeholders being legitimate and strategically competent in the domain of the built environment.

1.2. Aim and Significance of the Study

Studies in the built environment collaborate with a wide variety of disciplines based on the discourses of both natural and social sciences such as Economics, Sociology, Psychology, Law, operations and technology. Due to this collaboration, it is undeniable that changes in one of these disciplines also affect theoretical and practical approaches. Besides, any practical action operates in a complex relationship network, which makes this action proper both for the external aspects such as cultural, political, social, economic, legal, technical, psychological, psychical and for internal aspects related to concerns about human and non-human resources.

Since the concept of legitimacy tries to explain the acceptability of decisions by making use of many disciplines, it plays a crucial role both in making the built environment actions appropriate for practical demands and in bringing them to the ultimate level in the theoretical sense.

Hence, this thesis aims to integrate the attributions of legitimacy concept to the built environment actions in the field of strategic decision-making. Thus, stakeholders could understand the conceptual contributions of various disciplines to achieve legitimate strategic decisions in their practical actions.

Besides, strategic decision-making is an ageless research interest in organization management theory and practice. Although the legitimacy of strategic decision-making is a constantly developing research topic in organization management, it is not investigated on an adequate level in the studies about the built environment discipline and practice.

Due to the lack of analyses on legitimacy in the built environment, this thesis also aims to figure out a general perspective to the different legitimacy approaches in decisions taken at the built environment. The thesis later proposes suggestions to improve these decisions by taking into consideration the attributes of legitimacy.

This thesis emphasizes that it is crucial to further explore the existing relationship between strategic decision-making approaches and the concept of legitimacy and to conduct necessary transformations of this relationship to be appropriate for and applicable to the built environment. It is because strategic decisions directly influence the competitive, social, cultural and moral positions of stakeholders, which are mostly related to indicate the legitimacy of these stakeholders in their related context or environment.

In the literature of both organization management and built environment, although there are numerous decision-making models, they mainly focus on literature analyses (Jato-Espino et al. 2014 and Tam, Tong, and Chiu 2006) and problematic issues to solve in organizational actions such as improving contactor prequalification (Nieto-Morote and Ruz-Vila 2012), analyzing behaviors of stakeholders in construction project related decision strategies (Yang, Wang, and Jin 2014), etc. Yet, there is not a specific model directly for analyzing legitimacy strategies of stakeholder's decisions in the strategic level especially in the studies of the built environment.

In the light of these considerations, the primary objective of this thesis is to investigate the legitimacy strategies of stakeholder decisions in both theory and practice of the built environment. Thus, this investigation leads to contemplate on emerging concepts and insights for associating legitimacy and strategic decision-making concepts on the ground of built environment practice and theory.

As a secondary objective, a practically applicable and effective decision analysis model will be designed to achieve above mentioned investigation, differing from the existing legitimacy analysis methodologies in the literature such as interviews, questionnaires, empirical, statistical and discourse analyses (Gutiérrez and Magnusson 2014, Barros 2014, Akintola, Venkatachalam and Root 2017, Diez-Martin, Blanco-Gonzalez, and Prado-Roman 2019, etc.).

In the implication phase, the secondary data based on real-world case study, Architectural Design Competitions (ADCs), will be coded and analyzed with respect to the three strategic legitimacy indicators that are pragmatic, moral and cognitive. The reason for choosing three strategic legitimacy indicators proposed by Suchman (1995) is being them related to contextual and relationship-related issues such as moral, legal,

social, political, economic and exploratory concerns. The reason for selecting ADCs which is a sub-domain in the practice of built environment, as a case study is the controversial issues in the evaluation and judgment phases of competitions with respect to subjectivity, personal approaches, transparency and fairness concerns in the architectural practice. Thus, the analysis about the legitimacy strategies in different phases of competitions ensures various outcomes depending on the legitimacy approaches of different stakeholders.

After examining the objectives mentioned above, this thesis aims to guide stakeholders in the built environment about the following issues;

- To make legitimate strategic decisions by considering pragmatic, moral and cognitive insights of decisions,
- To encourage stakeholders to contemplate theoretical, social, psychological, rhetorical, economical, rational, cultural, political aspects of their decisions in the consideration of legitimacy,
- To propose feasible and trustworthy legitimacy suggestions to improve the practical actions through the legitimacy assessments by using the proposed model.

1.3. Outline

This thesis comprises five main chapters. The first chapter emphasizes the problem statement, the aim and significance of the study, the outline and the approach of the thesis.

The second chapter provides the conceptual and theoretical backgrounds of the thesis by explaining decision-making theories and the concept of legitimacy in both organization management and the built environment theory and practice. It also explores the relationship of legitimacy concept and strategic decision-making in architectural practice.

The third chapter constructs the methodological background by presenting selected methodological approaches, Active Information Sheet (AIS) and Storytelling, for conducting legitimacy analysis in strategic decision-making processes. The conceptual research methodology will be proposed as a result of this chapter.

In the fourth chapter, selected case studies, thirty-two architectural design competitions (ADCs) organized in Turkey, are analyzed through the adapted conceptual research methodology. In the end, the research findings are discussed.

Finally, the fifth chapter summarizes the overall approach and limitations of the thesis and points outs its contribution to the architectural practice and the built environment.

1.4. Approach

Proposing scientific research requires the definition of ontological, epistemological and theoretical positions to find the ways of constituting knowledge.

In this thesis, first, Critical Realism is the dominant approach as ontologically and epistemologically. It is because reality is assumed to consist of stratified causal relationships that are independent of the manipulation of researchers, who perceive and interpret the reality (Morris 2013). The reality to analyze for this thesis is legitimacy. The process of analyzing legitimacy is critical because each interpretation of the complex and multilayered reality can cause to emerge different inferences.

Second, from the viewpoint of theoretical positions, Interpretivist, Postmodern, Pragmatic (to investigate the complex network of relationships), as well as Post-positivist frameworks (to execute technical, operational aspects), are observed (Dainty 2008).

In terms of research strategies (or methodologies), both qualitative and quantitative approaches have been applied by both including inductive and deductive processes to acquire knowledge. Accordingly, data is analyzed and interpreted and usage or generation of the theory are tested by using sampling and fieldwork methods. For the choice of research methods, a pragmatic and coherent approach is dominated.

Throughout the research, avoiding bias and being neutral in the phases of data collection, analysis and interpretation are important to achieve an objective position. The acquired knowledge is filtered by systematic analyses and interpretations to achieve valid, reliable, verified and generalizable inferences.

Achieving methodological pluralism in the research causes drawing general frameworks about conceptualizing legitimacy more consciously. Since the studies about the built environment have an interdisciplinary background, focusing on only one theoretical position is not sufficient to achieve pluralistic knowledge. Transformations

and interactions between different philosophical, theoretical and methodological approaches are also reflected in developments in this thesis.

While the Modernist perspective underlines the importance of the explanatory power of analyses via mathematical and quantitative methods for achieving inferences about organizations based on causal connections; the Interpretive perspective emphasizes the subjective understanding and interpretation of organization processes about culture, personal and social relationships, etc. (Hatch 2018). With the Post-modern perspective, the thesis has a critical and aesthetic position to Modern perspectives and comprehends the importance of moral and ethical organization management (Hatch 2018).

Objective, universal and generalizable characteristics of knowledge that base on rational and realist foundations have been altered after conceptualizing the multi-realities via interpretation and linguistic approaches in Symbolic-Interpretive and Post-modern approaches (Dainty 2008). Thereby, the plurality of theoretical positions has caused to reveal Multi-Strategy Research approach, mainly influenced by Pragmatism, which includes both aspects of Post-positivism, Interpretivism and Post-modernism. The main reason for the pragmatic tendency is due to the goal-driven nature (teleology) of management studies, that is, objective and subjective knowledge can be acceptable if it fits the purpose (Morris 2013). Therefore, research methodologies that include mixed strategies for processing knowledge generation enrich after being influenced by considering different theoretical positions. Moreover, mixed-method strategies are fundamental due to the nature of the built environment for achieving proper research planning and successful data collection, explicitly and operationally defining theoretical concepts for achieving adequate and accurate results (Abowitz and Toole 2010).

This thesis aims objectives to be examined by adopting a conceptual model for achieving legitimacy in strategic decisions for the context of built environment. This will be carried out after synthesizing the outcomes of an in-depth review conducted on the body of knowledge about strategic decision-making and the concept of legitimacy.

The proposed conceptual model will be applied to the case studies. The unit of analysis is both projects and/or organizations. It is because the legitimacy strategies can be conducted on both organizational and project-specific relationships.

Throughout the data collection, analysis and interpretation phases, mixed research methodologies are preferred for several reasons such as dealing with hard and soft data together, coping with limitations of single research strategies and to increase the explanatory power of the research for better comprehending the complex paradigms of

relationships (Abowitz and Toole 2010). Quantitative strategies examining relationships among variables in a numerical way are used for achieving unbiased and generable findings, proper research planning and successful data collection (Creswell and Poth 2016, Creswell and Creswell 2017). They are also assisted in explicitly and operationally defining theoretical concepts for achieving adequate and accurate results. On the other hand, qualitative strategies having an interpretive, non-standardized approach to the social circumstance are used for exploring changes, behaviors, experiences, conflict (Creswell and Creswell 2017, Creswell and Poth 2016, Ritchie et al. 2013). After applying the conceptual model, descriptive statistical analyses are conducted to explore the research findings. Quantitative results are later transformed into qualitative statements to propose strategies for developing decision-making processes in both practical and theoretical aspects of the built environment. As a result, quantitative strategies that deal with the causality and generalizability of facts objectively and qualitative strategies that aim to indicate constitutions of reality subjectively have begun to interact.

CHAPTER 2

CONCEPTUAL AND THEORETICAL BACKGROUND

Two fundamental concepts constituting the conceptual and theoretical background of the thesis, strategic decision making and legitimacy, and their relationship with architectural practice will be examined in this chapter.

Although strategic decision-making is one of the topical research areas in organization management and the built environment studies, there are several differences in their analysis approaches. To better understand these differences, the conceptual and theoretical developments in decision-making approaches will be investigated. Moreover, how these theories are associated with the management discipline and the domain of built environment is aimed to be explained with practical applications. The main purpose of this literature survey is to understand the deficiencies and competencies in the different decision-making approaches and to enhance the approaches studied in the built environment.

After analyzing strategic decision-making approaches in the organization management and built environment studies, the relationship with the second concept of the thesis, legitimacy, will be aimed to be inquired. The concept of legitimacy is discussed from various perspectives. First, legitimacy as a concept will be analyzed, with an emphasis on its roles, elements, types and assessment approaches. Then, how legitimacy is examined in the organization management and the built environment studies will be analyzed.

Finally, the conceptual relationship between these two concepts mentioned above and their integration into different architectural practices will be explored by thoroughly analyzing their conceptual, theoretical, taxonomic and practical aspects. Their integration to architectural practice will be further explained by constructing schemas and giving examples from the architectural practice.

2.1. Strategic Decision Making

Decision-making can be defined as the process to obtain a decision that is resulted by considering constraints in the direction of the intended objectives and by analyzing the properties and value judgements of the situation. In other words, decision-making is a selection process under the circumstances of uncertainty, probability and possibility. In such indefinite and fuzzy conditions, decision-making approaches differ due to the ways of evaluating these conditions.

In organizations, the complexity of decisions increases depending on levels of management that are defined under three headings: operational, administrative and strategic. While decisions taken at the operational level are related to productivity and technical concerns that are short-term, task-oriented and including low uncertainty. Decisions taken at the administrative level are mediators between operational and strategic levels by focusing on the relationship between lateral and vertical relationships (Langford and Male 2001). Nevertheless, decisions taken at the strategic level are the most challenging decisions due to their high levels of uncertainty, lack of information and the ambiguity of decision-making process (Langford and Male 2001). Decisions in the strategic level of management are unstructured and have long-term effects that determine the position of organizations in their external environment (Langford and Male 2001).

Rosenzweig (2013) indicates two dimensions that define the reasons for differentiation in the strategic levels of decisions: *control* and *performance*. According to Rosenzweig (2013), *control* indicates the competency to act in decisions. *Performance* emphasizes the complexity of factors, which affects discernment and versatility aspects of decisions. Their different degrees of these relationships set the competitive and strategic power of decisions. Rosenzweig (2013) suggests a quadrant that depends on low or high control and absolute or relative performance levels.

The first part of the quadrant defined as “making judgments and choices” has low control and absolute performance. Decisions made under this quadrant are related to the minimization of biases among decision relationships that are about purchasing issues, misunderstandings, investments, etc. (Rosenzweig 2013).

The second part of the quadrant defined as “influencing outcomes” has high control and absolute performance. Decisions made under this quadrant target more

performance developments such as optimizations to get the desired result (Rosenzweig 2013).

The third part of the quadrant defined as “placing competitive bets” has relative performance and low control. The success of decisions made under this quadrant is related to others. Competitions, controlling others’ activities and behaviors become important to make the right decisions to achieve success (Rosenzweig 2013).

The fourth part of quadrant defined as “managing for strategic success” has high control and relative performance. Decisions made under this quadrant directly influence the strategic power and success of decision-makers. In this quadrant, decisions made better than others lead to achieving the competitive and strategic power of decision-makers (Rosenzweig 2013).

In this section, a holistic research approach is aimed to be proposed to better understand the reasons for differentiating strategic decision-making approaches by further analyzing related theories concerning;

- their conceptual constituents, factors and challenges for setting objectives of decisions,
- developments of different decisions-making approaches in the literature and their time-wise relationships,
- practical implications emphasized in the studies of organization management and the built environment.

2.1.1. Related Concepts

Decision-making in organizations includes both managerial processes, which focus on thinking and planning, and psychological and social processes, which deal with culture, values, belief and thinking, legitimacy and internal dynamics of organizations. Trade-offs between the above-mentioned factors result in achieving socially acceptable, supportive, policy-making decisions (Roberto 2004). As it is seen, the decision-making process needs to be designed by taking into consideration conceptual and contextual relationships. The complexity of these relationships arises from the multidisciplinary approach of decision-making theories.

To examine the contributes of the multidisciplinary approach, Economics and Statistics describe the rational aspects of decisions. Psychology includes behavioral and

cognitive sciences and therefore causes to contemplate on concepts of biases, heuristics, cognitive styles, intuition, tolerance, etc. Sociology analyzes transparency, communication, stakeholder relationships, symbolic approaches, ethics and social values. Politics focuses on power, authority, conflict, control of information, etc. Organization theory deals with the concepts of organizational structure, decision strategies, innovation, risk and uncertainty, levels of decision making, urgency, proximity, and strategic thinking (Table 2.1).

As it is seen from the table below, decision-making is not solely an instinctive process. For instance, the concept of rationality enables decision-makers to think about the quantitative consequences of decisions. Concepts of biases, cognition, conflict, tolerance, strategic thinking, etc. remind decision-makers that there are optional decision conditions that raise possibilities. Concepts of politics, social values, conflict, transparency, communication, symbolic approaches, ethics, levels of decision making, etc. assist decision-makers to position themselves in the external environment.

Realizing determinant factors, values and elements of decisions are also as much important as contemplating on the multidisciplinary background of strategic decision-making approaches to make appropriate decisions and to meet their contextual requirements.

In the literature, the decision-making process comprises three key factors that are information, preference and decision (Shapira 2002). The factors should meet the requirements of certain criteria such as option generation, option choice, assessment of value, uncertainty, bias, flexibility and cognitive aspects (Shapira 2002, Gutiérrez and Magnusson 2014). At this point, values and elements of decision-making are important concepts to understand for making effective decisions.

Sinofsky and Iansiti (2009) summarize decision-making values under five main headings for driving integrity in decisions. Five decision-making values are (1) accountability, (2) system focus, (3) quality and completeness, (4) measurement and validation, (5) learning and dynamic.

Accountability deals with empowerment, delegation; and indicates who makes which decisions as a feedback loop for coherence and commitment in decisions.

System-focused decision-making emphasizes the importance of systematic thinking including trade-off phases by explaining how decisions are made.

Quality and completeness are related to the outcome for achieving integrity, creating value and the ability to fitting various circumstances.

Table 2.1. Concepts Related to Strategic Decision-Making.

Concepts	Objectives
Rationality	Dominated by **Positivis**t approach; focusing on **optimal** results by utilizing quantitative approaches (Kenny and Downey 1987; Stingl and Geraldi 2017)
Biases and heuristics	Aim to explain good or bad by following a **subjective judgment** and using **intuitive procedure** (Busenitz and Barney 1994) Heuristics as **mental shortcuts** to make a better decision; can be lead to cognitive biases and errors in judgements (Drury-Grogan 2017)
Cognitive styles	About **perceiving, thinking, learning and solving** concepts; managers cognitive styles in the construction industry; Knowing – Analytic-, Creating –Innovative- and Planning – Coordinating operations- (Esa, Alias, and Samad 2014) Cognitive ability; use of **Intuition, Tolerance to Risk, Propensity to Act** (speed of demand) (Wally and Baum 1994)
Intuition	Sensitivity to achieve a holistic approach of decision making by introducing "**volitional" and "malleable" perspectives** (Wally and Baum 1994)
Tolerance	**Psychological flexibility** under risky circumstances (Wally and Baum 1994)
Transparency	Validated with the concepts of (1) **being the truth**, which is being "objective and effective", (2) **legitimacy**, which is "rightfulness to social norms", and (3) **authenticity**, which is "the consistency of values" (Wene and Espejo 1999)
Communication	Function **for achieving commitment** to the solution (Kenny and Downey 1987)
Symbolic approaches	Way to reveal **meaning** and to express **character and emotion** (Brown 1994)
Ethics	About being **fair, appropriate**
Social values	Connected to define organizational **value preferences**, **power** and **network of relationships** (Brown 1994)
Politics	Defining the **tactics for influence** and **policy-making** by taking into consideration structural, demographical and power relationships (Shapira 2002, Grandori 2015) in contrary views (Kenny and Downey 1987)
Power	Shaping the premises of decision-making and enables **control** on critical circumstances and provides the **ability to act** (Brown 1994, Shapira 2002, Grandori 2015) 3 levels; Personal, Positional, Subunit power (Kenny and Downey 1987)
Conflict	Related to the issues of **Negotiation, Communication and Equity** (Grandori 2015)
Organizational structure	Important to take into consideration because **Flexibility, Ability to learn** and **Pluralistic approaches** are crucial for decision-making processes (Grandori 2015)
Control of information	Related with **managerial and communication capabilities** that are used for representing **status** and building up **an authority** (Kenny and Downey 1987)
Decision strategies	Related with **Rules and/or approaches of choice**, Learning and Searching (Grandori 1984)
Innovation	Producing **Creative, New and Beneficial** (Busenitz and Barney 1997)
Levels of decision making	Levels; **Strategic, Tactical, Operational** decisions Levels of organizational decision-making Hierarchy; Instantaneous decisions, Actions, Events, Mini processes, Processes and Theatres (Kriger and Barnes 1992)
Urgency	To give an **immediate return** (Yang, Wang, and Jin 2014)
Proximity	To achieve **effective stakeholder relationship** (Yang, Wang, and Jin 2014)
Strategic thinking	Defining **Critical objective** by considering internal and external circumstances (Steptoe-Warren, Howat, and Hume 2011)

Measurement and validity in decision-making include assessment of technological, market needs as well as the historical background and performance to resolve different perspectives.

Learning indicates the performance and appropriates of decisions to value systems for accountability.

Dynamic learning analyses the double-loop learning stages that are used to analyze technology and market changes as well as uncertainty (Sinofsky and Iansiti 2009).

Cray et al. (1988) indicate five *elements* of decision making, which are (1) *scrutiny* that consists of "expertise, disparity, externality and effort", (2) *interaction* that emphasizes "informal, formal interactions and scope of negotiation", (3) *flow* that consists of the concepts of "disruption and impedance", (4) *duration*; "gestation and process of time" and (5) *centrality*; "levels".

As a result, both conceptual and contextual domains and decisions' factors, values and elements must be taken into consideration in decision-making processes to achieve efficient and effective results. However, how decision-making approaches vary depends on the position of decision-makers to these circumstances.

2.1.2. Classification Approaches

While the rational, pragmatic and objective insights about decisions of organizations have been initially necessary to gain the competitive advantage; over time, articulating environmental, social, structural and personal contexts as domains of the organization have led to an increase in the complexity of the decision-making process and thus the emergence of different decision-making approaches.

Studies conducted in the literature categorize current decision-making approaches in various ways (Table 2.2). As seen in the table below, different perspectives are used to determine the characteristics of the different decision-making approaches.

To make a general conclusion from the table below, it shows that the approaches are clustered around the four main conceptual headings; (1) *rational/analytical*, emphasizing scientific and systematic approaches, (2) *political*, focusing on relational aspects of decisions such as concerns of power relationships, conflict and communication, (3) *symbolic*, emphasizing social issues such as legitimacy, interpretation and commitment and (4) *cognitive/microscopic*, as an emerging research focus, dealing with the effects of intuition, emotion, cognition on decision-making processes.

Several studies also attempt to group different decision-making approaches by considering time-wise, ontological and epistemological positions. These are grouped under several general headings such as (1) classical and neo-classical (Simon 1979) accordance of considering social and cognitive concerns or not, (2) persistence and nascent (Hodgkinson and Starbuck 2008) accordance of considering cognition or not, (3) reductionist, pluralist and contextualist (Stingl and Geraldi 2017) accordance of considering cognition, social concerns or not and (4) normative and descriptive (Drury-Grogan 2017) accordance of considering rational or contemporary approaches (Table 2.2).

Table 2.2. Classification of Organizational Decision-Making Approaches and Objectives.

References	**Classification of Organizational Decision Making Approaches and Objectives**			
Sipp (2012)	***Analytical***		***Experimental***	
	Focusing on problem definition, identification and evaluation steps		Focusing on implementation steps by creating "feedback loops" to adjust decisions	
Gutiérrez and Magnusson (2014)	***Rational***		***Informal***	
	Maximum return Managing risk Systematic Including cognitive limitation Ignoring heuristics and ambiguity Preferable when alternatives exist		Interaction Learning Intuitive logic Interpreting Causality Necessary for uncertainty and novelty	
Hodgkinson and Starbuck (2008)	***Existing/Persistence***		***Nascent***	
	Dealing with considerations of formulations, behavior, mental modes, cognitive, experimental, power and politics, sense-making, perception		Dealing with microscopic behavior such as expert decisions in a specific context, intuitive reasoning, cognitive neurosciences, emotions	
Grandori (2015)	***Logic***		***Politics***	
	Dealing with the concepts of rationality, cybernetic, innovation and knowledge discovery		Dealing with the concepts of power and control, conflict resolution, communication, the flexibility of the organizational structure	
Preffer and Salancik (1974)	***Rational***		***Political***	
	Focusing on alternatives by identifying the problem and making comparisons		Power considered as resource allocation Decisions are elements of political power and influence on organizational behavior	
Shapira (2002)	***Economical***	***Political***	***Symbolic***	***Coordinating***
	Normative and positivist approaches to deal with risk, optimization and performance	Dealing with policy-making; structural, demographical and power relationships	Dealing with social legitimacy, interpretation, commitment and support	Game theory, team risk coordination and equilibrium
Drury-Grogan (2017)	***Normative***		***Descriptive***	
	Rational, optimal, profit maximization, sequential steps to decision processes		Including choices of decision-makers, perception; think, act, communication, collecting, learning and adapting	
Simon (1979)	***Classical***		***Neo-Classical***	
	No illusion, single formula, no description about the process of human being		Experimental, considering human problem solving, satisfying goals, learning and adaption *later on as a 3rd phase; social science, human choice and capacity is discussed	
Stingl and Geraldi (2017)	***Reductionist***	***Pluralist***	***Contextualist***	
	Optimal and normative decisions, positivist, consequential, systematic, quantitative, experimental	Good decisions, sub-optimal decisions, pragmatic, mixed strategies, biases within the personal interest	Relevance with context, right decisions, sense-making, belief, culture, narratives, constructivist, qualitative strategies	

Strategic decision-making has been an important research area in organization management that has been updated since the 1930s. It is constantly progressing due to the complex relationship networks and critical positions that determine the success of organizations. Although there are general approaches that frame the main objectives of decision-making approaches (Table 2.2), various decision-making theories have emerged with the effects of historical events and developments.

Statements about different decision-making methodologies discussed in the literature have been analyzed and categorized by indicating their properties and objectives in Table 2.3 and time-wise relationships in Figure 2.1.

Table 2.3. Decision-Making Theories.

Date	Theory	Main properties and objectives
The 1930s	**Rational organizational decision making**	Aim to know **all alternatives and results**; problematic results about not knowing about **all information** (Hodgkinson and Starbuck 2008) Sequential (phases; recognize, define, identify, develop, evaluate, implement and evaluate outcome) (Kenny and Downey 1987) Developing **tactics and formulations** for reconfiguring idea, problem and target (Nutt 1992) based on Microeconomics theory (Turpin and Marais 2004) pioneers: Simon
	Beginning of empirical studies	**Rationality limiting the capacity of the human mind** (Hodgkinson and Starbuck 2008) Analyzing decision-making elements and processes (Kenny and Downey 1987) Testing rationality via empirical analysis; Practical implications appeared under "Marginalism" in the 1950s (Simon 1979) pioneers: Mintzberg, Nutt (Kenny and Downey 1987)
The 1940s	**Bounded Rationality under Administrative Behavior**	Aiming to reformulate Economic theory by describing **social, legal structures and market demands** (also called Institualism) (Descriptive theory that accepts the existence of errors and cognitive limitations in decisions) (Simon 1979) **Achieving rationality in the decision-making is difficult** due to the capacity of the mind is **limited** for achieving results (Hodgkinson and Starbuck 2008) Introducing terms of "satisficing and search" (Turpin and Marais 2004)
The mid-1940s	**Effect of WWII**	Management theories focus on descriptive analysis rather than prescriptive (Operational, Optimization, Rule-based) analysis
The 1950s	**Political Economy**	Introducing the concepts of Sociology and Psychology to Economics theory by reconsidering Economics theory with "**falsification and satisficing"**; Economic decisions are taken by considering **political networks** (Simon 1979)
	(Expected) Utility theory	Before- focusing on **Utility maximization deductively** based on Economics and historical conditions, later (after WWII)- **Human choice is included** by defining utility (subjective expected) (Simon 1979, Suda et al. 2015, Drury-Grogan 2017, Hodgkinson and Starbuck 2008) pioneers: Edward (Hodgkinson and Starbuck 2008)
	Behavioral studies	beginning with Utility theory, continuing with Heuristics in the 1980s (Hodgkinson and Starbuck 2008)

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Table 2.3 (cont.)

The 1960s	**Incrementalism in decision making**	**Focus on the process** rather than achieving the goal by emphasizing learning, feedback and adjustment steps in decisions; "means and ends" are intertwined (Sipp 2012)
	Contingency in decision making	Decisions based on **cause-effect relationship and preferences** (four types; Computational, Judgmental, Compromising, Inspirational) (Grandori 1984) Appropriateness of decisions to **uncertainty and risk situations** (Suda et al. 2015)
Between the 1970s &1980s	**Interpretation in decision making**	Considering the **organization as an Interpretation system** consisting of the idea, belief, communication and preferences; **Sense-making** is important for analyzing changes in perceptions, goals and conclusions (Hodgkinson and Starbuck 2008)
The 1970s	**Actual decision making**	Rather than focusing on sequential, factual aspects of decision-making (normative), Consensus on considering decision-making as **iterative, complex, including biases and misperceptions (descriptive)** (Hodgkinson and Starbuck 2008)
	Garbage can approach	Constituting in a **pluralist environment**; **multiple actors and views** for achieving a consensus by considering the organization as a whole (Sipp 2012) Antithesis of normative models in terms of dealing with "ambiguous relationships" (Drury-Grogan 2017) Different from the political approach in terms of dealing with "deliberate manipulations" rather "chaotic nature" (Turpin and Marais 2004) pioneers: Cohen (Sipp (2012)
The mid-1970s	**Political decision making**	Decision-makers interested in outcomes; **Power** (individual or structural) in the decision process defining political activities; **bargaining, negotiating, lobbying** (Kenny and Downey 1987) Decision process is ruled by goals, values and information (Turpin and Marais 2004) Appearing in the circumstances of **conflict, power relations** and **self-interest**; Existing in the Coalition organization model of the organization where conflict and power exist rather than bureaucratic or professional groups (Pfeffer and Salancik 1974) Existing in the differentiation of thoughts; can be either "proactive (promoting self-interest)"or "reactive (protect self-interest)" (Çetin and Pekince 2011) Rationality included in a political context; Communication for achieving rationality and legitimacy of actions, creating visions; Decisions resembling the game of power that factors of decision-making are constructed on power and politics (Hodgkinson and Starbuck 2008) pioneers: Pettigrew and Preffer
Between the 1980s and 1990s	**Image theory**	Priority on decision-makers' **goal and compatibility**; Considering information as "images, frames and communication schemas" (Drury-Grogan 2017) Emphasizing on "right"-values, ethics, beliefs, moral- rather than "maximization" and "fittingness to context" (Beach 1990)
	Prospect theory	Framing the problem via "**mental structures"** as representations that consisting of two steps; (1) Framing alternatives –gain, lose, act, contingency circumstances- and (2) Valuation of alternatives –indicating prospect value and chose the alternative- (Drury-Grogan 2017)
The 1980s	**Heuristics in decision making**	**Biases and heuristics** explain bad or good, based on the "informal rule of thumb" (intuitive), can be beneficial for achieving innovative decisions (Busenitz and Barney 1994) Type1-"Availability heuristics"-: recall past, expect it in the future, may fail (Kahneman's perspective of heuristics) Type2-"Representativeness heuristics"-: generalization, reducing information, may cause poor judgements Type3-"Fast and frugal heuristics"-: match information structure and environment, ending up fewer biases and errors (adaptive approach) (Hodgkinson and Starbuck 2008) steps: Discover, Analyze problems, Develop options, Determine consequences (Tiainen 2014)
	Organization Procedure view	Decisions as Procedures, Codified organizational experiences; Experience as Ensuring activity to achieve rationality and outcome (Sipp 2012) The systematic way to maintain the cost of action considering rules and procedures (Turpin and Marais 2004)
	Individual difference theory	Focusing on **problem-solving behavior of individual manager**; style, personality, background, ability to use rational tools, etc.(Turpin and Marais 2004) Different managers; Different conclusions (Sipp 2012)

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Table 2.3 (cont.)

The mid-1980s	**Behavioral decision theory**	Human choice as Maximizing subjective expected utility; Facts can be differed by **human preference**; Extended view of **Economics approach by introducing Heuristics** (Hodgkinson and Starbuck 2008) Conducting empirical and experimental analyses in labs, as case studies (Simon 1979) Revealed due to understanding Actuality of decisions, reasons of Over-optimization and Inefficient risk management (Stingl and Geraldi 2017) Behavioral decisions include descriptive aspects; choices of decision-maker and how perceiving uncertainty affecting results (Drury-Grogan 2017)
End of the 1980s	**Mental modes in decisions**	Simplified internal representations; **Schemata, Scripts or Cognitive maps**; Design decision process for making appropriate cognitive change (Hodgkinson and Starbuck 2008)
The 1990s	**Adaptive decision making**	**criticizing Behavioral studies due to incomplete explanations** only focusing on cognitive capacities; Emphasizing on cognitive and experimental aspects that affect the decision-making process is taken into consideration and Ecological rationality that indicates the importance of environmental relationship (Hodgkinson and Starbuck 2008)
The mid-1990s	**Naturalistic decision making**	Analyzing **decision context** which is complex and causes ill-structured decision under uncertain time and risk circumstances (Drury-Grogan 2017; Hodgkinson and Starbuck 2008) Primed decision making; for making fast and error-free decisions by analyzing the ability of managers and their previous experiences (Turpin and Marais 2004; Hodgkinson and Starbuck 2008) Having an empirical foundation; experience increases personal recognition ability (Turpin and Marais 2004) 2 steps; Identify mental process (read, recall, decide) and Determine (a prescriptive view) (Drury-Grogan 2017) concepts: experience, recognition of context **(**Sipp 2012) pioneers: Gigerenzer, Klein (Hodgkinson and Starbuck 2008)
	Multiple perspectives	Analyzing different angles; organizational, technical, individual and other participants thoughts **(**Sipp 2012) 5 levels; **Technical/analytical, Organizational, Individual, Ethical and Aesthetic perspectives** (Turpin and Marais 2004)
The 2000s	**Intuitive/cognitive neuroscience**	Dual-process theories; Automatic –cutting information and fast- and Analytic –detail analysis- (Hodgkinson and Starbuck 2008) **Analysis cognitive styles about perception, thinking, learning and solving**; Intuition about the right brain; analysis about the left brain; 3 style of managers; Knowing, Creating, Planning (Esa, Alias, and Samad 2014) Cognitive capability, Working memory, Long-term memory issues in individual and organizational decision-making scales (Shapira 2002) pioneers: Lieberman (Hodgkinson and Starbuck 2008)
	Narrative approach	**Sociology based approach**, uses language, forms, action and symbols to interpret, making cognitive effects (Shapira 2002).
	Effect of speed	Analyzing relevant data, **multiple alternatives simultaneously** to make fast decisions (Sipp 2012)
	Cognitive biases	Heuristics can cause cognitive biases, **systematic errors that are affected by irrelevant information** (Drury-Grogan 2017) types: Fundamental attribution errors, Self-serving bias, Confirmation bias, Belief bias
	Emotional decision making	Effects of **emotions** on conscious and decisions (Hodgkinson and Starbuck 2008)

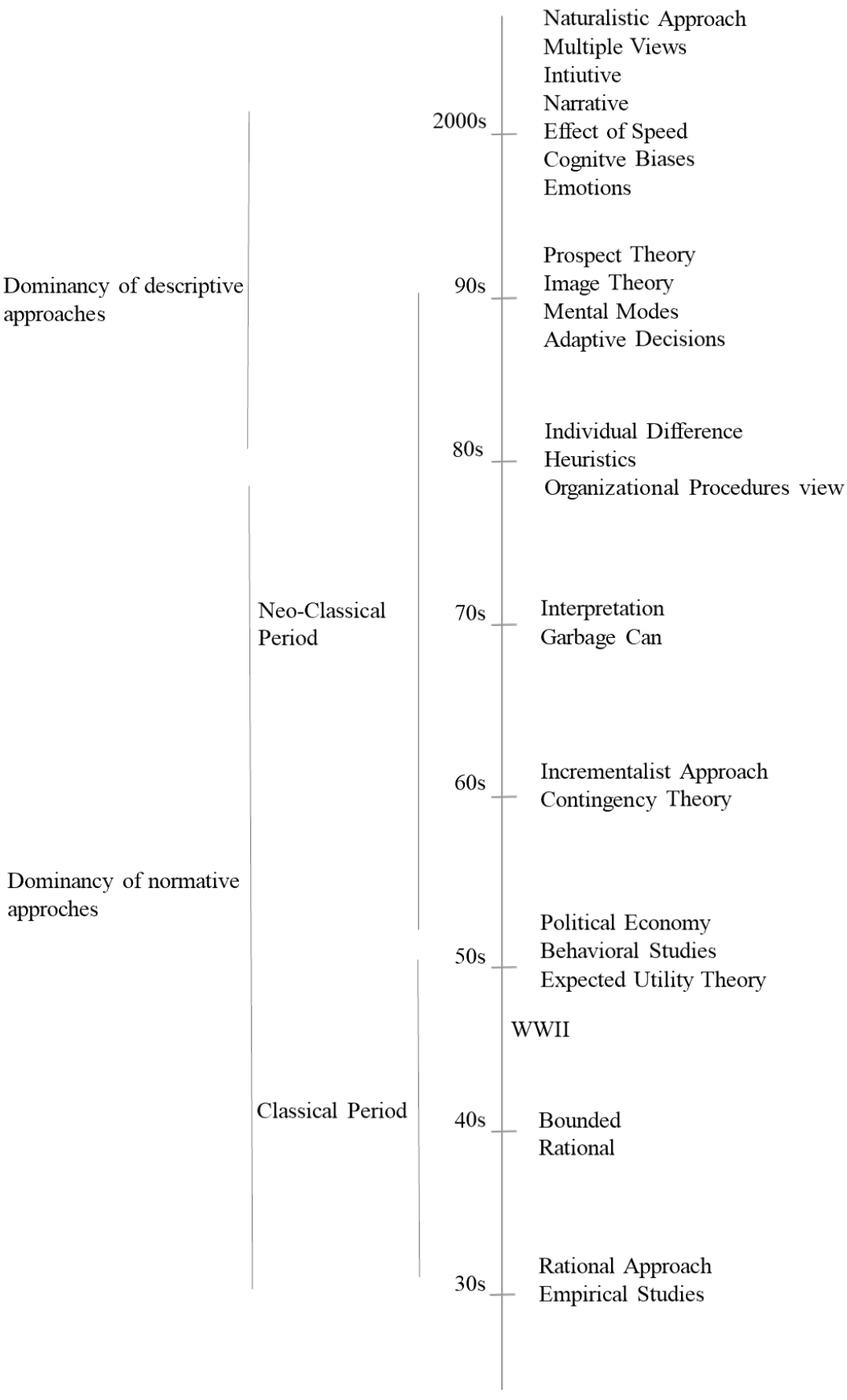

Figure 2.1. Time-Wise Relationship of Decision-Making Methodologies.

To mention briefly the table and figure above, in the classical period, rational decision-making was the dominant approach. After World War Second, which is called the neo-classical period, descriptive analysis was introduced to the decision-making processes. Subsequently, numerous theories developed the decision-making processes by expanding their social, political, procedural, intuitive aspects. For instance, Political Economy theory has caused decisions to consider political networks. Expected Utility theory has revealed the subjective utility of decision by considering human choice.

In the late 1950s, behavioral theories were introduced to strategic decision-making processes. After that, many theories have been introduced in the literature. For instance, Incrementalism theory for deconstructing decision-making process, Contingency theory for analyzing cause-effect relations, uncertain and risk, Interpretation for investigating systems of thinking through decision-making, Actual decision-making theory for analyzing biases and misperceptions, Garbage Can theory for investigating multiple actors in the process, Political decision-making theory considering the concepts of power, negotiating, conflict in the relationship, Image theory for structuring the information of decision-making process by considering values and context, Prospect theory for investigating mental structures have contributed to developing decision-making processes by enriching their conceptual backgrounds.

With the 1980s, it was observed that descriptive approaches dominated rather than normative approaches. Heuristics, Organization Procedure view and Individual Difference Theory have led to emergency of many theories, which have focused on behavioral, cognitive, contextual, ethical, emotional and systematic concerns of decision-making processes, such as theories of Behavioral, Adaptive, Naturalistic, Multiple Perspective, and approaches of Mental Modes, Narrative, Effect of speed, Cognitive biases and Emotional thinking (Table 2.3).

After summarizing the objective and main properties of decision-making theories in the literature (Table 2.3), it is obvious that there is not a distinct separation to generalize decision-making theories. Considering the historical, practical and theoretical developments in the literature, the concepts and contextual relations of the theories have been constantly overlapping.

Although numerous theories contribute to understanding the decision-making process, they are evaluated over a triple structure in this thesis. Accordingly, the holistic approach for decision-making theories are aimed to be figured out in Table 2.4 by interrelating (1) *theoretical approaches*; pluralist/pragmatic, reductionist and descriptive

and (2) *general classification approaches* of theories; political, normative/rational, cognitive/behavioral and social/contextual (discussed in Table 2.2) with (3) *key concepts* for indicating properties of theories (discussed in Table 2.3).

First, in theoretical approaches, (1) *reductionist* perspectives restrict the point of view to evaluate decision-making processes. They are either (1a) *normative approaches*, which focus on rationality of decisions by considering optimal solutions, economics, procedural or (1b) *cognitive/behavioral approaches*, which deal with the human mind and cognitive aspects of decision-making. Second, (2) *descriptive perspectives* focus on how a decision-maker thinks by considering its contextual relationship. In this perspective, there are (2a) cognitive/behavioral and (2b) social/contextual concerns. Third, (3) *Pluralist/Pragmatic approach* deals with the complexity of the decision-making process by introducing mixed strategies of rational, cognitive and political concerns.

Table 2.4. Classification of Decision-Making Theories.

Classification of Decision Making Theories				
Theoretical approaches			**Descriptive**	
		Reductionist		
	Pluralist/pragmatic			
General Classification of theories	**Political**	**Normative /rational**	**Cognitive /behavioral**	**Social /contextual**
Rational organizational decision making		Sequential, optimal rational, complete information		
Bounded Rationality (Administrative Behavior study)		Economic theories	Limited capacity of the human mind	
Political economy	Political networks	Economic theories	Psychology falsification satisficing	Sociology
(Expected) Utility theory	✓	Utility maximization economics	Human choice subjectivity	Historical conditions
Incrementalism in decision making		Process-oriented (means)	Learning feedback adjustment	
Contingency decision making		Cause-effect relations	preferences	
Interpretation in decision making			Interpretation, preferences, belief, sense-making	communication

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Table 2.4 (cont.)

Garbage can	multiple actors, deliberate manipulation			Pluralist environment
Political decision making	Interest of decision-maker power, conflict, politics	rationality	Self-interest vision	Values relevance of information, communication
Image theory			Priority of decision-makers goals belief	Communication fitting to context values ethics moral
Prospect theory			Mental structures framing	
Heuristics in decision making			Generalization info-reduction biases and errors	Matching information with the environment
Organization Procedure view		Rules and procedures rationality		Organizational experience
Individual difference theory			Behavior ability Usage of rational tools	
Behavioral decision theory			Human choice and preferences perception choices actuality of projects subjective expected utility	
Mental modes in decisions			Internal representation cognitive changes	
Adaptive decision making			Cognitive capacities	Ecological rationality
Naturalistic decision making			Personal recognition mental process	Decision context previous experiences
Multiple perspectives	✓	Technical aspects	Individual aesthetic perspectives	Other participants ethical organizational perspectives
Intuitive/cognitive neuroscience			Dual-process theories cognitive styles intuition memory	
Narrative approach			Cognitive effects interpretation	Sociology language symbols
Effect of speed		Fast decisions		
Cognitive biases			Errors biases irrelevant information	
Emotional decision making			Emotions	

It is not possible to limit a decision-making theory to a particular perspective. It is because each theory complements the other by broadening the perspective. Therefore, the objectives of different perspectives may overlap. Figure 2.2 is shown below to better illustrate the intersecting areas of decision-making theories regarding their theoretical and general classification approaches stated in the table above (Table 2.4).

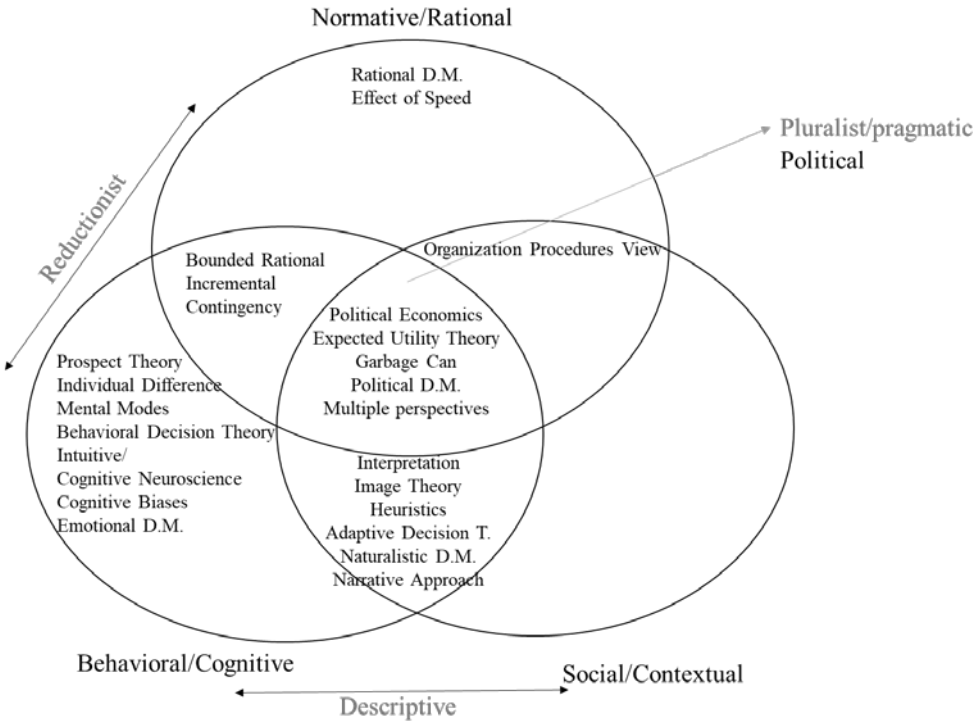

Figure 2.2. Conceptual Relationships of Decision Making Methodologies.

To discuss the above figure, the complexity of decision-making approaches, concerning their conceptual and contextual backgrounds, increases when they are associated with social concerns. The most complex theories are observed at the intersection point of rational/normative, cognitive/behavioral and social/contextual areas. These theories differ from others in terms of dealing with the concerns of political, utility and multi-perspectives.

As it is discussed in Section 2.1, strategic decisions are related to social and environmental relationships. Thus, any strategic decision with a reductionist, cognitive, or pluralistic perspective must meet the expectations of social concerns. Any theory that focuses solely on social or contextual concerns is not observed in Figure 2.2. This is

because any decision-making process is usually evaluated with its cognitive or rational contributions by the society and environment. The social and environmental concerns of decision-making theories are scrutinized by another concept, which is legitimacy.

2.1.3. Studies in Organization Management and Built Environment

Current studies dealing with organization management practice have brought a multi-perspective approach to analyze decision-making processes (Table 2.5). Analyses have examined the process over organizational decision-making *phasing/leveling* and *positioning*.

Decision-making approaches focusing on the issues of different phases of projects, hierarchical levels in decision-making and attitudes in global contexts are discussed under *decision-making phasing/leveling*.

Decision-making approaches focusing on the strategy-making ability of managers, entrepreneur and manager differences in decision-making, cognitive styles, ethical and emotional capabilities are examined under *decision-making positioning*.

In general, the concerns of studies are related to psychology, heuristics and biases, tactics and success, politics, commitment, participation and job satisfaction issues. Literature reviews for research methods are supported with surveys, interviews, questionnaires, case studies and statistics (Table 2.5). Rather than using a single theory, studies benefit from the concepts analyzed by theories. For instance, *rational approaches* have been observed in the analyses of tactics of managers and procedural activities in decision-making processes. *Cognitive approaches* have been observed in the analyses of cognitive capabilities, usage of heuristics and biases, intuition, individual values and emotions of managers. *Pluralist or pragmatic approaches* have been observed in the analyses of multiple strategies making capabilities, political behaviors and the effect of power. Their social, contextual relationship has also been analyzed by emphasizing the concepts of ethics, transparency, sensitivity to context.

Table 2.5. Decision Making Studies in Organization Management Literature.

Source	Research topic	Research method	Result	Related concept
Hart and Banbury (1994)	Developing measures to identify firms with different levels and types of **strategy-making process 'capability'**	Analyzing five strategy making types – Command, Symbolic Rational, Transactive, Generative- with a sample of 285 top Managers	Firms with high process capability-the simultaneous use of **multiple strategy-making** process modes	Decision making and management
Steptoe-Warren, Howat, and Hume (2011)	Understanding the effects of both **psychological** and management literature on strategic thinking and decision-making process.	Literature review	Managerial **cognition, corporate values as well as individual values** and beliefs can influence strategic decision-making choices	Decision making and management
Busenitz and Barney (1994)	Analyzing the difference between **entrepreneurs and managers** in term of **usage of heuristics and biases**	Statistical analysis of responses of managers and entrepreneurs from different industries	Entrepreneurs use more **heuristics and biases** than managers	Decision making and management
Suda et al. (2015)	Investigating **decision making theories** of project management	Literature review of decision-making theories used in two phases of the decision-making process that are pre-planning and implementation	While in the **pre-plan phase, Game theory, Fuzzy, Utility, Reliability and Resource-based theories** are dominantly used; in the implementation phase, **Action-based** and **Contingency theories** are preferred	Decision making and management
Nutt (1992)	Analyzing the relationship between used **tactics** in decisions and firm success	Analysis of 177 organizational decisions	Types of **tactics and managerial positions**, as well as the success of tactics, are discussed	Decision making and management
Turpin and Marais (2004)	Analyzing the relationship between theoretical models of decision-making and **approaches of senior managers** make decisions in practice.	Matching decision making theories with six decision-makers interviewed	**Sensitivity to the context**, attention to the presentation of information, and the use of **intuition** are emphasized as important	Decision making and management
Tiainen (2014)	how to improve the decision-making process in a **global** and multiple dependency environment	analyzing program internal data and by conducting semi-structured interviews with eleven employees from the program	Improving results and **transparency of the process** and clarify the linkages and meanings of different parts by proposing key performance indicators	Decision making and management
Esa, Alias, and Samad (2014)	Analyzing the effect of **cognitive styles** in the decision-making	Questionnaire to 110 managers	**Cognitive styles** improve soft management skills as well as project intellect process	Decision making and management
Cray et al. (1988)	Analyzing distinct features of **managerial** decisions	Case studies from different industries	Three types of decision making based on **conceptual terminology** are indicated	Decision making and management
Durand and Huy (2008)	Analyzing **ethical and emotional** positions of top executives	Case studies	Organizational accountability highly related to **ethics and emotions**	Decision making and management

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Table 2.5 (cont.)

Kriger and Barnes (1992)	Analyzing **hierarchical levels** of decision making in organizations	Multiple interviews with different organizational actors	6 levels are emphasized concerning their specific characteristics	Decision making and management
Pfeffer and Salancik (1974)	Analyzing **political** aspects in resource allocation decisions	Interviews and archival data of departments	Decisions mainly based on **subunit power**	Decision making and management
Çetin and Pekince (2011)	Understanding the relationship between perceived procedural rationality and political behaviors in the strategic decision-making process and **organizational commitment**	Surveys and statistical analysis	Perceived **procedural rationality** positively related to affective commitment; yet perceived procedural rationality and continuance and normative dimensions of commitment; and between perceived **political behaviors** and affective, continuance and normative commitment are not related	Decision making and management
Witt, Andrews and Kacmar (2008)	Analyzing relationship among **participation** in decision making, organizational politics and job **satisfaction**	Factor analysis, correlation and regression with 1250 public sector employees data	Effect of participation on job satisfaction is high at high levels of perceived **politics**	Decision making and management
Wally and Baum (1994)	Analyzing **personal and structural** determinants of decision making	Questionnaire to 151 executives of 306 firms	Both **cognitive and organizational structural** aspects, with cognitive comprehensiveness relating positively and organizational comprehensiveness, negatively, to strategic decision-making pace.	Decision making and management

Analysis approaches in organization management are not compatible with the approaches of built environment. In the built environment studies, there is the dominancy of dealing with the practical circumstances excluding theoretical aspects (Table 2.6).

To discuss them briefly, the concept of decision-making is examined in bidding decisions, contractor prequalification, resource scheduling, risk assessment, construction problems and group decisions. Regarding research methods used, there is a tendency to develop decision-making models based on TOPSIS, Fuzzy Set Theory, Analytical Hierarchical Process, Computer-Aided tools and multi-criteria models that are supported by the case studies.

There is a tendency to use rational decision-making approaches in the analyses. The issues about managers' attitudes and social-related concepts are not frequently observed. Studies in the built environment should investigate more the multi-perspective

approaches that appeared emerging in organization management studies, and should reveal more social and psychological concerns in decision-making processes.

Table 2.6. Decision Making Studies in the Built Environment.

Source	Research topic	Research method	Result	Related concept
Shafaat et al. (2014)	Analyzing the potential contribution of **subcontractors** in managing knowledge in different stages of construction projects	Model development interviews	Knowledge from different fields, such as organizational behavior, decision making, knowledge management, and construction, to clarify the procedure of transforming experiences into internalized knowledge and its implementation in decision making	Decision making and Built environment
Hong-yan (2011)	Proposing the decision-making model aiming at the **bidding decision**-making problem of construction enterprises based on group TOPSIS	TOPSIS	The optimal decision-making conclusion was made based on TOPSIS method	Decision making and Built Environment
Scherer and Schapke (2011)	Proposing conceptual development of a Management Information System to support decision making on construction projects across all **management levels** within the owner and the contractor organizations	Model development	Results of the developed model	Decision making and Built Environment
Ebrahimnejad et al. (2012)	Analyzing **group decision making** for construction projects	fuzzy analytic network process (ANP) and ranking method	Model is suitable to cope with imprecision and subjectivity for the complicated decision-making problem	Decision making and Built Environment
Nieto-Morote and Ruz-Vila (2012)	Proposing a decision-making model for construction **contractor prequalification**	Fuzzy Set Theory, case study	Achieving assessment of performance of the contractors on a qualitative or quantitative criterion	Decision making and Built Environment
Jato-Espino et al. (2014)	Reviewing **multi-criteria decision**-making methods	22 methods 11 clusters	Usefulness, reliability and pragmatic aspects are discussed	Decision making and Built Environment
Chang and Ibbs (1990)	Proposing a prior decision-making model for **resource scheduling**	Fuzzy logic-based model development	Deficiencies caused by the previous scheduling model have been overcome	Decision making and Built Environment
Alarcon and Bastias (2000)	Supporting the **strategic decision-making** process in construction firms	Computer-based conceptual model development	Allowing to test different combinations for strategic management	Decision making and Built Environment

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Table 2.6 (cont.)

Tam, Tong, and Chiu (2006)	Comparing non-structural fuzzy decision support system and analytical hierarchy process in decision-making for **construction problems**	Analysis of inconsistency and limitations of models	Proposing a non-structural fuzzy decision support system	Decision making and Built Environment
Zeng, An, and Smith (2007)	Applying a fuzzy-based decision-making methodology to construction **project risk assessment**	modified analytical hierarchy process with fuzzy reasoning, case study	Effectiveness and efficiency of model is tested and discusses	Decision making and Built Environment
Cheng et al. (2011)	**Bidding decision making** for the construction company using a multi-crıteria prospect model	Multi-Criteria Prospect Model with Fuzzy Preference Relations (FPR) and Cumulative Prospect Theory (CPT)	Application of the proposed model is discussed in a case study	Decision making and Built Environment
Negahban, Baecher, and Skibniewski (2012)	Proposing a decision-making model which organizations could utilize to adopt Enterprise **Resource Planning** Systems	Model development, case study	Discussion of validity and applicability of model	Decision making and Built Environment
Leśniak and Plebankiewicz (2013)	Proposing the decision-making process concerning **participation in construction bidding**	Developing model based on Fuzzy set theory, survey analysis	Subjectivity related concerns have been discussed with the developed model	Decision making and Built Environment
Yang, Wang, and Jin (2014)	Analyzing stakeholders' **attributes, behaviors**, and decision-making strategies in construction projects	interview, questionnaire survey, and case study	Results guide managers to formulate appropriate schemes under different circumstances.	Decision making and Built Environment

Challenges faced most by 21st-century organizations and the goals that need to be pursued are stated by Rieley and Crossley (2000). They are about environmental, sustainability and social concerns, fluidity and adaptability, being competitive in both national and global markets, technological competency, performance increase, understanding organizational personality, learning more effectively and increasing organizational *decision-making ability*. Although the decision-making ability of organizations is defined as a separate challenge, it is the initial step to contemplate the other challenges and to plan a route for reorienting organizational strategies.

While the reasons for revealing different attitudes in strategic decision-making have begun with examining deficiencies of rationality; later on, concepts such as power, control and conflict have been discussed under Politics. Over time, social and cognitive approaches have affected to develop the processes of decision-making. Before making

strategic decisions, it is important for decision-makers that they should be aware of the fact that they tend to offer rational solutions to issues including uncertainty, complexity, and risk. Besides, strategic decisions have multi-determined outcomes and are made in an interactive context that is affected by temporal orders of society and stakeholders (Shapira 2002).

Hence, strategic decisions can include sense-making features by considering heuristics, politics, interpreting, intuition, emotion and experience (Hodgkinson and Starbuck 2008). With this awareness, strategic decisions can be made to empathize with competency concerns, management cognition, personal and corporate values by taking into account project-related, psychological, social, organizational and contextual determinants (Shapira 2002, Steptoe-Warren, Howat and Hume 2011).

Strategic decision-making is a multi-conceptual process and should be sensitive to the above-mentioned determinants. Besides being sensitive to multi-concepts, decisions are taken in a complex relationship network. Thus, the context, where decisions are implemented or influenced is also a multi-constituent and complex environment with respect to the above-mentioned social, political, psychological relationships. Herein, strategic decision-making processes need to be managed to be responsive, trustful, socially acceptable, fair, successful, accountable and communicative in their context. This managerial role to achieve these aspects is conducted by the legitimacy concept.

The concept of *legitimacy* constitutes the transition of decisions into their context. Recently, the meaning of all concepts mentioned above has begun to be re-examined under the notion of legitimacy. Because legitimacy prevents formalizing the inconsistency in strategic decisions and prevents to cause of cognitive illusion by revealing the social meaning of uncertainty. Therefore, it is essential to examine legitimacy in more detail to make more effective strategic decisions.

2.2. Legitimacy

Describing legitimacy as an abstract, socially constructed, and multi-dimensional concept in a single sentence limits the potential of the concept. Rather, examining its content and the relationship to the context and to the other related concepts provides a more comprehensive understanding of legitimacy.

Therefore, this part firstly aims to explain the *conceptual* background of legitimacy by determining its roles and purposes within organizational management. *Different types of legitimacy conceptualizations* and *methodologies* developed in legitimacy assessment will be emphasized. Finally, the applications of the legitimacy concept in the studies of organization management and built environment are tried to be explored by emphasizing the numerous *sub-disciplines* and *research areas of management* in which legitimacy is studied to understand the active role of legitimacy in strategic decision-making processes.

2.2.1. Related Concepts

Legitimacy creates a buffer zone between claims, actions and desires of organizational and environmental constituents. In this buffer zone, legitimacy aims to meditate between the counter effects of both the organization and the environment. Thereby, it causes to assess evaluations of each side's actions by considering social, cultural, psychological, pragmatic, moral and cognitive backgrounds.

In Figure 2.3, the roles and purposes of legitimacy are grouped and presented by indicating their counter influences on the environment and organizations. On the one side, the context, where organization activities have been carried out, instructs organizations in several circumstances such as; loyalty and acceptance (Reast et al. 2013), understanding asymmetric relationship beyond legal values, considering qualitative norms as standards, achieving unbiased, standard meeting, political and procedural fairness (Meine 2016), recognition and acceptance of a social entity (Drayer et al. 2014), developing perception, sustainable and re-interpretation aspects (Miller and Michelson 2013), defining appropriate, acceptable, desirable and proper solutions (Zimmerman and Zeitz 2002) and assuring stakeholder values, form and identity (Landau, Drori, and Terjesen 2014). On the other side, organizations have tried to achieve being legitimate by considering personal authority (Meine 2016), verbal and organizational characteristics (Durocher and Fortin 2010), cognitive and psychological areas; comprehensibility and use of language (Suddaby and Greenwood 2005), stability and meaning of strategic behavior (Tost 2011) as well as assessing the legitimacy of claims (Yang, Wang, and Jin 2014) by taking into consideration of environmental concerns.

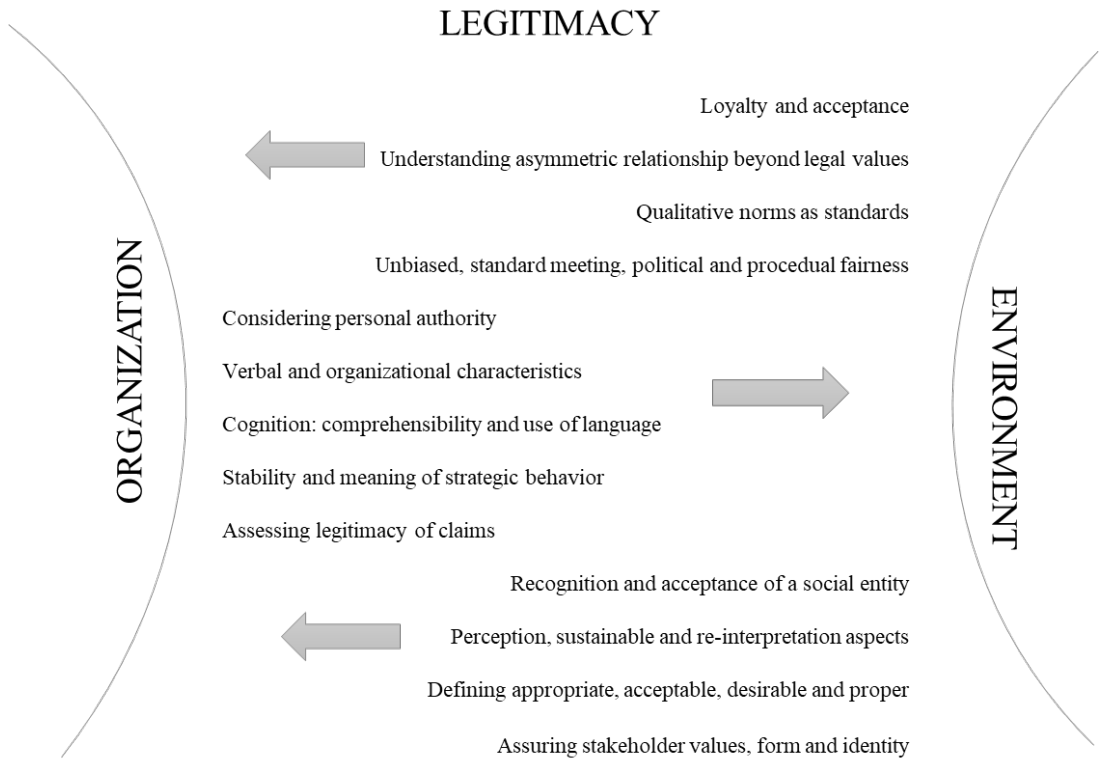

Figure 2.3. The mediator role of legitimacy between organizations and environmental constituents.

As it is also seen from the above figure, legitimacy focuses on both qualitative and quantitative concepts that result in both tangible and intangible outcomes (Table 2.7). To explain briefly, the concepts that return as *tangible outcomes* to any strategic decision of organizations are effectiveness (Sandström, Crona, and Bodin 2014), government, law, legal validity and politics (Meine 2016), experience, policies and quality (Ueberbacher 2013) as well as standard setting (Durocher and Fortin 2010). The concepts that return as *intangible outcomes* to any strategic decision of organizations are the justification of right, moral ethics and power (Meine 2016), acceptability, behavior, cognition and consensus (Roberto 2004), approval, credibility, predictability and desirability (Drayer et al. 2014), awareness (Neilsen and Rao 1987), comprehensibility; cultural, innovation and technological aspects, rhetoric (Suddaby and Greenwood 2005), culture (Landau, Drori, and Terjesen 2014), discourse and narrative (Goessens 2015), morality (Miller and Michelson 2013), trust (Reast et al. 2013) as well as the validity of the claim (Bicho 2016).

Besides, there are concepts that conduct objectives of decisions, legitimacy has some also roles to make organizations critically think about both organizational and environmental requests. These roles can be summarized as achieving collaborative

performance, stakeholder acceptance (Sandström, Crona, and Bodin 2014), creating symbolic meaning (Neilsen and Rao 1987), governance considering social structure (Tost 2011), standards-setting; environmental influence and pressures (Durocher and Fortin 2010), defining strategic actions; growth, gaining resources (Zimmerman and Zeitz 2002), deciding why together and what to do (Stone and Brush 1996).

Table 2.7. Influential Concepts and Role for Legitimacy Concept.

Concepts		**Roles**
acceptability approval	justification of right	collaborative performance
awareness	law	creating symbolic meaning
behavior	legal validity	governance considering the social structure
cognition	moral ethics	stakeholder acceptance
comprehensibility; cultural,	morality	standards-setting;
innovation and	narrative	environmental influence and pressures
technological aspects	policies	strategic actions; growth, gaining resources
consensus	politics	why together, what to do
credibility	power	
culture	predictability	
desirability	quality	
discourse	rhetoric	
effectiveness	standard-setting	
experience	trust	
government	validity of claim	

Any legitimation action acts on different levels of organizational relationships. Legitimacy leads the positioning of organizations in *operational*, *strategic* and *administrative levels* to define their *purposive actions*, which are processes, products and services. Deephouse and Suchman (2008) classify them as the *subjects of legitimacy*.

Legitimacy of subjects is assessed by *sources of legitimacy*, which are both internal and external observers. *Subjects of legitimacy* reshape their decisions by considering concerns of the environment, in other words, sources of legitimacy, and are connected to the environment through using several *media* (Figure 2.4). *Sources* of legitimacy are critical organizational stakeholders, such as state, public, financial communities (Warren 2003) and sources of validity, such as media, government, the judicial system (Bitektine and Haack 2015). Sources of legitimacy consider several concepts throughout legitimacy assessment such as the position, distribution, authority, symbols, form, practice, power systems, levels of legitimacy analysis, which are personal, group, interior-exterior, symbolic, socio-political, psychological levels (Johnson 2004).

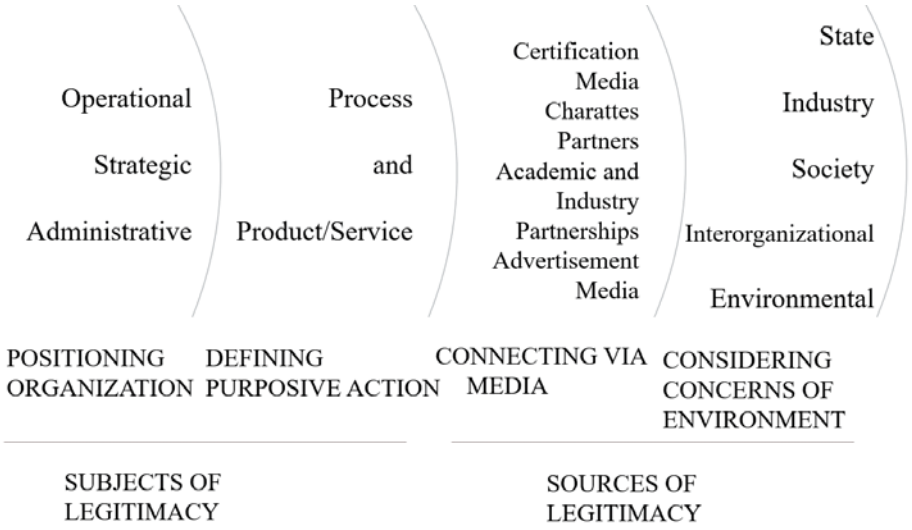

Figure 2.4. Subjects and Sources of Legitimacy.

2.2.2. Types and Assessment Approaches

The importance given to the legitimacy concept has been emerged with crises out broken in the history of organization management. During the evolution of the concept of legitimacy, two major crises have occurred. The first is about the operations of factories, ownership, control debate and economic crises (Warren 2003). The second that is the contemporary one is about the impacts of the anti-capitalist movement such as global competition, job insecurity, income inequality, corporate strategy problems, failure of firms, human rights, etc. (Warren 2003). The legitimacy concept has been addressed differently by several sub-theories of organization theory that emerged after the above crises.

How legitimacy concept having an intermediate position between the organizations and their related environment were first defined under two main realms.

First, in *social psychology*, legitimacy was defined by Weberian tradition that investigates rules, collective understanding of group and cognitive dimension of legitimacy. This tradition has discussed the concepts of stability, authority, property, validity, order since 1975 (Johnson 2004). Beginning with the 1980s, expectations have been included to define the legitimacy concept within different status hierarchies and group environments (Johnson 2004).

Second, in *Institutional theory*, legitimacy associates with the isomorphic behaviors of organizations, coercive, mimetic and normative, that are shaped by the social

and cultural environment (Johnson 2004). Isomorphic pressures such as socioeconomic, political actions cause homogeneity in the organization structure. Culture, which also leads to homogeneity among organizations, constitutes symbolic links to legitimate organizational actions (Johnson 2004). Yet, the change is necessary for organizations to achieve competitive advantage. Herein, the stability emerged through isomorphism has begun destabilized with changes either in the perception or in the judgement (Bitektine and Haack 2015). To be legitimized an organization's action after the change; rhetoric, credibility and cognitive strategies are required to be socially acceptable (Bitektine and Haack 2015).

Two scales in institutional theory have also analyzed the legitimacy concept; macro and micro theories. In *Macro theory,* the institutional level of legitimacy has been explained by emphasizing the relationship of organizations' activities with government, religion, society and capitalism (Tilling 2004). While macro-level theories associate legitimacy with a collective understanding; legitimacy in *Micro theories* is related to mental relationships. In micro theories, legitimacy examines the institutional process by indicating the relationship among multiple parties at different levels (Bitektine and Haack 2015).

Today, purposes of legitimacy are grouped into three approaches of legitimacy; (1) strategic or organizational, (2) institutional and (3) rhetorical (Table 2.8).

Strategic legitimacy considers the legitimacy concept as a resource to operate and control by using a symbolic approach to gain social support (Suchman 1995, Dacin, Oliver and Roy 2007).

Institutional legitimacy is a normative and procedural approach that focuses on institutional change, knowledge of legitimacy (in technology, practice, industry scales) by proposing purposive strategies using rules and expectations to overcome social pressures (Meine 2016, Suddaby and Greenwood 2005 and Suchman 1995). However, these two approaches are seen as having a counter position to each other; they complement each other in a way that while strategic legitimacy causes decision-makers to review the institutional framework and analyze society; institutional legitimacy leads to penetrating social expectations into organizations (Suchman 1995).

The third approach has been discussed under rhetorical legitimacy. *Rhetorical* legitimacy, the art of persuasion, is a value-based approach that focuses on ontological, teleological, historical, cosmological perspectives (Suddaby and Greenwood 2005). One of the main characteristics of rhetorical legitimacy is to legitimize legal forms,

judgements and to normalize the decision-making process and struggles using discursive strategies such as awareness creation, sense giving-hiding and impressing environment including politics and media such as newspapers, Internet and texts (Vaara and Tienari 2008).

Over time, three main sub-headings have been proposed by Suchman (1995) under strategic/organizational legitimacy that are (1) pragmatic, (2) moral and (3) cognitive (Table 2.8).

First, (1) *pragmatic legitimacy* deals with the normative and procedural aspects for the well-being and benefits of organizations without considering any political, social, economic positions (Meine 2016, Suchman 1995). It consists of three sub-legitimacy concerns that are (1a) *exchange legitimacy*, which analyses overlapping positions of policies and expected values without including social concerns, (1b) *influence legitimacy*, which is constructed on social responsibility of organizations and considered throughout defining organization policies, and (1c) *dispositional legitimacy*, which deals with creating reliable, good, wise, honest manners in organizations to increase legitimacy (Suchman 1995).

Second, (2) *moral legitimacy* focuses on the normative evaluation of firms to achieve social welfare and is more resistive than the procedural attitudes (Suchman 1995). It consists of four sub-legitimacy concerns that are (2a) *consequential legitimacy*, which bases on results of organization actions on quality, value and effectiveness aspects, social definitions of technical specs and application of economic criteria for social welfare, (2b) *procedural legitimacy*, which examines the techniques and procedures whether they are socially acceptable or not, (2c) *structural (categorical) legitimacy*, which deals with the morally favored, valuable organizational strategic positions that influenced on quality control, competitive advantage and rivalry and (2d) *personal legitimacy*, which examines the idiosyncratic and transitory aspects of decision-makers concerning charisma, authority, etc. (Suchman 1995).

Third, (3) *cognitive legitimacy* deals with the two concerns of legitimacy that is (3a) *comprehensibility*, which analyses predictability, plausibility, meaningfulness, exploratory aspects of legitimacy, and (3b) *taken for granted*, which searches for attainability, capability and thinkable aspects of being legitimate (Suchman 1995).

Table 2.8. Types of Legitimacy.

Generic Classification of Legitimacy Types			***Other***
Strategic/Organizational	**Institutional**		
Types of Strategic Legitimacy			
Pragmatic; Exchange Influence Dispositional	**Moral;** Consequential Procedural Structural/Categorical Personal	**Cognitive;** Comprehensibility Taken for Granted	**Rhetorical**

After analyzing how legitimacy is investigated in the organizational context, another step is required to expose its capability explicitly. Different methodological approaches proposed to assess and apply legitimacy strategies to organizational actions are summarized below (Table 2.9).

Table 2.9. Conceptual Legitimacy Assessment Approaches.

Typologies of Legitimacy Assessment					
Suchman (1995)	Goessens (2015) Vaara and Tienari (2008)	Turcan, Marinova, and Rana (2012)	Tilling (2004)	Zimmerman and Zeitz (2002)	Reast et al. (2013)
Gaining; Conform Select Manipulate, Maintain Repair	Authorization Rationalism Moralization Mythopoesis	Conforming Strategic Internal External Symbolic	Maintain Extension Defense Establishment	Strategies Legitimacy Resource Survival Growth	Constructing Earning Bargaining Capturing

Besides differences in defining legitimacy, there are also different approaches in legitimacy assessment. Suchman (1995) suggests that legitimation assessment consists of three phases that are *gaining, maintaining and repairing*.

The phase of *gaining* deals with the liability in terms of unconventionality and uncertainty of actions. It consists of three sub-phases that are efforts to conform, select and manipulate. Effort to *conform* analyzes pragmatic legitimacy as meeting instrumental needs such as taste, technology, reputation and character, moral legitimacy as environmental and symbolic positions and cognitive legitimacy as mimetic isomorphism and cognitive characteristics of the organization by introducing heuristics, formalization

and professionalization concerns. Effort to *select* deals with environmental control and reconfiguration and discusses pragmatic selection under market research, moral selection as a moral standard-setting by considering efficiency, accountability, confidentiality, reliability, responsiveness and cognitive selection as certification and privileged categorization. Effort to *manipulate* is emphasized as the explanation of new discourses by making cultural manipulations such as advertisement under pragmatic legitimacy, technical success under moral legitimacy and promoting popularization and standardization under cognitive legitimacy (Suchman 1995).

The phase of *maintaining* focuses on problematic aspects such as stakeholder heterogeneity, stability and rigidity, institutionalization and proposes two strategies as perceiving change by monitoring, being sensitive to culture and multiple views and protecting accomplishment (Suchman 1995).

The phase of *repairing* emphasizes that unforeseen crises can be normalized with developing legitimacy strategies (Suchman 1995).

Vaara and Tienari (2008) propose a methodology that is influenced by rhetorical legitimacy. Four phases of methodology; authorization, rationalism, moralization, mythopoesis are respectively for tradition and custom analysis to understand demand, rational and cognitive validity, value systems and narrativity.

Turcan, Marinova, and Rana (2012) conceptualize their methodology by considering strategic management objectives as a ground for achieving legitimacy. They propose to analyze resources in the conforming phase; resource combinations in the strategic phase; market location, science and history in the internal phase; the number of alliances in the external phase and credibility, professionalism, achievement and quality of relationship under the symbolic phase to make legitimacy strategies.

Tilling (2004) focuses on operational performance and symbolic assessment in maintaining and extension phases, threats of positioning in the defense phase and quality and desirability in the establishment phase.

Zimmerman and Zeitz (2002) develop a methodology that deals with the legitimacy assessment by analyzing its constituents in a conceptual order such as strategies, legitimacy, resource, survival and growth.

Reast et al. (2013) propose a different legitimacy assessment methodology than the previous ones and categorizes strategies as its active (intervention) –passive (particular target) positions and transactional (cooperating tangible) –interactional (relational) relationships. Bargaining is an active-transactional; earning is a passive-

transactional; capturing is active-interactional and constructing is a passive-interactional position to develop legitimacy strategies.

As it is seen from the above discussion, legitimacy deals with a complex network that includes environmental, organizational, stakeholders and project-related concerns. At this point, it is important to further analyze how the concept of legitimacy is applied in management studies to better understand its crucial positions for making strategic decisions.

2.2.3. Studies in Organization Management and Built Environment

Legitimacy has complex and interactive roles. This complexity causes legitimacy to be influenced by many sub-managerial disciplines by considering their social, organizational, economic and psychological aspects. It also plays an active role in many research areas in management studies (Table 2.10). As it is seen in the table below, concerns based on (1) behaviors, such as value preferences, impression, reputation; (2) communication, such as co-management, negotiation; and (3) environment, such as politics, social responsibility, regulations, economics constitute the areas that legitimacy concept are examined.

Table 2.10. Research Areas, Sub-Managerial Disciplines and Theories that Legitimacy Concept involved.

Research Areas	**Sub-Managerial Disciplines and Theories**
co-management (Sandström, Crona, and Bodin 2014) communication (Reast et al. 2013) corporate social responsibility impression management environmentalism (Durocher and Fortin 2010) reputation and organization structure stakeholder relationship negotiation (Brown 1994) value preference isomorphic pressures (Turcan, Marinova, and Rana 2012) linguistic legitimacy (Neilsen and Rao 1987) political behavior meta-environmentalism (Kostova and Zaheer 1999) regulation and economics (Reijonen and Georg 2013)	institutional theory and socio-psychology change (Tost 2011) organizational symbolism, narration (Suddaby and Greenwood 2005) strategic management; organizational ecology, resource dependency, niche-width theory, agent theory (Reast et al. 2013, Massey 2001) stakeholder theory, social contract theory, signaling theory (Omran and Ramdhony 2015) positive accounting theory (PAT), agency theory, political economy theory (PET) (Omran and El-Galfy 2014) organizational rationalism (Brown 1994)

It is difficult to transform analyses of conceptual terminology into daily life practices due to being the legitimacy concept related to intangible and abstract concepts. How different legitimacy types inquire the possible legitimacy answers are in organization management (Table 2.11) and the built environment (Table 2.12) practices are explained to better understand practical roles of legitimacy.

Table 2.11. Legitimacy in daily life organizational practices.

Types of Legitimacy	**Questions**	**Answers for organizations**
Exchange	What are the possible exchange opportunities that organizations provide to their stakeholders concerning policies and social concerns?	*outcomes meeting expected value *considering demands of stakeholders *respectful of social considerations
Influence	Does the organization collaborate with stakeholders respectfully while constituting its policies?	*involving requirements and advice of stakeholders throughout policy-making
Dispositional	Are the characteristics/perception of the organization attributed positively to stakeholders?	*having a good reputation *communication opportunities *goal and activities of organizations are helpful for stakeholders *being organizations interested in each problem
Consequential	Are the products and services of organizations sensitive to technical and social concerns?	*providing innovation and technology *being beneficial, responsible for expectations * providing on time, economic and high-quality products and services
Procedural	Are the activities of organizations sensitive to technical and social concerns?	*being processes technically and procedurally competent *using socially acceptable techniques
Structural	Are the organization structures sensitive to technical and social concerns?	* well-defined structure *being flexible to solve each problem effectively
Personal	Is it socially affected that the decision-makers' authority and charisma are differentiated and influential?	*ability to solve problems *having concerns about social aspects *being competent *having good relationships *objective judgements
Comprehensibility	Are the reasons for actions understood and well-defined by stakeholders?	*fitting to experiences and value judgements *maintaining contact *accessibility and inviting characteristics *predictable and meaningful
Taken for Granted	Do actions of organizations arise interest for the side of stakeholders?	*attainability *reaching capable organizations concerning their responsibility and usage of technology
Rhetoric	How do organizations use the figures of speech to persuade their stakeholders?	*effective verbal communication *using different media such as advertisements, textual, visual tools to convey their objectives to stakeholders

Table 2.12. Legitimacy in the Practice of Built Environment

Types of Legitimacy	Questions	Answers for organizations
Exchange	What are the possible exchange opportunities that organizations provide to their stakeholders concerning policies and social concerns?	*pricing options *improving quality and maintenance of design *providing multiple solutions *providing immediate returns *up-to-date facilitation *considering values of stakeholders and environmental concerns
Influence	Does the organization collaborate with stakeholders respectfully while constituting its policies?	*collaboration with clients, stakeholders, academy and industry *rechecking demands of stakeholders *preventing free choice, cycler design and production processes *sustainable, socio-ecological process development *using legal documents not only for the sake of organization *cooperation with CSR activities
Dispositional	Are the characteristics/perception of the organization attributed positively to stakeholders?	*reputation, positive public opinion to works of organization *certifications for approving ethical responsibilities and environmental sensitivity of organizations
Consequential	Are the products and services of organizations sensitive to technical and social concerns?	*memory creation by proposing unique products *meeting the products social concerns *considering human health and wealth
Procedural	Are the activities of organizations sensitive to technical and social concerns?	*health and safety concerns *ethics *green continuous operations *minimize lead time, waste, rework, mistakes *continuous innovation; vehicle, fabrication, prefabricated production, standardization *modern management approaches; JIT, Lean, 6 sigma, BIM integrated construction and design *knowledge transfer options, technological advancements; cloud, web-based approaches
Structural	Are the organization structures sensitive to technical and social concerns?	*well defined, flexible structure *openness and transparency *teamwork *quality-control departments *historical background
Personal	Is it socially affected that the decision-makers' authority and charisma are differentiated and influential?	*well-educated, talented *well-communicated *enhancing information *experienced in design, contract, control and financial concerns *respectful to his/her occupation *mediator between workers and clients, dissolving conflict *socially responsible for environmental and cultural concerns
Comprehensibility	Are the reasons for actions understood and well-defined by stakeholders?	*convenience to political, social, legal considerations *public approval *state-guaranteed norms *approved by a control mechanism *get respect from the environment *branding, preferable by stakeholders *producing, operating under the law
Taken for Granted	Do actions of organizations arise interest for the side of stakeholders?	*consultancy ability of an organization *solving stakeholders' problems in required circumstances *using technological and innovative design solutions
Rhetoric	How do organizations use the figures of speech to persuade their stakeholders?	*knowledge *social media; advertisements *charisma of managers *cooperate social responsibility actions

In the literature of organizational management, the concept of legitimacy has been analyzed to understand the effects of legitimacy on the flexibility in portfolio management, co-management, stakeholder attitudes, crisis management in organizational communication, institutional change, collaboration, media effects, decision making, technology, failures, organizational learning, commitment, prestige, rhetoric, etc.

The table below summarizes the related topics by indicating applied research methods, results and related disciplines (Table 2.13). Only a few studies about legitimacy are conducted in the built environment in the areas of media-relationship, BIM, organization power, sustainability, failures and social procurement even though most all the research objectives of organization management are also related to the built environment.

Table 2.13. Legitimacy studies in the literature of management.

Source	Research topic	Research method	Result	Related concept
Gutiérrez and Magnusson (2014)	Understanding legitimacy in different decision-making approaches to be critical to achieve **flexibility in Project Portfolio Management (PPM)**	Interview study	rational and formal decision-making processes are experienced as more legitimate than informal and non-rational ones	Legitimacy, decision making, management
Sandström, Crona, and Bodin (2014)	Understanding legitimacy in **co-management** by analyzing structures, social networks and governance strategies	Empirical comparative study	legitimate co-management is related to the skillful institutional landscape as well as strategies for constituting new social networks	Legitimacy and management
Durocher and Fortin (2010)	Analyzing standard-setting institutions' **user-oriented legitimacy management strategies**	Analyzing the Canadian Accounting Standards Board's (AcSB) legitimacy management strategies by using Suchman's legitimacy typology	symbolic and cultural concerns need more effort than pragmatic concerns to ensure their legitimacy	Legitimacy and management
Delgado-Márquez, Pedauga, and Cordón-Pozo (2017)	Understanding the effects of **stakeholders' attitudes** to international firms' environmental approach and regulations by analyzing the legitimacy	Statistical analysis on a sample of 1,150 international firms	unregulated firms confront more stakeholder pressures	Legitimacy and management
Massey (2001)	Analyzing **crisis management** and organizational legitimacy on organizational communication	Empirically tested in a quasi-experimental inquiry with specialist and generalist organizations	organizational niche affects organizations legitimacy	Legitimacy and management

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Table. 2.13 (cont.)

Suddaby and Greenwood (2005)	Analyzing rhetorical strategies of legitimacy over **institutional change**	Rhetorical analysis on judicial files	the rhetoric used for legitimizing or resisting change	Legitimacy and organizational change
Reijonen and Georg (2013)	Analyzing the concept of legitimacy by indicating energy, construction and professional **media relationships**	Discourse analysis with professionals	suggestions for the roles of each actor are emphasized to achieve legitimacy	Legitimacy and Built Environment*
Turcan, Marinova, and Rana (2012)	Analyzing legitimacy strategies of **international firms**	Empirical analysis of literature	awareness on legitimacy theories, methods and practice of international firms	Legitimacy and management
Hoefer and Green Jr (2016)	Understanding the role of **rhetoric** in the formation and change of legitimacy judgements	Model development		Legitimacy and decision making
Roberto (2004)	**Strategic decision making** and legitimacy relationship	Interviews with managers	political/symbolic aspects of decisions are more affected on legitimacy than cognitive aspects	Legitimacy and strategic decision making
Cash et al. (2002)	Analyzing **salient, credible, and legitimate** information simultaneously for multiple audiences	Constructivist research on water management regimes in the United States, international agricultural research systems	institutional actions and trade-offs between three concepts are indicated to achieve effective decisions	Legitimacy, decision making, management
Brown (1994)	Analyzing **micro-political behavior** of a group	Grounded theory; case study- interviews	symbolism has a strong effect on constituting legitimacy especially it is used as a tool for politics	Legitimacy and management
Barros (2014)	understanding how organizations use **new social technologies** as tools for legitimacy	Discourse analysis over newspapers, hyper-textual media and blogs	tools are used for creating their discursive strategies and legitimacy	Legitimacy and management
Akintola, Venkatachalam, and Root (2017)	Proposing a legitimacy approach **for BIM** by introducing a new understanding of **organizational power**	Questionnaire	BIM role takers are legitimated to exercise authority within project teams and organizations mainly by leveraging superior knowledge as a strategic resource	Legitimacy and Built Environment*
Kaminsky (2014)	Analyzing the relationship between **sustainability and legitimacy** theory	Mapping sustainability framework with legitimacy constructs (Suchman)	legitimacy constructs used as a tool to promote sustainability	Legitimacy and Built Environment *
Kale and Arditi (1999)	Understanding **age-dependency related failures** of construction firms	Analysis of age distribution of construction firms	the newness of a construction company results in a lack of organizational learning and lack of legitimacy	Legitimacy and Built Environment*

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Table. 2.13 (cont.)

Barraket and Loosemore (2018)	cross-sector collaboration associated with **social procurement** in the construction industry	Documentary, non-participant observation and in-depth interviews	supply chain position and organizational scale affected on co-creation of social value and the legitimacy of different social benefit providers	Legitimacy and Built Environment *
Beaulieu, Roy, and Pasquero (2002)	Analyzing the relationship between legitimacy and **organizational learning**	Case study	learning to process effects legitimization positively	Legitimacy and management
Wood and de Menezes (2010)	Analyzing the relationship between family-friendly management, **commitment** and legitimacy	Analysis of a series of nationally representative surveys of British workplaces	family-friendly management positively affects the commitment and legitimacy of the firm	Legitimacy and management
Certo and Hodge (2007)	Analyzing the relationship between **top management team prestige** and organizational legitimacy	Survey analysis	both intangible and effect on the financial performance of firms	Legitimacy and management
Diez-Martin, Blanco-Gonzalez, and Prado-Roman (2019)	Analyzing customer's legitimacy preferences and **social context for understanding decision making processes**	Questionnaire and regression analysis	matching preferences with legitimacy types increase the strategic efforts	Legitimacy, decision making, management
Gill and Wells (2014)	Analyzing how nonprofit legitimacy is generated through the rhetorical construction of **symbolic capital by nonprofit organizations**	rhetorical analysis of one international nonprofit organization	understanding nonprofit legitimacy as the rhetorical construction of a "donor gaze" and a nonprofit "space of freedom"	Legitimacy and management
Díez-Martín, Prado-Roman, and Blanco-González (2013)	Understanding the relationship between legitimacy types and **organizational success**	Survey analysis	different legitimacy types are associated with the efficient and effective usage of resources	Legitimacy and management
Peeters, Massini, and Lewin (2014)	Understanding relationship among management innovation and **absorptive capacity, attention and legitimacy**	Case studies	there is an affirmative relationship among them	Legitimacy and management
Davis (1968)	understanding effect of the legitimacy of management on **influencing employees**	Questionnaire	high legitimate influence on job performance, the work environment, and off-the-job conduct which affects organizational interests; low legitimacy concern influenced not directly involving the job or organization.	Legitimacy and management

2.3. Legitimacy and Strategic Decision Making: Conceptual Relationship

While strategic decision-making approaches vary according to ways of decision-makers to conceptualize problems on rational, cognitive, political or social grounds; the concept of legitimacy ensures the transparency and compatibility of different objectives of decision-makers by considering the demands of social stakeholders.

After an in-depth analysis of the literature about decision-making and legitimacy, the conceptual relationship between legitimacy and decision making has emerged (Figure 2.5). As it is seen in the figure below, legitimacy acts as a bidirectional and semipermeable boundary to make valid and reliable decisions on social and contextual grounds. Thus, it ensures that decisions are valid and socially acceptable by taking into account social and contextual aspects in decision-making processes.

Different than organizational studies, the built environment has its own social and contextual definitions. At this point, it is important to further analyze how patterns of decisions and legitimacy positions vary, especially in the architectural practice for achieving the objectives of this thesis.

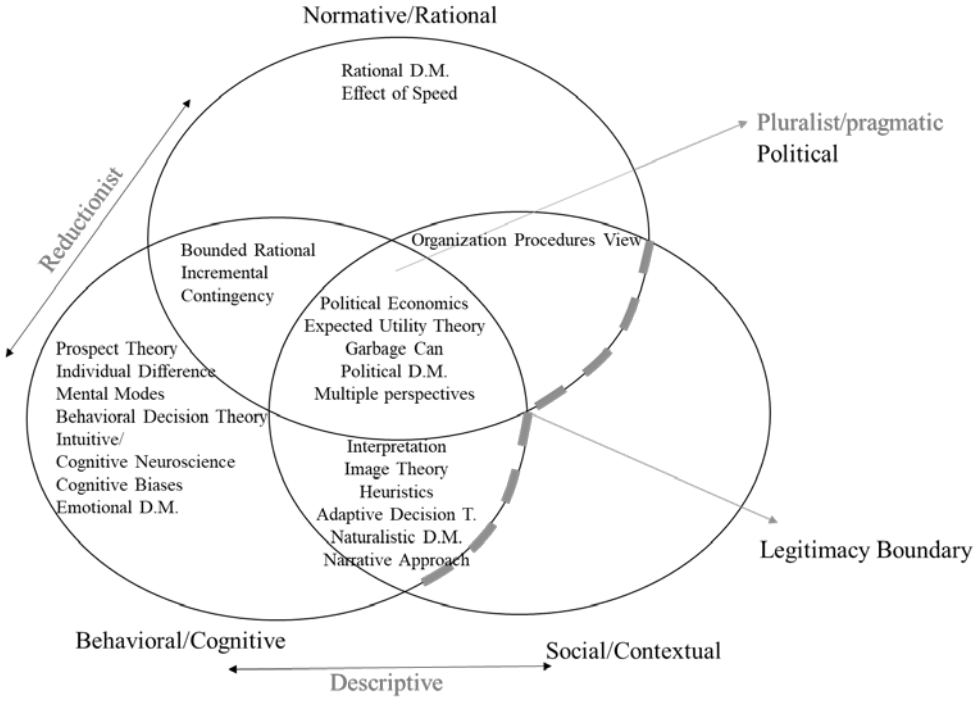


Figure 2.5. The conceptual relationship between decision making and legitimacy.

2.4. Legitimacy Strategies in Decisions of Architectural Practice

Although decision-making is simply defined as choosing among the alternative options by considering the perception, knowledge and values of decision-makers, it is known that many external and mental factors affect decisions. Many complex personal, social, economic and political uncertainties (inputs of the decision-making process) play an active role in determining the final decision (output of the decision-making process). The appropriateness of the decisions, taken through the filters of many contexts in each evaluation stage, such as socio-economic, legal, social and cultural, etc., is the most important criterion of being acceptable and valid in many fields. Although the decision-makers think that they make the most appropriate decision, the concept of legitimacy indicates this appropriateness by both taking the effects of different contexts into consideration and assessing the generalizability of the decision within these contexts.

The complex decision-making relationships mentioned above can be seen in almost all areas of architectural practice. When each architectural design product is considered as a decision made with the architectural features presented to its users after its completion or as an outcome of the designers' approach during its design process; it is obvious that the design is in communication with many contexts. It is again the concept of legitimacy that determines the appropriateness of this communication in socio-economic, political, psychological, environmental and design contexts. Therefore, legitimacy strategies are used by many actors in architectural practices (design, designer, external stakeholder) to demonstrate both (1) appropriateness and (2) acceptability of decisions. The figure below summarizes the relational circumstances of legitimacy strategies that can be used among different stakeholders in the architectural practice.

To examine the figure below in detail, designers can try to legitimize their design ideas in the related environment. The environment (society, stakeholders, clients, etc.) can also question the legitimacy of the designer's decisions. Similarly, the legitimacy of the positive, negative spatial and social features of design and its impact on the user or stakeholders can be evaluated by both the designer and other stakeholders. Moreover, the legitimacy of the designer's competence can also be debated over both actions of the designer and the impact of the final design product. However, these legitimacy relationships are not enough to explain every legitimacy suggestion in architectural practice in detail. Therefore, how architectural practices have been defined in the

literature and the ways of analyzing their legitimacy relationships are crucial to achieve the main objectives of this thesis.

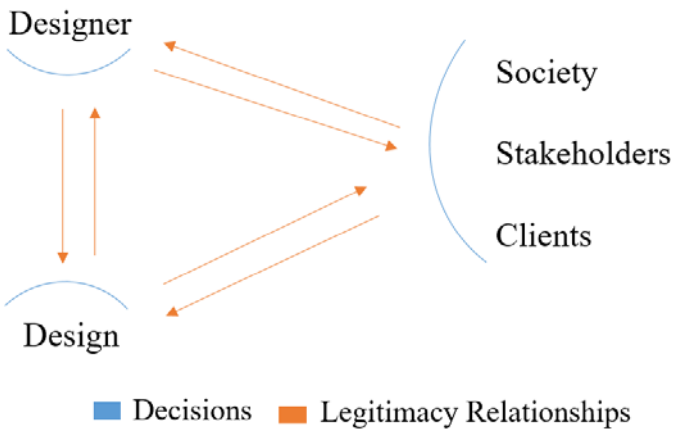


Figure 2.6. The conceptual relationship between decision making and legitimacy.

2.4.1. Architectural Practice: Definitions

The architectural practices are classified in various subheadings that are grouped under the titles of (1) the complexity of the design product and the quality preferences of the customers (Winch and Schneider 1993), and (2) different definitions of architecture in the practice (Cohen et al. 2005).

First, architectural practices are defined with four sub-headings in the title of the complexity of the design product and the quality preferences of the customers; *strong delivery, strong experience, strong ambition, strong ideas* (Winch and Schneider 1993).

Strong delivery is defined as an architectural practice that meets the demands of customers by designing relatively simple design products with effective and inexpensive methods.

Strong experience is proposed for architectural practices to solve difficult architectural problems of relatively more complex design products and meet operational needs.

Strong ambition is as architectural practices where a designer can prove him/herself in educational and competitive environments for demonstrating and developing his/her competencies.

Strong ideas are used to classify architectural practices that offer original and interesting design solutions with the products designed by the customer as well as meeting the customer's design demands (Winch and Schneider 1993).

Second, Cohen et al. (2005) define architectural practices in three ways; architecture as a *business activity*, architecture as a *public service*, and architecture as a *creative effort*.

Architecture as a *business activity* is the architectural practice defined by the competence of the product designed (process, financial, technical, market sensitivity, profitability, etc.).

Architectural practice as a *public service*, where economic, cultural and political contexts are the input of design, takes into account the social values of architecture, public welfare, social acceptability, and the demands of the local authority.

Architecture as a *creative effort* is defined as the architectural practice of providing design products by combining knowledge, beauty, creativity, aesthetic values with technical knowledge.

The architectural practice definitions outlined in the literature differ from each other by rating the designer's talent, the desire of the user, and the design value added by the design product.

Although the *design quality* of the product in the above classifications is not considered as a primary classification criterion, it directly affects the legitimacy of the products in defining their values adding to its user, designer and environment.

In the literature, Volker et al. (2008) consider the *design quality* as an input in the decision-making process. In this study, several criteria combined for evaluating five architectural design products in a tender process are defined. These criteria are important to analyze how different stakeholders evaluate the tender process. To mention these criteria, *project constraints* criteria determine the complexity of the design product. *Qualities of partners* criteria examine common values of the designers, stakeholders and users. *Design quality* based on *functionality*, *building quality* and *impact sub-criteria* analyze design properties. With this study, *design quality* is also involved as evaluation criteria in the assessment processes. Therefore, a holistic attitude is achieved with the study of Volker et al. (2008) by carefully selecting each sub-criteria to assess an architectural practice.

Achieving a holistic approach to indicate the sub-headings that constitute different definitions of architecture practice is also valuable for the better evaluating relationship of legitimacy strategies among design products, designers and other stakeholders.

2.4.2. Integration of Legitimacy in Architectural Practice

The strategic legitimacy proposed by Suchman (1995) considers legitimacy strategies as resources that can be operated and controlled and emphasize that they are used for acceptability in a social context.

When the strategic legitimacy sub-titles are examined under the practice of architecture, *pragmatic legitimacy strategies* only address the normative and process-oriented actions of architectural service providers and examine their welfare and direct contribution to the finished design product.

*Moral legitimacy st*rategies evaluate the actions applied by the designer to achieve social well-being with the proposed design product from a normative perspective.

Cognitive legitimacy strategies investigate the predictability, plausibility, significance, and intelligibility aspects of legitimacy that analyze the exploratory aspects of legitimacy.

After the literature review about the criteria set used in the architectural practices, the criteria set used in the study of Volker et al. (2008) is considered as the most comprehensive analysis approach due to the multi-dimensional approach including all design, designer and stakeholder sides. Therefore, the results of their study become important to analyze to reveal the relationship between the design process and legitimacy evaluations. The content of criteria set in Volker et al. (2008) and legitimacy criteria defined by Suchman (1995) are tried to be associated with each other to understand the link between them. Table 2.14 summarizes how different stakeholders evaluate criteria set in the study of Volker et al. (2008) and figures out their relationship with the legitimacy strategies.

According to the table below, it is observed that the *Design Quality Indicators* (DQI) that comprise sub-criteria of *functionality, build quality* and *impact* are mostly related to *pragmatic* and *moral* legitimacy strategies. Yet, evaluations about impact sub-criteria are also related to *cognitive* legitimacy. It is because *innovation and character* segment under *impact* sub-criteria includes the *judgement and evaluation* of stakeholders.

Impact sub-criteria under DQI was evaluated the most in the study of Volker et al. (2008). Thus, it can be said that DQI are mainly related to the meaning provided by *pragmatic and moral* legitimacy strategies unless they involve any judgement or evaluation making by stakeholders.

Table 2.14. Results of Volker et al. (2008) study and relationship with legitimacy.

	Functionality	Build Quality	Impact	Project constraints	Qualities of partners
Relationship with legitimacy strategies	Mostly moral	Mostly pragmatic	P-M-C (C* is at innovation and character (CI)	Mostly Moral, Pragmatic	Mostly Cognitive, pragmatic and moral
Importance given by evaluators	%59	%22	%69	%39	%33
Related parties	design	design	Design and its impact on stakeholders	Design requirements	designers

Project constraints are mostly related to *moral and pragmatic* legitimacy strategies. As it is seen also in DQI, it is related to moral and pragmatic legitimacy strategies because project constraint criteria are related to design features and do not include any judgment and evaluation of stakeholders.

Qualities of partners are related to *pragmatic and moral* legitimacy strategies, as well as mostly *cognitive* legitimacy strategies due to involving evaluations and judgements and evaluations about the qualification aspects of the designers.

Within all criteria set analyzed in the study of Volker et al. (2008), while the most evaluated sub-criteria are the *impact* sub-criteria, the *building quality* is the least evaluated sub-criteria.

When the above criteria are associated with Suchman's three strategic legitimacy criteria, the legitimacy relationships among the designer, the design product and other stakeholders can be expanded by indicating their dominantly used legitimacy strategies (Figure 2.7).

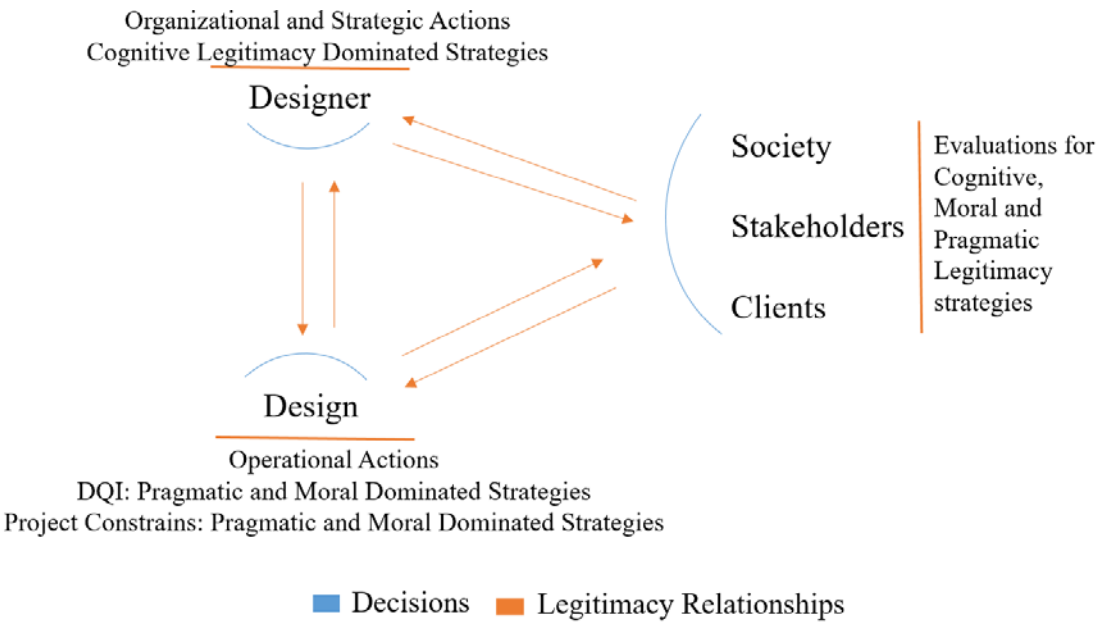


Figure 2.7. The conceptual relationship between decision making and legitimacy.

According to the figure above, the designer often legitimizes his/her administrative and strategic actions by developing cognitive legitimacy strategies because in this way (s)he can express ideas to other stakeholders and be accepted in many contexts.

Pragmatic and moral legitimacy strategies are developed to legitimize the design product by considering both the operational actions offered by the design to its user and the impact of these actions on the designer's reputation.

Other stakeholders use cognitive legitimacy strategies in conjunction with, or reference to, pragmatic and moral strategies to examine the understandability and acceptability of the designer approach and design characteristics.

A single relationship schema of the decisions of stakeholders and their legitimacy strategies could not be applied to different architectural practice definitions discussed in the literature. At this point, architectural practice definitions in studies of Winch and Schneider (1993) and Cohen et al. (2005), as well as the design evaluation criteria set in the study Volker et al. (2008), are combined in the below (Table 2.15).

Six criteria set, which are (1) the *designer's competence*, (2) the *demands* of stakeholders, (3) *value added* to the built environment, (4) design *complexity* of the building, (5) indicators for (5a) *design quality*, (5b) *project constraints* and (5c) *qualities of partners* and (6) *legitimacy elements*; (6a) l*egitimacy subject* - design and/or designer

knowledge-, (6b) *legitimacy sources* - external stakeholders - and their (6c) *legitimacy strategies* and (6d) *legitimacy actions*, are associated with architecture practice definitions by indicating their different degree of effect on the related architecture practice definition. The different relationships are summarized in Table 2.15.

Table 2.15. Legitimacy, Design and Architectural Practice Relationship.

Architectural Practice	**Client-Designer Expectations**				**Architecture Serving for/as**		
	Strong Delivery	**Strong Experience**	**Strong Ambition**	**Strong Ideas**	**Business Activity**	**Public Servant**	**Creative Endeavour**
Designer competency	VL	L	H	VH	VL	L-H	VH
Considering public/client demand	VL	L	H	VH	VL	VH	VH
Value creation	VL	L	H	VH	VL-L	H	VH
Building complexity	VL	L	H	VH	L	L-H	VH
DQI, PC and QP (Volker et al.)	DQI-CI, PC	DQI-CI, PC	DQI, QP, PC	DQI, QP, PC	DQI-CI, PC	DQI, PC	DQI, QP, PC
Legitimacy strategy used by the subject	P, M	P, M	P, M, C	P, M, C	P, M	P, M	P, M, C
Legitimacy strategy used by the source	P, M, C	P, M, C	P, M, C	P, M, C	P, M, C	P, M, C	P, M, C
Legitimacy subject	design	design	design and knowledge	design and knowledge	design	design	design and knowledge
Legitimacy action	simple building design	complex building design	building designed by a well-educated architect	building designed by a creative architect	well-working, low-cost building	the building serving for public	value-added aesthetic building

* VL: very low, L: low, H: high, VH: very high, P: pragmatic, M: moral, C: cognitive, DQI: Design Quality Indicators, PC: Project Constraints, QP: Qualities of Partners, CI: Character and Innovation

The below figures are also presented to better examine the legitimacy relationship in different architectural practice classifications considering the above-mention criteria set. How legitimacy relationships are managed in different architectural practices are schemed by figuring out *subject* (design and architect side) *and source* (stakeholders side) of legitimacy, types *legitimacy strategies* (pragmatic, moral, cognitive strategies used by subject and source of legitimacy), *legitimacy demand* (indicates which the side questions legitimacy of other side's actions), *legitimacy relationship* (on what legitimacy is assessed) and *legitimacy result* (the foreseen result of legitimacy assessment).

<table>
<tr><td colspan="2">Legitimacy Strategy</td><td colspan="3">Strong Delivery</td><td colspan="2">Legitimacy Strategy</td></tr>
<tr><td rowspan="2">Subject</td><td rowspan="2">Pragmatic
Moral</td><td>Architect</td><td>Delivery ⬅</td><td rowspan="2">Other
Stakeholders</td><td rowspan="2">Pragmatic
Moral
Cognitive</td><td rowspan="2">Source</td></tr>
<tr><td>Operational</td><td>➡ Cheap and effective designs</td></tr>
<tr><td colspan="2"></td><td>X</td><td>Legitimacy Demand</td><td>✓</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2">Legitimacy Relationship</td><td colspan="3">Design</td></tr>
<tr><td colspan="2"></td><td colspan="2">Legitimacy Result</td><td colspan="3">simple building design, functionally completed</td></tr>
</table>

Figure 2.8. Legitimacy Relationships in Strong Delivery.

<table>
<tr><td colspan="2">Legitimacy Strategy</td><td colspan="3">Strong Experience</td><td colspan="2">Legitimacy Strategy</td></tr>
<tr><td rowspan="2">Subject</td><td rowspan="2">Pragmatic
Moral</td><td>Architect</td><td>Experience ⬅</td><td rowspan="2">Other
Stakeholders</td><td rowspan="2">Pragmatic
Moral
Cognitive</td><td rowspan="2">Source</td></tr>
<tr><td>Operational</td><td>➡ Solving different architectural problems</td></tr>
<tr><td colspan="2"></td><td>X</td><td>Legitimacy Demand</td><td>✓</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2">Legitimacy Relationship</td><td colspan="3">Design</td></tr>
<tr><td colspan="2"></td><td colspan="2">Legitimacy Result</td><td colspan="3">Complex building design, functionally completed</td></tr>
</table>

Figure 2.9. Legitimacy Relationships in Strong Experience.

<table>
<tr><td colspan="2">Legitimacy Strategy</td><td colspan="3">Strong Ambition</td><td colspan="2">Legitimacy Strategy</td></tr>
<tr><td rowspan="2">Subject</td><td rowspan="2">Pragmatic
Moral
Cognitive</td><td>Architect</td><td>Experience ⬅</td><td rowspan="2">Other
Stakeholders</td><td rowspan="2">Pragmatic
Moral
Cognitive</td><td rowspan="2">Source</td></tr>
<tr><td>Operational,
Strategic and or
Managerial</td><td>➡
Solving different architectural problems</td></tr>
<tr><td colspan="2"></td><td>✓</td><td>Legitimacy Demand</td><td>✓</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2">Legitimacy Relationship</td><td colspan="3">Design and Designer</td></tr>
<tr><td colspan="2"></td><td colspan="2">Legitimacy Result</td><td colspan="3">A building fulfilling the client demand and designed by an experienced, educated architect</td></tr>
</table>

Figure 2.10. Legitimacy Relationships in Strong Ambition.

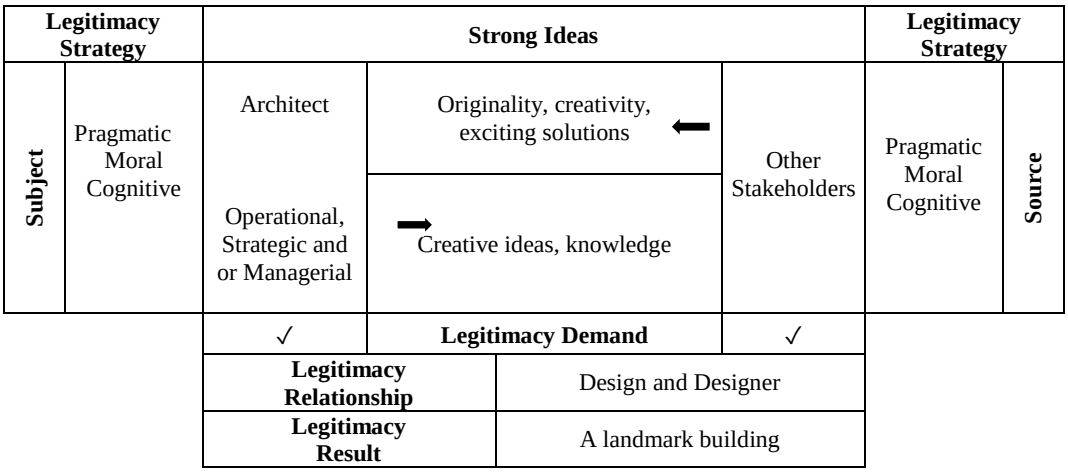


Figure 2.11. Legitimacy Relationships in Strong Ideas.

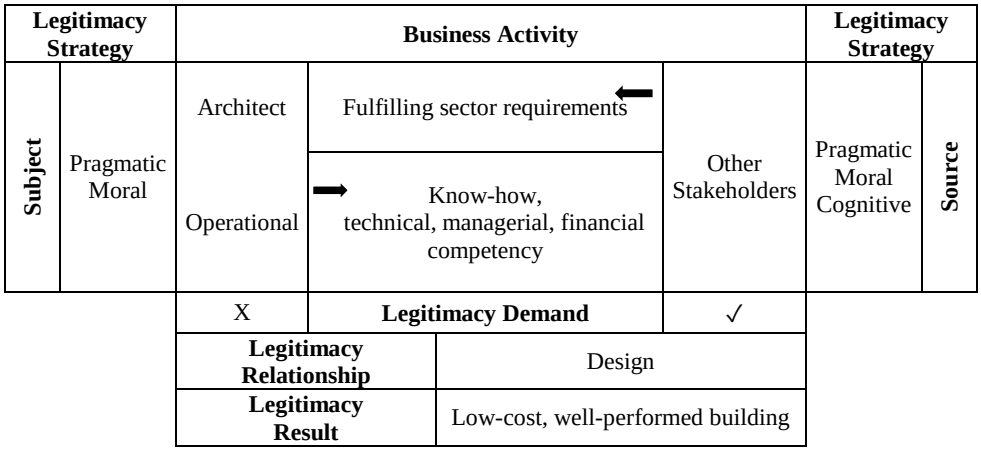


Figure 2.12. Legitimacy Relationships in Business Activity.

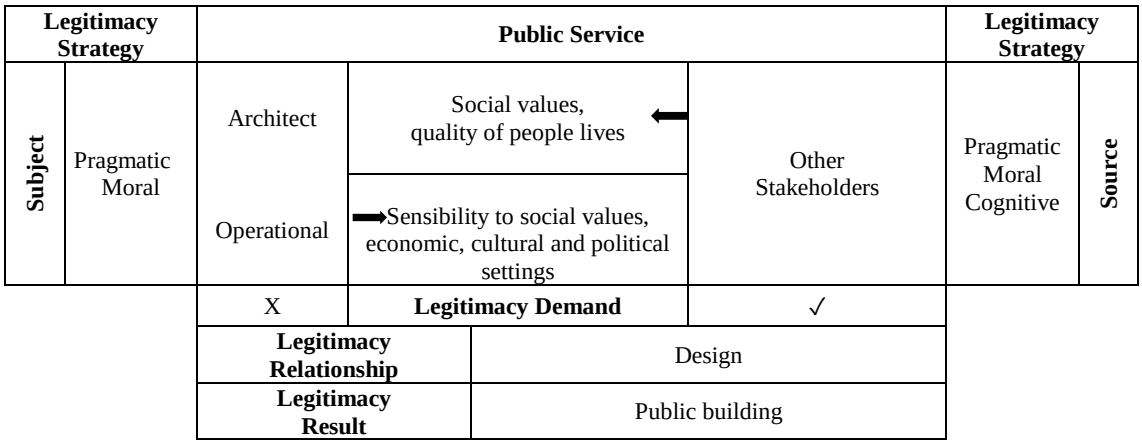


Figure 2.13. Legitimacy Relationships in Public Service.

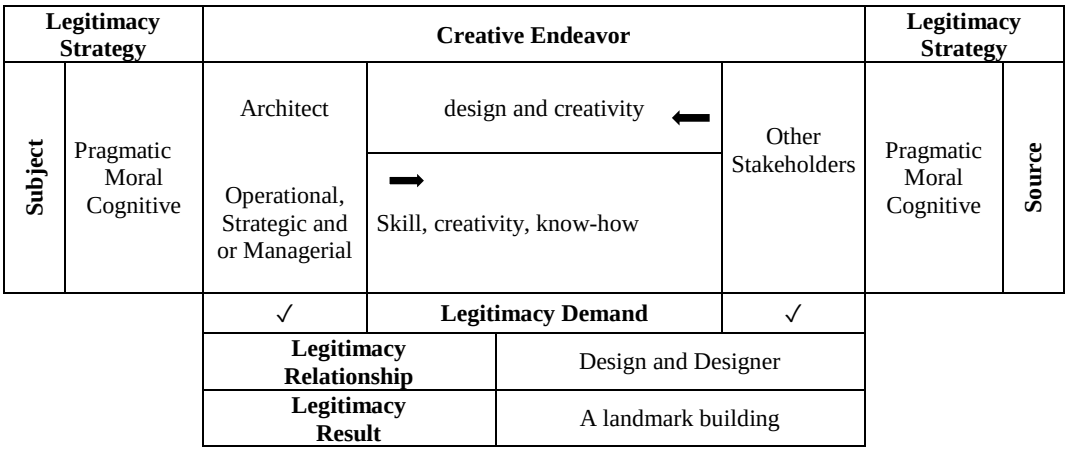


Figure 2.14. Legitimacy Relationships in Creative Endeavour.

Different relationship situations are examined above by considering how the decisions in architectural practices can be related to the concept of legitimacy. It is also examined from an inverted perspective below.

The relationship of legitimacy elements with different architectural practices is summarized in the tables below (Table 2.16 and Table 2.17). Here, how legitimacy is assessed between *subject and source of legitimacy* is summarized by indicating *legitimacy demand*, *legitimacy process* and *legitimacy result*. *Legitimacy demand* indicates the side who inquiries legitimacy of the other side's actions. *Legitimacy process* indicates the position and action of the subject, source and the media, where legitimacy assessment occurs. *Legitimacy result* is the outcome that is affected by the legitimacy assessment. Accordingly, Table 2.16 summarizes general conceptual legitimacy relationships and Table 2.17 aims to give practical examples considering the relationship defined in Table 2.16.

As intended to be understood in the tables below, the proposed legitimacy strategies on any design-related issue directly related to the social concerns, regardless of whether the legitimacy strategies are operated one of the managerial positions that can be either operational, administrative or strategic. Any decisions taken either by subject or source of legitimacy are strategic due to the association of decisions with their social contexts. The reason for being strategic of any legitimacy assumption proposed in the design-related issue is because legitimacy assumptions related to any design-related issue require analyzing its environment and being valuable and accepted in that environment.

Table 2.16. Architectural Actions in Legitimacy Relations.

Legitimacy Demand		**Legitimacy Process**				**Legitimacy Result effected on;**
		Subjects of Legitimacy		**Media**	**Sources of Legitimacy**	
Subject	**Source**	**Position**	**Action**			
	X	Operational	Building	Certification, Media, Charattes, Partners, Academic and Industry partnership, Advertisement, Media, etc.	Client	Design
Legitimacy Strategies		P, M			P, M and C	-
X		Strategic	Building, Architectural Process		Client	Design
Legitimacy Strategies		P, M and C			P, M and C	-
X	X	Operational Strategic	Building, Architectural Process		Client	Architect/Firm
Legitimacy Strategies		P, M and C			P, M and C	-
X	X	Operational Administrative	Building, Architecture Process		Client	Design and Architect/Firm
Legitimacy Strategies		P, M and C			P, M and C	-
X	X	Operational Strategic Administrative	Building, Architectural Process		Client	Design and Architect/Firm
Legitimacy Strategies		P, M and C			P, M and C	-

* P: pragmatic, M: moral, C: cognitive

In the legitimacy assessment of strategic decisions, strategic power may differ according to ways of their environmental relationship (Rosenzweig 2013, Section 2.1). For instance, legitimacy strategies proposed at designing a building can be evaluated in the first or second, quadrants, which are “making judgments and choices”and “influencing outcomes”. Legitimacy strategies proposed at attending to an architectural design competition can be evaluated in the third quadrant, which is “placing competitive bets”. Legitimacy strategies proposed at designing a prestigious and unique building can be evaluated in the fourth quadrant, which is “managing for strategic success”.

To conclude, many factors determine the legitimacy of the strategic decision, such as the contextual differences, perspectives and demands of the decision-maker and evaluators as well as the effects of the decision on the related environment. In architectural practice, there are many alternative positions related to evaluate the design process. Above mentioned relationships between elements of legitimacy and architecture practices only create a basis for the architectural practice by proposing a way to examine the legitimacy intentions of the design, the designer and stakeholders. However, the

uniqueness of the design process may lead to the formation of new positions except for the possible situations mentioned above. For this reason, examining the unique circumstances of the design decisions plays an important role in determining the legitimacy of the design decisions.

Table 2.17. Examples of Architectural Actions in Legitimacy Relations.

Legitimacy Demand		**Legitimacy Process**				**Legitimacy Result**
		Subjects of Legitimacy		**Media**	**Sources of Legitimacy**	
Subject	**Source**	**Position**	**Action**			
	X	Operational	Design Proposals	Project Reports, Jury Reports, Media, Colloquium	Jury or Organizations	Award-taking
Legitimacy Strategies		P, M		-	P, M and C	-
	X	Operational	Designing/ Constructing	Meetings, Proposals	Client	Designing/ Constructing a Building
Legitimacy Strategies		P, M		-	P, M and C	-
X		Strategic	Displaying actions and designs	Websites, Advertisement, Certifications	Client	Choosing the best design firm
Legitimacy Strategies		P, M and C		-	P, M and C	-
X		Administrative	Partnership	Certification, Advertisement, Media, Partners	Client	Gain acceptance of administrative actions by public
Legitimacy Strategies		P, M and C		-	P, M and C	-
X	X	Operational Strategic	Green Building Design	Certification, Advertisement, Media, Partners	Client	Designing a green building appropriate to green certification rules
Legitimacy Strategies		P, M and C		P, M and C	P, M and C	-
X	X	Operational Administrative	Co-design	Academic Industry partnerships, charattes	Client	Providing better quality building with collaborations
Legitimacy Strategies		P, M and C		P, M and C	P, M and C	-
X	X	Operational Strategic Administrative	Starchitects	Certification, Advertisement, Media, Partners, etc.	Client	Prestigious building both for client and designer sides.
Legitimacy Strategies		P, M and C		P, M and C	P, M and C	-

* P: pragmatic, M: moral, C: cognitive

CHAPTER 3

METHODOLOGICAL BACKGROUND

Establishing a methodological background is one of the important parts to effectively investigate two abstract concepts, decision making and legitimacy, in architectural practice. The dominant research disciplines in which each concept is studied are examined in detail to determine the most prevalent research methods.

This chapter will discuss two research methods for a better understanding of legitimacy strategies in decisions. These methods are Active Information Search to analyze decisions and Storytelling for legitimacy analysis. Thereafter, the conceptual research methodology will be presented in the conclusion as a foundation methodology for analyzing the legitimacy of strategic decisions.

3.1. Decision Making Analysis Approach: Active Information Sheet

In cognitive science, knowledge acquisition and usage of cognitive representation are important research areas to understand how acquiring knowledge is processed (Kühberger, Schulte-Mecklenbeck, and Ranyard 2011). As a sub-research area, process training is emerged for analyzing the cognitive thinking processes, the means and ways of decision-making. There are several process training methodologies proposed in the literature such as observational, simulation, psychological, neuroscience, experimental analyses. Each proposed methodology consists of two basic steps that are a process model for understanding attributes in cognition and the related collected data for hypothesis testing (Kühberger, Schulte-Mecklenbeck, and Ranyard 2011).

In general, three branches have been developed under process training, in the sub-fields of judgement and decision making: information acquisition, information integration and evaluation, and psychological, neurological and other concomitants of cognitive processes. For each branch of process training, different methods have been proposed. For instance, information boards, eye fixation, active information search under information acquisition, thinking aloud protocols, structured response dictation under information integration and evaluation, and final reaction time, Galvanic skin

conductance, Pupil dilation and eye-tracking, and neural techniques of the location under cognitive process analysis have been used as methods of analysis (Kühberger, Schulte-Mecklenbeck, and Ranyard 2011).

Within the framework of the thesis, Active Information Search (AIS) method is examined to understand decision-makers' attitudes and interests in decision-making processes.

Active Information Search (AIS) method is used for analyzing risky decisions that include subjective values and probabilities by examining information used when the interest of people is arisen (Huber, Huber, and Schulte-Mecklenbeck 2011). Risky decisions in natural tasks have been studied by Huber, Wider and Huber (1997), Huber and Seiser (2001), Huber, Bär and Huber (2009) and Huber, Huber and Bär (2011). In their studies, they have analyzed the concepts of information search, justification pressures and risk defusing operators (RDOs) in risky and natural decision-making processes. They have proposed Active Information Search (AIS) method for analyzing decision-making processes by taking into consideration of given information, probability aspects and different types of decisions.

This section aims to figure out the reasons for choosing this method by examining the methodological background of the method proposed by Huber, Huber, and Schulte-Mecklenbeck (2011). Besides, the relationship of the method with the legitimization of decisions will be discussed at the end of the section.

3.1.1. Methodological Structure

Active Information Search (AIS) method is developed to analyze decision-making approaches (Huber, Wider and Huber 1997, Huber and Seiser 2001, Huber, Bär and Huber 2009 and Huber, Huber and Bär 2011). The table below indicates the structural phases of the method by pointing out the objective of each component in detail (Table 3.1) (Huber, Huber, and Schulte-Mecklenbeck 2011).

Table 3.1. Phases of Active Information Search Method.
(Source: Huber, Huber, and Schulte-Mecklenbeck 2011)

Phases and Components of Active Information Search Method	
The phase of Information Acquisition and Coding	
Reading	-giving quasi-realistic scenarios -explicitly mention the possibility of the negative outcome -no probability provided
Question	-participant asking questions to obtain more information -the question coded by the experimenter (code is recorded)
Answers	-for each question, the experimenter presenting an answer in printed or computer (for standardization purposes and avoiding non-verbal influences)
Decision	-after having sufficient information, a decision is given by the participant
The phase of Construction of AIS Scenarios and Categorization of Questions	
Selection of Topic	-should be interesting -the participant should not know much knowledge about the topic for preventing external search -testing topic by informally interviewing a few participants of the same population -can be used for both expert and non-expert decision making analysis
The first version of Basic Description and Preparation of Answers	-including the role of the participant and a short description of the decision situation -description of alternatives -brainstorming for indicating possible questions to answer -generating appropriate answers -during the application, only the code of answer is recorded (*in the basic type of AIS)
Optimization of Task Description and Answers	-modifications for indicating the dominance of alternative, the implausibility of fact and rich description of the task -thinking aloud procedure (can be costly and time-consuming, post-experimental interviews, testing task description by generating a list of questions can be helpful methods to use
Categorization of Questions	-required for the information acquisition process -coding scheme to capture the category of question and test model comprehensibility
Problems in Coding Scheme	-considering additional issues during the construction of questions and answers as well as coding during the process
-construction of answer	-considerations; type of questions and its order, proposing RDO that are actions to choose an alternative to minimize risk and its applicability, negative event identification, the scale used for answers, existence and probabilities of RDOs, answering new alternative options
-procedural issues	-problems; asking more questions for the same alternative, asking for facts that are already described, repeated questions for positive and negative consequences -has to be standardized -asking for more precise and reformulated questions -comparing the importance
-reliability of the coding scheme	-required for questions and answers and validity of research -inter-rater reliability (Cohen's Kappa) of the coding system should be tested in pre and final processes
Statistical Analyses	Raw data analyzed in different ways; -quantity of information in total and specific coding category -the sequential aspect of information search; Parametric analysis for several questions analyzed Mann-U and Wilcoxon tests for biased means due to repeated and 0 questions Logit analysis for concurrent analysis of several factors varied between subjects by fitting them in a hierarchy of logic model for identification of effective factors Sign and Cochran Q tests for factors varied within sub-headings

To refer to details of the above table, the application of the method begins with presenting *decision tasks* to subjects that are participants, experimenters. Before making their decisions, a particular group of subjects asks *questions* about the task to better comprehend the details of the task.

Analyzers use this process as a pilot study to rearrange and optimize design tasks and to specify *coding schemas* for items used in questions and verbal protocols. Coding schemas can be based on approaches of the subject on indicated protocols (eg: the protocol based on probability, evaluation, new alternatives, worst-case planning, control, long-term plans, decisions, irrelevant and not categorical categories) (Huber, Wider and Huber 1997, Huber and Seiser 2001, Huber, Bär and Huber 2009 and Huber, Huber and Bär 2011).

After reconfiguring questions, analyzers collect the questions by subjects and ask for their *answers or verbal decisions* to better understand the mental/cognitive representation of their decision-making process (Huber, Bär and Huber 2009).

Qualitative data collected through questions and answers are transferred into quantitative inputs by using protocol codes and then statistically analyzed to explore highlighted categories and/or concepts and to reveal patterns of decision-making processes (Huber, Wider and Huber 1997, Huber, Bär and Huber 2009).

3.1.2. AIS Scenarios and Types

In the scenario design, two perspectives dominated the conceptualization of decisions; (1) descriptive and (2) empirical that are mentioned in detail in decision theory.

Descriptive perspective indicates that decisions are shaped in relation to two response modes that are (1a) *choice* for focusing on preferable outcomes, and (1b) *judgement* for assigning subjective values to evaluate processes and outcomes to make the final decision.

Empirical perspective emphasizes two processes of decisions that are (2a) *outcome-oriented*, which is the focusing on the radical and specific choice and (2b) *process-oriented*, which consists of two types of process analysis; pre-decisional and post-decisional (Huber and Seiser 2001). The main reason behind evolving different perspectives is the nature of given tasks to decision-makers.

According to Huber, Wider and Huber (1997), there are two ways of assigning a task to decision-makers. In the first approach, the task is designed as (1) process dominated to make a decision based on monetary aspects rather than subjective probabilities. In the second approach, the process components are more important for the risk research that prioritizes the utility and subjective probabilities which are (2) behavior dominated.

In AIS method, the quasi-realistic scenario is complemented with two possibilities of choice options that are (1) non-risky (descriptive) for memorization and labeling purposes and (2) risky options (Huber, Huber, and Schulte-Mecklenbeck 2011).

Besides the approaches to define decision tasks, the presentation of information is also crucial for the decision-maker to design the decision-making process. Huber, Wider and Huber (1997) also emphasize that information can be presented either (1) completely or (2) administered by the task-giver.

Types of application of AIS procedure are defined under the administered scenario. Accordingly, two main types of AIS procedures are defined by Huber, Huber, and Schulte-Mecklenbeck (2011) are (1) Basic and (2) List AIS types. The main differences, advantages and disadvantages of each type are summarized in the below table (Table.3.2).

Table 3.2. Types of Active Information Search Method.
(Source: Huber, Huber, and Schulte-Mecklenbeck 2011)

Types of AIS procedure	
Basic Type	**List Type**
Advantages: -**does not push information** to the participant	**Advantages:** -questions are designed and presented to participants that can **ask more questions** -questions do not have to be coded during experimental sessions; **practical advantages** -behavior coded that **eases implementation** of alternative attribute matrix in computer -**alerting participant about risk diffusing operators** -can be used in **Internet experiments**; chatrooms, e-mail; sending questions, responding and answering and web-based processes
Disadvantages: -questions **administered during the experiment** -questions are **coded during the experiment** -**no structure** for information search -participant may **not be aware of RDOs** -applied **only face-to-face**	**Disadvantages:** -**computerized AIS application**, WebDib (ability to judge text is low that may result in unexpected results) -**cost of information** in monetary and computational aspects in terms of the number of questions and their choice by the participant, indicating several questions and type of information

Until now, types of tasks, information search, probability and risk, as well as justification in the decision processes have been examined in detail.

Justification is an important concept in decisions making processes to have the reason for deciding by explaining why (accounting) and believing that the choice is the best (convincing) (Huber and Seiser 2001). The main reason for justification is caused due to the justification pressures that are mainly external pressures (Huber and Seiser 2001). Justification pressures cause decision-makers to test the decision effect and to conduct a systematic investigation throughout their decision processes (Huber and Seiser 2001). As a result, justification pressures have caused to defuse the risk in decisions. Huber, Bär, and Huber (2009) also analyze the *risk defusing operators* (RDOs) that indicate the actions of the decision-maker and their relationship with justification pressures in detail.

In the practice, social and contextual conditions that constitute the *legitimacy pressures* in decisions act as justification pressures that are mentioned in the AIS method. Therefore, these conditions need to be analyzed in order to understand how and why managers make justified, in other words, legitimate decisions. Herein, AIS method is a beneficial and capable method for analyzing legitimacy strategies in organizational decision-making processes in detail. Still, decision-makers first need tasks or stories to contemplate on them.

3.2. Deconstructing Legitimacy: Storytelling

Storytelling analysis, a research method commonly used in organization management studies, is aimed to be explained in two sections. In the first section, the storytelling approach is explained with its *theoretical position* by emphasizing ontological, epistemological, conceptual backgrounds and its *practical position* in organization management studies. In the second section, storytelling is considered as a *research methodology*. Herein, how stories are analyzed concerning both methodological steps and ways of conceptualizing analysis in organization management studies are highlighted. In the end, how storytelling is a powerful tool for legitimacy and strategic decision-making is also emphasized.

3.2.1. Related Concepts

Linguistics is the strongest communication tool in organizational discourse for expressions that are shaped by metaphors, rhetorical strategies. Golant and Sillince (2007) mention that language, as a tool for communicative action including the semantic meaning and contextual circumstances, leads to cause differences in analysis approaches when it is compared with the normative approaches in management studies (Kanjanabootra and Corbitt 2016).

Narrative analysis, one of the linguistic approaches, whose history dates back to Aristotle, is used in organization management studies currently. Aristotle explained the narrative as "imitation of an action" (Aristotle 1954). He summarized three types of the narrative concerning the definition of the plot that are the *linear*, *poetic* and *motif-indexing* plots (Boje 2006). In organization management studies, the linear approach has been widely used. Sequential order is important to convey the objective of the story to the other side because the main aim of narrative analysis is to indicate story-tellers' objectives by pointing out how, why and perspective of the teller (Kanjanabootra and Corbitt 2016).

Narratives are mainly used to write the research, collect stories for the research and use themselves as a theory to interpret the stories (Vendelø 1998). Thus, narratives align the elements of the story that may result in different narratives for the same story. By achieving this, narratives use actions in a chronological, linear approach by indicating beginning, middle and end (Boje 2006). Boje (2006) emphasizes that the *linear approach* of narrative narrows the complexity of stories that consists of fragmented part of social interaction.

Storytelling is a research method that is emerged under narrative analysis has been proposed to analyze complexity in social interactions (Boje 2006, Thier, Russin, and Mahagaonkar 2018).

Machiavelli (1950) mentioned the *stories* as tools used for the strategic purposes of managers. Although the modern management approaches have a distance to apply storytelling; cultural, social, personal and managerial differentiations cause emerging storytelling that can analyze dynamic, complex, partial and fragmented actions in management (Forman 2013). Besides normative and modern approaches, storytelling is used for analyzing the constructivist worldview that accepts the existence of multiple truths for realities (Thier, Russin, and Mahagaonkar 2018). Storytelling provides multiple

perspectives by considering that individuals can perceive differently rather than providing one-dimensional thinking or limiting the actions with predetermined norms as in narrative analysis, (Thier, Russin, and Mahagaonkar 2018).

The simplest meaning of storytelling is knowledge transferring hence, it includes both ontological and epistemological aspects of itself (Brown et al. 2005). It is concerned with knowledge objects, thus it has propositional and being aspects ontologically. The transfer process of knowledge is related to the epistemological aspect. While transferring knowledge, the context and subject sensitivity of stories are the distinctive feature of storytelling. It mainly relates mentioned subjects to the specific time and place that associate stories with the social positions of organizations (Brown et al. 2005).

According to Boje and Tourani (2018), texts are tools to transfer, communicate stories and represent material reality. They further propose several storytelling approaches related to ontological and epistemological positions. They are (1) vital sociomateriality methodology that indicates humans as an ontological agent with other elements in the story and (2) ontological storytelling methodology that analyses the relationship among time, place and lenses that set in living materiality (Boje and Tourani 2018). They further emphasize the alignment of actions in stories that is represented differently within different storytelling realms such as *linear* alignment in Western storytelling, *non-linear* alignment in indigenous storytelling and socially constructed alignment in sociological storytelling (Boje and Tourani 2018). Following their analyses, Boje proposes a postmodern approach for storytelling, *Antenarrative*, that consists of fragmented stories concerning time and sequence of actions for analyzing complex concepts in organizational relationships such as change, stability and culture (Forman 2013).

In the literature, different concepts such as sense-making, plausibility, trust, validity, subjectivity, awareness, culture, communication, and theories such as ethnography, reproduction and reflectivity are intertwined with the storytelling approach for defining its objectives. Stories are sense-making tools by positioning people in a context within a specific time and giving the feeling of becoming (Maclean, Harvey and Chia 2012). As a result, they shape the activities of people by controlling power, constructing identities, transferring knowledge and sense-making and destroying abilities (Eshraghi and Taffler 2015).

According to Weick (1995), the sense-making ability of the story strengthens with the ability of stories concerning their usage of language and communication that allows

guiding action, engaging people and constructing interest. Ultimately, the sense-making feature of the story causes to form missions, strategies and goals as well as decisions by reconsidering what stories mention (Boyce 1995, Boje 1991). Therefore, in storytelling, *plausibility* is more important than *accuracy*. Herein, sense-making or narrative rationality, reveals coherence, fidelity and trust on the listener sides (Eshraghi and Taffler 2015).

Due to stories are idiosyncratic from the viewpoint of the storyteller, knowledge can be inconsistent, intangible, unpredictable and inexplicable (Brown et al. 2005; Eshraghi and Taffler 2015). Herein, *trust* is required for achieving a successful story analysis (Brown et al. 2005). All reconsiderations about storytelling are because it is the research method that evolved in interpretive and critical research realms. At this point, one of the contemplating concepts is about the *objectivity* of research.

Kanjanabootra and Corbitt (2016) highlight that *subjectivity* in storytelling or narrative is acceptable as far as the subject tells the story. Thus, the validity of the research is also determined by the approving writer to the validity of the own story (Kanjanabootra and Corbitt 2016).

Thier, Russin and Mahagaonkar (2018) mention the *efficacy* of storytelling by indicating several concepts. For instance, storytelling creates awareness by reflecting issues to the other side; sensitizes people to the culture by introducing new topics and meaning; reveals the benefits of communication by making dialogue on critical and sensitive topics. As a result, storytelling becomes the take-off point for changing experiences and behaviors (Thier, Russin, and Mahagaonkar 2018).

In terms of the theoretical interactions, *ethnography* is highly related to storytelling because of both including the context in their analysis. Thus, ethnography is an inseparable part of storytelling (Kanjanabootra and Corbitt 2016). *Reproduction theory* is also one of the related theories with storytelling that emphasizes that the power of several social and cultural groups, behaviors are constantly changing due to the power of dominant framing the meaning and practice (Kanjanabootra and Corbitt 2016). Reflectivity theory also summarises the purposive action of storytelling by emphasizing that the ability to reflect the actions critically causes the reconstitution of actions and changes in power, politics and culture (Kanjanabootra and Corbitt 2016).

Storytelling as a concept is a powerful mediator to understand the experience of others and reshape your own experiences and purposes by approving that there are multiple realities. Therefore, analyzing stories is also crucial in order to develop

successful decisions regarding the changing dynamics of culture, politics, personal interests, social phenomenon.

3.2.2. Methodological Structure and Types

Before describing the structure and types of storytelling, understanding elements of a story is essential for better comprehending reasons for revealing differences. Elements of storytelling were firstly defined by Aristotle under seven headings that are *plot, character, theme, dialogue, melody, décor and spectacle* (Aristotle 1954). Table 3.3 indicates special characteristics for each element. They are important to be acquainted with to achieve an effective storytelling analysis.

Table 3.3. Elements of Storytelling.

Elements of Storytelling	
Plot	Indicating the **actions of characters** Actions mainly on overcoming struggles and challenges The aim is to improve positively their actions
Character	Indicating actors and their **personalities** Personalities based on emotions, needs, backgrounds The aim is to develop empathy on motivations
Theme	Indicating the **goal of the story** Focus of story
Dialogue	Indicating **what and how people talking** and not wanting to talk Emphasizing feelings
Melody/Chorus	Indicating the **ability of the storyteller** to use his/her emotions to better understand the theme
Décor	Indicating **the environment** How the environment affects teller actions and behaviors
Spectacle	The part **listening story**, remembering it and proposing discussion and ideas

In the storytelling literature, six steps of story analysis are defined by Thier, Russin, and Mahagaonkar (2018) that are planning, interviewing, extracting, writing, validating and disseminating. In the *planning phase*, directions are set concerning goals, interests and learning knowledge that are derived from stories. The *interviewing phase* consists of semi-structured interviews that indicate the guidelines about the focus of questions. *Extracting* is the kind of qualitative content analysis that consists of evaluating and systematizing by grouping the topics thematically. In the *writing phase*, all analyzed emotions, actions, themes are analyzed by both indicating the saying of the storyteller and

the statement of interviewers in two columns. The *validating phase* is an agreement phase between the teller and listener about the final output. As a final step, *disseminating* is the discussion phase that provides benefits to the organization (Thier, Russin, and Mahagaonkar 2018).

In terms of types of storytelling, different conceptualizations have been proposed in the literature. They are varied according to the aim and subject of stories, feelings of the storyteller, positive and negative stories evolved due to dualities and ontological, epistemological and methodological backgrounds of stories.

Thier, Russin and Mahagaonkar (2018) indicate that two types of stories exist in the organizations in terms of the aim of stories that are without *any purpose* stories and *strategically told* stories. Strategically told stories generally have several purposes such as indicating status, security, control, creation, inspiration, resurrection, etc. (Thier, Russin, and Mahagaonkar 2018).

O'Connor (2002) emphasizes three types of storytelling that are shaped by the subjects of entrepreneurs. They are *personal* stories that are about founding and vision, *generic* stories that are related to marketing and strategy and *situational* stories that mention historical and conventional circumstances.

Gabriel (2000) categorizes the entrepreneurs' self-legitimacy stories based on their feelings. Accordingly, *epic stories*, such as successful investment stories, emphasize important success that establishes a feeling of admiration for the listener-side. *Tragic* stories include sad feelings that reveal after victimization. *Comic* stories are used for masking bad situations by generating happy themes. *Romantic* stories emphasize the feeling of love to find out gratitude and appreciation.

Martin et al. (1983) propose seven types of stories that are based on *dualities* that are equality and inequality, security and insecurity, and control and lack of control for the analyzing claim of uniqueness in cultural manifestations. Accordingly, they summarize seven stories that can be either positive or negative concerning their related duality concepts. Accordingly, three stories that are "what do I do when a higher status person break the rule?", "is the big boss human?", "can the little person rise to top?" are under the issues of equality and inequality; two stories that are "will I get fired?" and "will the organization help me when I have to move?" are under the issues of security and insecurity and two other stories that are "how will boss react to mistakes?" and "how will the organization deal with obstacle?" are under the issues of control and lack of control. Thus, Martin et al. (1983) analyze the concepts of status, ability, possibilities,

opportunities, mistakes and obstacles in organizations by conducting a content analysis based on script theory over the stories.

Rosile et al. (2013) categorize story analysis concerning their ontological, epistemological and methodological backgrounds under seven headings. *Abstractionist* analysis is based on empirical tests on linguistics and semiotics patterns that have a universalistic and materialistic approach, yet it is not ontologically being in the world. *Practice* analysis is conducted for re-storying narratives in a practical and useful approach that mainly has problems in dominant ideology and tries to change it either in practical or subversive and political ways. *Antenarrativist* approach focuses on micro-living stories to analyze their effects on narratives in four ways of postmodernist approaches; linear, cyclic, spiral and rhizomatic. The *narrative* approach aims to unmask hidden meaning objectively and empirically by focusing on the context and fragments of the story. *Living story* analysis aims to achieve a deeper understanding by focusing on multiplicity. *Materialist* analysis is used for historical, material, cognitive conditions and their effects on the stories. The *interpretive* approach is under constructivism focuses on stories as structured and identifiable units and analyzes them by subjectively deconstructing them to make explanatory purposes (Rosile et al. 2013).

3.2.3. Applications in Organization Management Studies

Storytelling as a research method in organizational management was firstly studied in the mid-1990s at MIT under the discipline of organizational learning (Thier, Russin, and Mahagaonkar 2018). The study of MIT scholars called “learning histories” was for understanding experience and knowledge in organizations by analyzing stories (Thier, Russin, and Mahagaonkar 2018). Before their study, several theories and methods were considered to constitute the foundation of storytelling such as *ethnography* for understanding contextual expressions, the *narrative* method for analyzing telling complete stories, *participant observation* for understanding stories background in terms of setting relationships, *action research* for analyzing collaboration and participation to find solutions, *journalism* for analyzing how to catch the interest of readers (Thier, Russin, and Mahagaonkar 2018). Currently, *storytelling* as a research method has been used for documenting, evaluating experiences to make them transferrable and usable (Thier, Russin, and Mahagaonkar 2018).

Until the 1990s, the storytelling method has been widely applied in many areas of organization management and used for different purposes. To briefly mentioned the areas, storytelling is applied in *knowledge management* for developing strategies by obtaining knowledge via stories, in project debriefing for evaluating firms, in the *documentation of projects* for conveying important strategic purposes, in documenting experiences and knowledge of leaving experts, in *analyzing organizational culture* for understanding identity, mission and top-down processes, in *change management* for understanding current expectations, in *brand management* for evaluating firms concerning their values, in *market analysis* for understanding customer expectations and emotions, in *quality management* for suggesting improvements, in *organizational environment analysis* for understanding culture and expected goals by increasing trust and conflict management for solving problems by discussions and workshops (Thier, Russin, and Mahagaonkar 2018). To summarize, storytelling is mainly used with purposes of documentation, identification of success, analysis of cultural changes, collection and preservation of crucial knowledge, training, reduction of cost, communication, interpretation of past, etc. (Thier, Russin, and Mahagaonkar 2018, Brown et al. 2005).

3.2.4. Storytelling in Legitimacy Analysis

After analyzing the conceptual and methodological backgrounds of storytelling, it can be deduced that storytelling prepares and implements a plan to shape strategic decisions (Boyce 1995). For instance, in the US Army, prior experiences based on stories highly have been analyzed and used for decision-making processes (Thier, Russin, and Mahagaonkar 2018).

In addition to shaping the decisions of organizations, it mediates the identity, reputation and legitimation of organizations (Tahar and Mussol 2017). Many storytelling studies have been conducted in the literature for the analysis of the legitimation of decisions in organizations. The table below indicates the studies focusing on storytelling and linking storytelling to legitimacy (Table 3.4).

Table 3.4. Storytelling and legitimacy studies in the literature.

Source	Related concepts	Usage of storytelling as a research method	Research topic
Garud, Schildt, and Lant (2014)	Storytelling, cognitive and pragmatic legitimacy	Indicating features of storytelling; plotting the future and intertextual linkages and analyzing their effects on legitimacy	Comprehensibility and plausibility of legitimized objectives are clarified by storytelling and are used for **entrepreneurs to gain support and legitimacy**
Eshraghi and Taffler (2015)	Storytelling and sensemaking	Storytelling as a rhetorical device for generating meaning	Storytelling including sensemaking capability is used for **self-legitimation** by constructing identities and seeking legitimacy.
	Self-legitimacy; impression management and storytelling	Analysis of transcripts of 50 managers via a storytelling typology (epic, tragic, comic, romantic)	Understanding relationship **self-legitimacy strategies** and modes of storytelling
Vendelø (1998)	Reputation and narrative	Narrative analysis is conducted via interviews	Analyzing the constitution of **reputation**
Kanjanabootra and Corbitt (2016)	Knowledge, expertise and narratives, auto-ethnographies	Narrative analysis of 18 construction professional	Understanding **contextual impact and cultural reflexivity** of professional expertise in construction
Maclean, Harvey and Chia (2012)	Sensemaking, storytelling and legitimacy in career analysis	Interviewing	Analyzing the **self-legitimacy modes of business leaders** and sensemaking processes by analyzing stories
Golant and Sillince (2007)	Legitimacy in organizational level and narrative	Interviews with senior executives, employees and volunteers, etc.	Organizational legitimacy is related to the **persuasiveness** of organizational storytelling
Boje (1991)	Collective storytelling and memory	Conservation analysis	Collective storytelling is a tool for sensemaking and creating the **individual and collective memory**

3.3. Proposing the Conceptual Research Methodology

The conceptual background of the proposed research methodology in the thesis is begun to take a form after analyzing the potential contribution of each research method discussed in this chapter.

First, it is considered that legitimacy strategies in decisions can be analyzed by requesting subjects for telling managerial stories and then analyzing their decision-making and legitimacy aspects. Yet, after analyzing the method of Active Information Search (AIS), it was deduced that analyzing decision and legitimacy strategies only by

listening to their stories may cause problems in achieving valid and reliable conclusions due to the too much qualitative nature of the analysis. Moreover, achieving a reliable and complete data set is not attainable in the first option. Therefore, using AIS method as a tool for data collection is considered to be a reliable way to reach generalizable and valid conclusions. To prevent potential problems and conducting a valid analysis, it is considered to prepare stories and collect potential decisions by applying AIS method to better understand legitimacy strategies concerning acquiring knowledge.

Table 3.5. Relationship between elements of storytelling and legitimacy.

Storytelling		**Legitimacy**	
Storytelling elements	**Purpose**	**Subject or Source**	**Type of subject or source**
Plot	Action of character	Subject	Product/process/service
Character	Actor and personality	Subject	Operational/Strategic/Administrative
Theme	Goal/focus	NA	Legitimacy
Dialogue	Feeling and talking style	Source	Media and way of their usage (certification, media, etc.)
Melody/Chorus	Ability to tell	Source	Media and its success to transfer legitimacy aim
Décor	Environment	Source	Environment (State, industry, etc.)
Spectacle	Listening story	NA	Legitimacy Assessment

The above table and below figure represent the conceptual background of the proposed research methodology. Before the phases of data collection and analysis, task descriptions presented in AIS method should be carefully written in order to analyze legitimacy strategies. At this stage, associating elements of storytelling with subjects and sources of legitimacy is crucial to convey the aim to the participants of AIS method (Table 3.5). In the stories, in task descriptions for AIS, it is important to consider that participants can easily think about legitimacy strategies when asking questions and answering phases. After the stories are prepared, the construction and application phases of AIS are

conducted synchronously to collect the data. Then, statistical analyses are done and results are discussed (Figure 3.1).

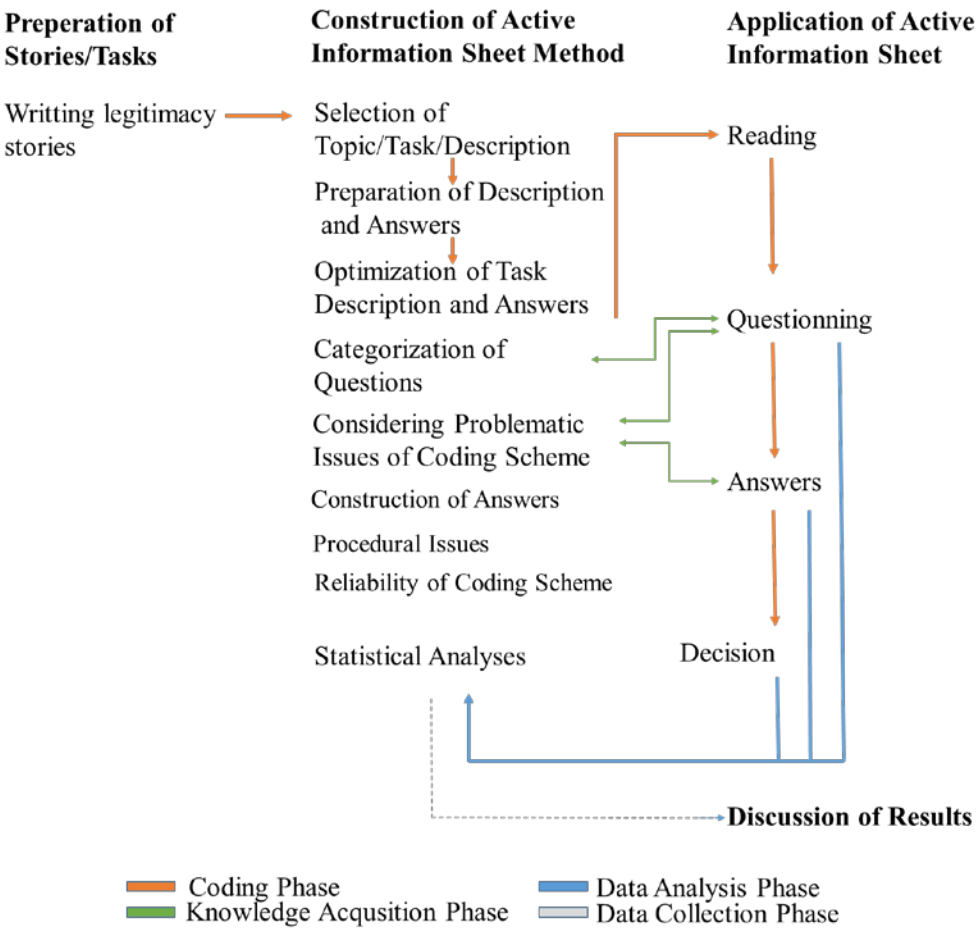


Figure 3.1. Flow chart of the proposed conceptual research methodology.

The proposed research methodology is intended to be a generic methodology to understand and analyze the relationship between decision-making analysis and examination of legitimacy strategies. When the context varies, this generic relationship should be re-evaluated and resolved.

CHAPTER 4

CASE STUDIES

Rational, conventional, analytical and functionalist approaches in the built environment investigate being practical, economic, technical competence, stakeholder involvement, procurement controls, quality aspects, etc. However, legitimacy is evaluated by the commitment of parties within a socio-economic environment using political, institutional rhetoric. Thus, being a socially and rhetorically constructed concept should be also investigated with different theoretical approaches provided by social sciences.

Different lenses for both Modern theoretical positions such as Critical Theory, Classical Hermeneutics and Post-modern theoretical positions such as Post-modernism/Contemporary Hermeneutic and Pragmatism are taken into consideration through the analysis of legitimacy in strategic decisions. Critical theory provides a critical position to social constructs while analyzing legitimacy meaning. Hermeneutics reveals the cultural, socio-historical and mental reasons in legitimacy actions by interpreting them. Post-modernism makes researchers realize that there is no specific or pre-defined legitimacy strategy and each strategy changes its meaning in time and place. Pragmatism emphasizes the importance of aim and context that are beneficial for analyzing the effectiveness of legitimacy concerning its usefulness and value judgement and rationality of social participants.

The above statements are important to construct a legitimacy analysis about being aware of that legitimacy is a context-dependent, value-governed, socially-constructed concept and it has tacit knowledge.

One of the early steps of analysis, which is to define and investigate characteristics of the unit of analysis, is critical to analyze legitimacy strategies. Because the concept of legitimacy is analyzed, the unit of analysis should include a social relationship. Either simply generating legitimacy strategies or only evaluating or criticizing the strategies is not sufficient to discuss legitimacy. Legitimacy reveals the validity of dialogue between different social relationships. Therefore, the unit of analysis in the thesis should also involve both strategy producers and evaluators/criticizers concerning revealing meaning in legitimacy strategies.

4.1. Architectural Design Competitions (ADCs)

Architectural Design Competitions (ADCs) are the platforms that an organization aims to construct a structure or a building and announces its requirement to architects to propose their design ideas accordingly. Competitors/architects aim to convince the jury that comprises professionals and/or stakeholders by using their architectural skills and their written representations called as *project reports*. The jury both explains the *guidelines* of competitions and evaluates the submitted projects concerning their requests and expresses their justifications via *jury reports* after the panel discussions. The process begins with the announcement of guidelines that emphasize the purpose of competition, requirements, demands and further technical and procedural information. Then, designers ask *questions* to the jury to better design their proposal.

At the submission phase, competitors submit a written project report besides their design submission. In project reports, competitors explain their reasons and justification for their design decisions. With the guidelines and jury reports, the objectives of jury members, their intention and reasons to choose projects are indicated. Questions and project reports emphasize the intention and justifications of competitors. While questions emphasize the needs of competitors, project reports are important to understand accounting (explaining why) and convincing (believing that the choice is the best) reasons (Huber and Seiser 2001).

Although the general structure of ADCs appears as arranged and methodical, it is a complex and critical process in terms of reconciling the different interests of different stakeholders as well as the value they add to the architecture. Adamczyk et al. (2004) argue the value of ADCs over (1) the design value, (2) their critical and reflexive practical aspects and (3) the participatory role by including the public in the process. The design adds value to the process by improving both innovative, technological and quality and aesthetic concerns about designs. Evaluating the process as critical and reflexive stems from the characteristics of evaluation processes. Although the process has a democratic aspect by giving importance to the thoughts of stakeholders as well as the public, the critical issues in judgment and evaluation phases may cause to reveal controversial views (Adamczyk et al. 2004).

Similar debates have been discussed in the context of Turkey. Yılmaz (2015) discusses the critical concerns about ADCs in the article, which summarizes the

improvement process in the transition of "Competitions and Architecture Symposium" to "Do with Competition" process. The article highlights four main concerns. According to Yılmaz (2015), an annual program that covers debated topics about ADCs should discuss (1) failures and potential solutions in the process of ADCs; (2) demands of respective people on two issues that are comparisons between public and private competitions and introducing a closing forum where all participants come together; (3) innovative ideas on competition models, improving participatory approach, student competitions and integrating national and international competitions and (4) problems about the interpretive approach in judgement process and their reasons. Moreover, Uzun (2004) indicates that the failures in ADCs may cause the winner projects not to be implemented as in the examples of “Law Courts”, “Grande Arche”, “Üsküdar” and “Taksim” competitions. Uzun (2004) also summarizes the reasons for failures under nine headings that are determining jury member, subject of competition, insufficient distribution of prizes, the inadequacy of specifications, unclear purposes and achievements, factors determining qualitative characteristics of the competition such as location, type, rule, area, member, expectations, negativities in the process and evaluation processes.

Van Wezemael (2011) emphasizes that competitions include diverse interests of stakeholders such as designers, juries, industry, investors, government, society. Therefore, it would be difficult to reduce this complex decision-making process to a single approach if the above-mentioned controversial issues are discussed along the axis of decision-making and legitimacy.

Therefore, at this stage, decision-making processes in competitions can be discussed under two headings; (1) general classification approaches (rational, behavioral and pluralist) and (2) degree of their strategic power (Rosenzweig 2013).

In terms of decision-making approaches, rational decision-making approaches can be used to solve design problems and to choose the best design. The behavioral decision-making approaches can be used to influence stakeholders (competitor side) or to be influenced by the design proposals (jury side). Pluralistic decision-making approaches can be included in any phase where the importance and value given to stakeholders are emphasized.

Any decision taken in ADCs is strategic because they are affected to influence the competitive power of design, designer and its environment. Yet, their degree of strategic power may vary. As it is discussed before, four quadrants proposed by Rosenzweig (2013) indicate the strategic power of decisions. In the context of ADCs, decisions at the

third part of the quadrant, which is “placing competitive bets”, are highly used due to the competitive, evaluative and rewarding nature of competitions. Yet, decisions from the first quadrant, “making judgments and choices” and the second quadrant, “influencing outcomes”, may also be observed due to including decisions about design solutions, performance and innovation.

Being accepted by stakeholders, influencing others, being impressed, social and ethical appropriateness, etc. are the other concerns of decisions in ADCs. At this point, the concept of legitimacy has a significant role in the assessment process about these concerns. In the literature of ADCs, the evaluation process is considered as critical in terms of different approaches of critics, interpretations and judgements about design proposals. At this point, it is thought that the concept of legitimacy is a buffer zone to minimize potential problems that are caused by interpretation, social, ethical, political unsuitability.

4.1.1. Judgement and Design Quality in ADCs

Evaluation of ADCs has been discussed since the 18th century with the French Revolution (Chupin 2011). Since then, ADCs have been recognized as socio-democratic platforms to select the best design (Al-Qaysi et al. 2016, Chupin 2011). Nevertheless, the reliability to competitions has reduced due to several reasons such as judgement problems in the decision-making process, personal intolerance and point of view, not properly documented competitions, informal announcements, communication gaps among stakeholders of competitions, etc. (Al-Qaysi et al. 2016).

The study of Rönn (2013) summarizes tensions between different options and interests in ADCs by indicating eleven dilemmas. The *dilemmas* are valuable to better understand the reasons for discussions about the reliability of competitions.

“*Democracy versus expert dilemma”* emphasizes the public openness and closeness of competitions.

“*Anonymity and direct communication dilemma”* is related to the privacy of communication.

“*Security and innovation dilemma”* is concerned with usefulness, efficiency and newness and innovation of design.

"*Precision and latitude dilemma"* is about the jury's degree of steering and tolerance for judgement.

"*Program request and feedback dilemma"* is related to the predictability of judgement.

"Minimizing faults and maximizing quality dilemma" is to define how the design quality is interpreted.

"*Letter of intent and educational development dilemma"* discusses the learning process in ADCs phases.

"*Objective and process dilemma"* is concerned with how the selection for the jury will be organized and judged.

"*Present and future dilemma"* is about the short and long term effects of designs.

"*Professional and community approval dilemma"* discusses the control in competitions (Rönn 2013).

When dilemmas are examined, there are two main issues, *design* and *judgement*, that cause to reveal these tensions. Here, how to figure out the *quality of judgement and design* becomes important especially for the jury to better evaluate and weight their legitimate interests for indicating the winner projects (Rönn 2013).

Judgement has been discussed in two aspects that are *judgement process* and *quality*. While the *judgement process* focuses on phases of evaluation such as discussion, quality assessment, interpretation and ranking; *judgement quality* is significantly related to the consensus of skilled jury members and conceptualization of design criteria (Rönn 2011).

Design criteria in judgement process of ADCs are evaluated under two titles; specific and general (Rönn 2011). *Specific* one focuses on competition guidelines and requirements. *General* one focuses on experience about the design, which is not mentioned in the competition program, such as wholeness, coherence, surrounding, entrance position, suitability, functionality, economic and technical solutions, development possibilities. Yet, these criteria are not easy to evaluate due to both nature of the competitive environment and conceptualizing *architectural quality*.

Quality in ADCs is associated with the values and norms of stakeholders (Rönn 2011). Besides, the *architectural quality* itself is a dynamic, norm-building, context-related and complex concept to evaluate (Rönn 2011). At this point, quality approaches in architecture are important to understand how to define *architectural design quality* to better evaluate projects in ADCs. Rönn (2011) classifies five groups of *architectural*

quality approaches. While the first approach gets inspired from *Vitruvius perspective* and defines quality under three headings; unity of form, function and construction; the other approaches focus on the *contextual relationship, aesthetic features* that are related to expression and feeling, timeless values such as originality, novelty and usability value (Rönn 2011). Still, focusing only on the judgement or design quality in ADCs is not enough to achieve an extensive approach to ameliorate reliability and legitimacy concerns.

4.1.2. Studies about ADCs

In the literature of ADCs, different studies aim to indicate reasons for *failures* in ADCs and propose models and criteria to make better competition organizations (Kreiner, Jacobsen and Jensen 2011, Kreiner 2012, Menon and Vanderburgh 2014, Chupin 2011, Kazemian and Rönn 2009 and Al-Qaysi et al. 2016). These studies are important to understand problematic areas in ADCs and provide a point of view for making a better analysis of ADCs.

Kreiner, Jacobsen and Jensen (2011) emphasize the importance of achieving *legitimate dialogues in ADCs* and propose Dialogue based Architecture Competition approach for sharing ideas in competition phases, which Kreiner, Jacobsen and Jensen (2011) call this new approach as "*coopetion"* that brings new perspectives to both theoretical and managerial implications of ADCs.

Kreiner (2012) deals with the decision-making approach in ADCs and emphasizes that behind achieving a legitimate and meaningful solution, there are many *intuitive choices*. To address the intuitive aspect of decisions, Kreiner (2012) proposes Garbage Can model to better analyze causal arguments in evaluation processes.

Menon and Vanderburgh (2014) focus on both *human/external* and *non-human/internal factors* that affect the result of ADC in Total Competition Model. The proposed model analyses interactions among both factors to choose the most convincing proposal (Menon and Vanderburgh 2014).

Chupin (2011) analyzes judicial models in ADCs and proposes a comprehensive model that includes understanding *owner demands*, highlighting critical aspects, evaluating projects considering *public concerns*, emphasizing variety in representation for effective evaluations and the importance of *double reasoning to minimize failures*.

Moreover, the research by Kazemian and Rönn (2009) analyzes their national architectural design competitions and summarizes *factors of obligations*, *criteria for assessment*, *judgement process* and *conceptual definitions* within a systematic approach to better evaluate projects in their national architectural design competitions.

In detail, *factors of obligations* emphasize critical points that each competition can also consider in the evaluation process. *Obligations* indicate the jury's responsibility under the eight headings that are regulation and process, choice of winner, description and presentation, impartial assessment, independence, cooperation and long-term value for community, motivation, loyalty and reservation.

Judgement criteria emphasize critical aspects in the evaluation process under six criteria that are context and surrounding, totality and coherence, entrance conditions, functionality, technical solutions and development potential.

Judgement process proposed a structural approach to check projects and consist of six phases; submission check, the order of work and scrutinization, choice and preliminary judgement, presentation of interesting contribution, ranking and decision and architectural criticism.

Conceptual definitions such as comprehensive totality, surprising experience, expression of appreciation and timeless value figure out approaches of the jury to consider design issues in projects (Kazemian and Rönn 2009).

Another study by Al-Qaysi et al. (2016) analyzes *communication gaps* in architectural design competitions and indicates five communication leaps in competitions such as client, public announcement, representation tools, interpretation and shortlisting. The study further analyzes communication and decision making in architectural design projects by *epistemological positions* in Critical Realist approaches that question dialogue, mutual understanding, politics and public deliberation. In the study of Al-Qaysi et al. (2016), architectural design competitions are emphasized as *legitimate tools* for comprising concepts of transparency, fairness, accountability, equability, openness under its title. Yet, the current evaluations of competitions have been still questionable for ensuring its legitimacy.

Al-Qaysi et al. (2016) indicate that a *Critical Realist* approach requires discovering layers of concepts to make them more *transparent*. Accordingly, this thesis also aims to explore each layer of competition to better comprehend legitimacy approaches in architectural design competitions. As a case study, ADCs provide extensive data for analysis of the legitimacy strategies of both competitors and jury members in

their decision-making processes with the provided written documents about competitions. Accordingly, the written documents about architectural design competitions provide the required information to analyze legitimacy strategies in decision-making processes.

4.2. Adapted Conceptual Research Methodology

How research data is collected is another aspect to indicate the research methodology of the thesis. After the unit of analysis that is Architectural Design Competitions (ADCs) is indicated, the proposed research methodology is adapted to ensure the reliability and generalizability of data.

With the competition data, *task description* in the process of Active Information Sheet (AIS) corresponds to guidelines, questions and answer phases of competitions. *Justification report* in the process of AIS corresponds to project reports. *Evaluation reports* in the process of AIS correspond to jury reports.

Thus, all required information for making decision analysis is collected with written documents of ADCs without not doing any further research. Then, only the coding scheme is applied to written documents and statistical analyses are implemented to discuss the results.

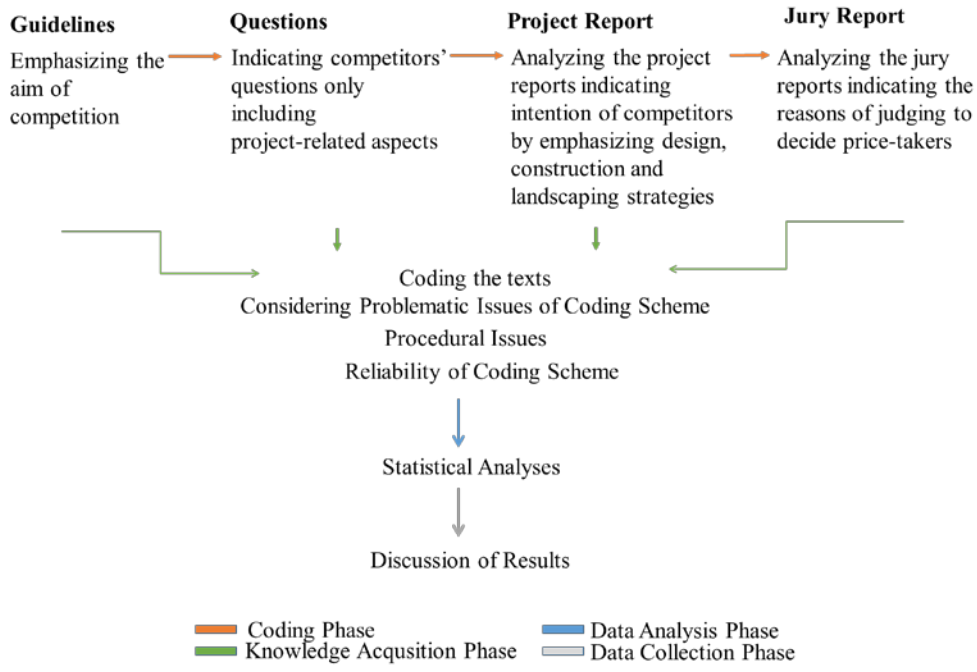


Figure 4.1. The adapted conceptual research methodology.

Figure 4.1 indicates the adapted proposed research methodology applied to the case studies. In the adapted methodology, the storytelling method is applied to written documents for analyzing legitimacy strategies rather than preparing decision tasks.

4.3. Analysis of Architectural Design Competitions

Within the scope of the thesis, only architectural design competitions (ADCs) accessible to all written documents and done in Turkey are being analyzed. Accordingly, almost a hundred ADCs are searched over the Internet. Only thirty-two (32) of them are accessible concerning their written documents such as guidelines, questions, project reports of the 1st, 2nd and 3rd awarded projects and their jury reports.

Projects vary from the administrative structure, congress center, service building, urban design, museum, sports structure, art center, cultural center, religious building, academy, transportation, bridge, transportation, bazaar, parking lot, life center, science center, dorm, business and life center, landscape architecture, cultural center, urban design to landscape architecture that are in between the years of 2011 to 2018.

In the analysis phase of ADCs, two issues, namely defining the analysis criteria and the implementation of the proposed research methodology will be figured out in detail.

4.3.1. Analysis Criteria

Defining the legitimacy criteria of analysis is important for measuring legitimacy strategies in decisions. Accordingly, the literature review is conducted to reveal the current legitimacy criteria used in existing studies. Table 4.1 indicates the criteria analyzed in the literature for three main legitimacy types; pragmatic, moral and cognitive.

Table 4.1. Legitimacy Criteria defined in the literature.

	Pragmatic Legitimacy
(Rosser and Sager 2018)	Cooperate compassionately Flexibly and honesty with stakeholders Acknowledging the validity of interest, knowing the interest of clients
(Díez-Martín et al. 2013)	Beneficial actions helping to achieve goals
(Alexiou and Wiggins 2018)	Value and interest creation for stakeholders, immediate returns, better managed and operated actions, stakeholder need and concern
	Considering policy and social concerns of stakeholders Collaboration (academy, demand, cycler design, free choice, sustainability, legal document, CSR) Reputation, positive public opinion, certifications (ethics and environment)
(Rosser and Sager 2018)	Interaction between organization and environment (stakeholders, legal authorities' involvement) Considering the environment in decision making, establishing exchange platforms, reliability of rule setting, communication, long-term commitment Adopting strategies and new legitimacy beliefs for manipulating the environmental structure
	Moral Legitimacy
(Díez-Martín et al. 2013)	Contributing meeting goals, what must be done without any personal benefit
Alexiou and Wiggins 2018)	Right procedures and operations, ethical, standards, appropriate, well being
Rosser and Sager 2018)	Level of the reward of policies Products considering technology and social aspects (memory creation, meeting social concerns, human health and wealth) Meeting expectations: Funding an investment, quality and quantity of staff, talent turnover, collaboration, size of the pipeline Efficient progress through pipeline, patent, publications, innovation insights Activities; financial and managerial expertise, funding Capacity, integration with policymakers, academy, industry, imitate structures, matrix organization, open innovation platforms Authority and charisma; Credibility and appeal, strategic position, justify innovation process and corporate culture, taking responsibility, reconfiguration of structure and practices, staff relationships Ethics, health and safety, green continuous operations, lead time min., waste, rework, innovation, JIT, web-based knowledge transfer) Well-defined, flexible, openness, transparency, teamwork, quality control, historical background) Education, communication, information, respect)
	Cognitive Legitimacy
Díez-Martín et al. 2013)	Activities in the best possible manner, Solving problems in the best possible manner
Inman (2016)	Attending industry trade show, Formalizing human resource management, and group interactions following established industry practices, top management's success, experience, education
Alexiou and Wiggins (2018)	Understanding value
Rosser and Sager (2018)	Understandability, cognitive strips, belief systems of audiences, communication, Reputation management Interest, change and flexibility to systems (state, society, market)

After analyzing the legitimacy criteria used in the literature, Table 4.2 is prepared to define comprehensive and unified legitimacy criteria.

Table 4.2. Legitimacy criteria.

Pragmatic (norm and procedural)	**codes**
cooperation (policy and social concerns of stakeholders); interaction between organizations and environment	P1
flexibility and honesty with stakeholders	P2
value and interest creation for customers	P3
immediate return	P4
better managed and operated actions	P5
need and concerns of stakeholders	P6
innovation	P7
collaboration (academy, demand, cycler design, free choice, sustainability, legal document, CSR)	P8
adopting strategies to (organizational) environment	P9
reputation, ethics, public opinion, certification	P10
Moral (normative evaluation of social welfare)	
contributing meeting goals (innovation, technology and social aspects; memory creation, meeting social concerns, human health and wealth)	M1
right procedures and operations (public approval, ethics, regulatory standards)	M2
well-being of customers	M3
supporting reward policies	M4
procedural activities (financial, managerial, procedural -lean, knowledge transfer- and funding)	M5
organizational structures (innovative, flexible, collaborative, well-defined, history)	M6
personal characteristics	M7
Cognitive (meaningful and capability)	
best possible manner to solve problems	C1
human resource management	C2
attending industry practices	C3
managerial success, experience, education	C4
acceptable by outside concerning value creation	C5
communication capability, understandability	C6
creating interest	C7

As the content and context change, the meaning of legitimacy also changes. It would not be appropriate to apply a generic legitimacy indicator set to different socially constructed relationships. Accordingly, Table 4.3 highlights the legitimacy criteria adapted to ADCs.

Table 4.3. Reconfiguring legitimacy criteria for ADCs.

Legitimacy Criteria	**Legitimacy Criteria for Architectural Design Competition Process**	**codes**
Pragmatic (norm and procedural)		
Cooperation (policy and social concerns of stakeholders); Interaction between organizations and environment	Work in harmony with project stakeholders Get and/or provide the necessary support from and/or to the relevant environment	P1
Flexibility and honesty with stakeholders	To be flexible, honest and informative to project stakeholders	P2
Value and interest creation for customers	Value and interest creation for customers	P3
Immediate return	Quick and effective design solutions	P4
Better managed and operated actions	Better managed and operated actions	P5
Need and concerns of stakeholders	Need and concerns of stakeholders	P6
Innovation	Technological, innovative, sustainable design solutions	P7
Collaboration (academy, demand, cycler design, free choice, sustainability, legal document, CSR)	Collaboration Consideration of other organizations' activities and contemporary methods	P8
Adopting strategies to the (organizational) environment	Proposing design strategies guiding the related design area	P9
Reputation, ethics, public opinion, certification	Reputation, ethics, public opinion and certification aspects of projects	P10
Moral (normative evaluation of social welfare)		
Contributing meeting goals (innovation, technology and social aspects; memory creation, meeting social concerns, human health and wealth)	Contributing meeting goals (innovation and technology and social aspects; memory building, reducing social concerns, human health and wealth)	M1
Right procedures and operations (public approval, ethics, regulatory standards)	Right procedures and operations (public approval, ethics, regulatory standards)	M2
Well-being of customers	Well-being of customers	M3
Supporting reward policies	Supporting reward policies	M4
Procedural activities (financial, managerial, procedural -lean, knowledge transfer- and funding)	Procedural activities (financial, managerial, methodological and funding)	M5
Organizational structures (innovative, flexible, collaborative, well-defined, history)	Design aspects of spaces (designing innovative, flexible, interoperable, well-defined, contextual and historical-sensitive spaces)	M6
Personal characteristics	Personal characteristics of jury and participants	M7
Cognitive (meaningful and capability)		
Best possible manner to solve problems	Best possible manner to solve the problem	C1
Human resource management	Effective management of participant groups	C2
Attending industry practices	Attending architectural industry practices	C3
Managerial success, experience, education	Characteristics of participants (design management success, experience, education)	C4
Acceptable by outside with respect to value creation	Acceptable by outside with respect to value creation	C5
Communication capability, understandability	Communication capability, understandability	C6
Creating interest	Creating interest	C7

4.3.2. Implementation of the Proposed Methodology

After collecting the required competition data, the coding phase is applied to each phase of the ADCs. In the *coding phase*, the architectural design projects are considered as the subject of coding. Only, project-related sentences and phrases are coded and repeated phrases are not coded.

Even though the ADCs are considered as case studies, each ADC includes four sub-cases; guidelines, questions, project reports and jury reports.

During the coding phase, guidelines, questions and project reports are evaluated by pragmatic and moral legitimacy because these phases only include evaluations of architectural design proposals. To include cognitive legitimacy, architectural design proposals need to be finalized and evaluated by the environment, which is the jury reports in this analysis. Accordingly, Table 4.4 summarizes how legitimacy types are coded and evaluated in different phases of competition projects.

Table 4.4. Legitimacy types and competition phases.

		Guidelines	Questions	Project Reports	Jury Reports
Pragmatic	**pragmatic suggestions about norm and procedural phases of projects**	✓	✓	✓	✓
Moral	**moral suggestions about social welfare considering both social and project-related aspects**	✓	✓	✓	✓
Cognitive	**meaningful and capability of projects concerning jury members**	-	-	-	✓

The coding phase of competitions consists of four main phases. These are (1) reading and highlighting project-related sentences and phrases, (2) coding them with legitimacy criteria, (3) counting and transferring the coded phrases to numbers and (4) re-reading coded phrases and controlling numbers. For better comprehending how legitimacy criteria are coded, the below items are presented to explain the meaning of legitimacy criteria coded in ADCs by supporting significant examples.

- *Work in harmony with project stakeholders - Get and/or provide the necessary support from and/or to the relevant environment* (P1) is about evaluating how projects

contribute with design-related aspects to the physical environment, take advantage of the social environment for cooperating with stakeholders, users and consider the environment as an input of design for achieving integrity. Phrases coded in ADCs are significantly related to the issues of being compatible with environmental conditions, being connected with the city, considering environmental conditions in the design, cooperating with different professional groups, benefiting from related disciplines.

- *To be flexible, honest and informative to project stakeholders* (P2) is about evaluating the rationality and correctness of project information provided by different stakeholders. Phrases coded in ADCs are significantly related to the issues of information sharing, compatibility of information and the lack of information.
- *Value and interest creation for customers* (P3) is about creating interest and value for its user. Phrases coded in ADCs are significantly related to thinking of the circulation of pedestrians and disabled people, enabling unconventional experiences, offering diversity in perception and use.
- *Quick and effective design solutions* (P4) is about providing quick and effective design solutions. Phrases coded in ADCs are significantly related to convenience to users, proposing multiple solutions to design problems.
- *Better managed and operated actions* (P5) is about providing projects better managed and operated solutions. Phrases coded in ADCs are significantly related to functional, operational, technical solutions of projects as well as lighting, climate conditions, heating and energy solutions.
- *Need and concerns of stakeholders* (P6) is about the extra needs and concerns of participants that are not directly related to project conditions. Phrases coded in ADCs are significantly related to demands, suggestions and questions about secondary issues of competition projects such as surrounding conditions and proposing an extra design approach not required in the guidelines.
- *Technological, innovative, sustainable design solutions* (P7) is about proposing technological, innovative and sustainable design solutions. Phrases coded in ADCs are significantly related to innovative, sustainable and local recommendations on materials, energy, irrigation, design, etc.
- *Collaboration - Consideration of other organizations' activities and contemporary methods* (P8) is about collaborating with related associations and applicability of current methods used in the practice. Phrases coded in ADCs are

significantly related to participatory approaches and using contemporary approaches in architecture disciplines.

- *Proposing design strategies guiding the related design area* (P9) is about guiding the design area with the design strategies. Phrases coded in ADCs are significantly related to giving a new focus, originality and identity, adding value to the related environment and users.
- *Reputation, ethics, public opinion and certification aspects of projects* (P10) is about the activities that affirmatively affect the projects' reputation, ethical position, public opinion and certifications. Phrases coded in ADCs are significantly related to considering ethical aspects of design actions and green certifications, protecting trees, etc.
- *Contributing meeting goals* (M1) is about meeting moral aspects of innovation and technology and social concerns such as memory building, reducing social concerns, human health and wealth. Phrases coded in ADCs are significantly related to the relationship of design with the public, developing public identity and improving opportunities provided to public life.
- *Right procedures and operations* (M2) is about being sensitive to applying the right procedures and actions concerning public approval, ethics, regulatory standards. Phrases coded in ADCs are significantly related to asking the opinion of the jury for actions such as protecting trees, considering the mode of business model such as transparent municipality and appropriateness to regulations.
- *Well-being of customers* (M3) is about morally considering the comfort and well-being of users. Phrases coded in ADCs are significantly related to being suitable for different age groups and uses, continuous use of space, measures against sound and air pollution, consideration of personal use, etc.
- *Supporting reward policies* (M4) is about actions to improve other design-related areas and disciplines, environment, perspectives of users. Phrases coded in ADCs are significantly related to developing fine arts, supporting professional development, contributing to regional transformation, raising awareness of users, etc.
- *Procedural activities* (M5) is about applying procedural actions in different phases of design by considering Economics and managerial aspects. Phrases coded in ADCs are significantly related to project cost, resource usage, waste management, etc.
- *Design aspects of spaces* (M6) is about the spatial characteristics of the design such as innovative, flexible, interoperable, well-defined, contextual and historical-

sensitive spaces. Phrases coded in ADCs are significantly related to the effect of space on its users and environment, spatial fictions, etc.

- *Personal characteristics of jury and participants* (M7) is about the personal characteristics of any person related to the design. Phrases coded in ADCs are significantly related to local government responsibilities, the competitiveness of competitors and project owners.
- *Best possible manner to solve the problem* (C1) is about evaluating the appropriateness of proposed solutions considering the competition requirements. Phrases coded in ADCs are significantly related to rational problem solving, being sufficient, providing appropriate conditions, etc.
- *Effective management of participant groups* (C2) is about emphasizing the success of effective management in participant groups. A few phrases coded in ADCs are significantly related to the evaluation of teamwork.
- *Attending architectural industry practices* (C3) is about attending to or providing necessary information from the architectural industry practices. A few phrases coded in ADCs are significantly related to advice of the jury for taking the opinions of experts about the material and taking the project owner also the supervision of the project.
- *Characteristics of participants* (C4) is about the personal competencies of participants. A few phrases coded in ADCs are significantly related to evaluating the ability of storytelling, explanation of participants about their design proposals.
- *Acceptable by outside with respect to value creation* (C5) is about value creation aspects of projects. Phrases coded in ADCs are significantly related to contributing to a different aspect of design by providing valuable solutions and increasing the symbolic aspect of the project.
- *Communication capability, understandability* (C6) is about the comprehensibility of the projects. Phrases coded in ADCs are significantly related to evaluating the expression of design decisions taken correctly, accurately, strongly and in integrity.
- *Creating interest* (C7) is about evaluating the attractiveness of projects. Phrases coded in ADCs are significantly related to remarkably resolved design suggestions, interesting and successful design approaches, etc.

After finishing the coding phase, the *analysis phase* is conducted. In the analysis phase, *histograms* by using Excel and *K-means clustering* methods by using SPSS are applied to analyze competition data.

Histogram is a graphical representation in descriptive statistics that consist of bars based on the area that is proportional to the density of data (Scott 2010). Histogram is used for the visual representation of a large amount of data to better comprehend the differences and similarities in the data set (Scott 2010).

K-means clustering is a data clustering method in statistics used in research areas of exploratory data analysis and data mining. The method is mainly based on the classification of a large amount of multivariate data by considering similar and different characteristics of data without any external criteria (Morissette and Chartier 2013). Groups are constituted by iterative relocation of data to clusters without overlapping. With the cluster groups, the complexity of data is decreased and the differences and similarities among groups are shown for better discussing the results (Morissette and Chartier 2013).

In the case study analysis, the number of cases is crucial for analyzing replication patterns of cases. In the literature, two replication logics are proposed for case study analysis; *literal replication* and *theoretical replication* (Yin 2017). While the literal replication approach analyses similar results of selected cases; theoretical replication analyzes contrasting results. In the small number of cases, it becomes important that selecting a case study according to its analysis approach. Yet, when the number of cases increases, *qualitative comparative analysis* (QCA) is applied for analyzing the complex situation by analyzing different patterns and typologies (Yin 2017). The proposed research methodology is applied to thirty-two ADCs. Concerning the number of cases, it is in between for theoretical, literal replications and QCA approaches. Thus, both similar and comparative aspects are aimed to be analyzed for achieving the validity and reliability of results.

4.4. Research Findings and Discussion

The findings of the analysis phase are represented in two sections. In the first section, histograms will be presented and discussed. In the second section, K-means

clustering results supported by histograms will be figured out. The findings will be summarized and discussed. Finally, overall discussions will be emphasized.

4.4.1. Histogram Analyses and Discussion

In the first section of the analysis, histograms as descriptive statistics methods are used to visualize the results and better interpret the findings. Different codes used in histograms are as follows;

- Numbers from 1 to 32 correspond to architectural design competition (ADC) codes.
- (n)P: pragmatic, M: moral, C: cognitive legitimacy main criteria, S: sum and n: number of competition.
- P1 - P10 corresponds to pragmatic legitimacy sub-criteria codes.
- M1 - M8 corresponds to moral legitimacy sub-criteria codes.
- C1 - C8 corresponds to cognitive legitimacy sub-criteria codes.

Several analysis approaches are presented via histograms in which percentages of legitimacy criteria are calculated for representing results. Histogram analyses are listed as follows and have the same sequence with the following figures below;

(1) Histograms of pragmatic, moral and cognitive legitimacy sub-criteria for all ADCs; one hundred percent (%100) is the sum of pragmatic, moral and cognitive legitimacy criteria percentages for each ADC (Figure 4.2 to Figure 4.4),

(2) Histograms of pragmatic, moral and cognitive main legitimacy criteria within the sub-phases of each ADC (Figure 4.5 to Figure 4.36); one hundred percent (%100) is the sum of pragmatic, moral and cognitive legitimacy criteria percentages,

(3) Histograms of each main and sub-legitimacy criteria within each sub-phases for all ADCs; one hundred percent (%100) for main legitimacy criteria related histograms is the sum of pragmatic, moral and cognitive legitimacy criteria percentages; one hundred percent (%100) for sub-legitimacy criteria related histograms is the sum of each sub-criteria percentages (Figure 4.37 to 4.75),

(4) Histogram of cognitive legitimacy criteria matched with pragmatic and moral legitimacy criteria (Figure 4.76).

After indicating the histograms with their remarkable results, two tables are presented for making comparisons. Table 4.5 is presented to understand which main

legitimacy criteria are used most in which sub-phases of ADCs after concluding the second group of histograms analysis. Table 4.6 is presented to visualize the most and least used sub-criteria in sub-phases of ADCs after concluding the third group of histogram analysis.

4.4.1.1. Analysis of Pragmatic, Moral and Cognitive Legitimacy Sub-criteria for all ADCs

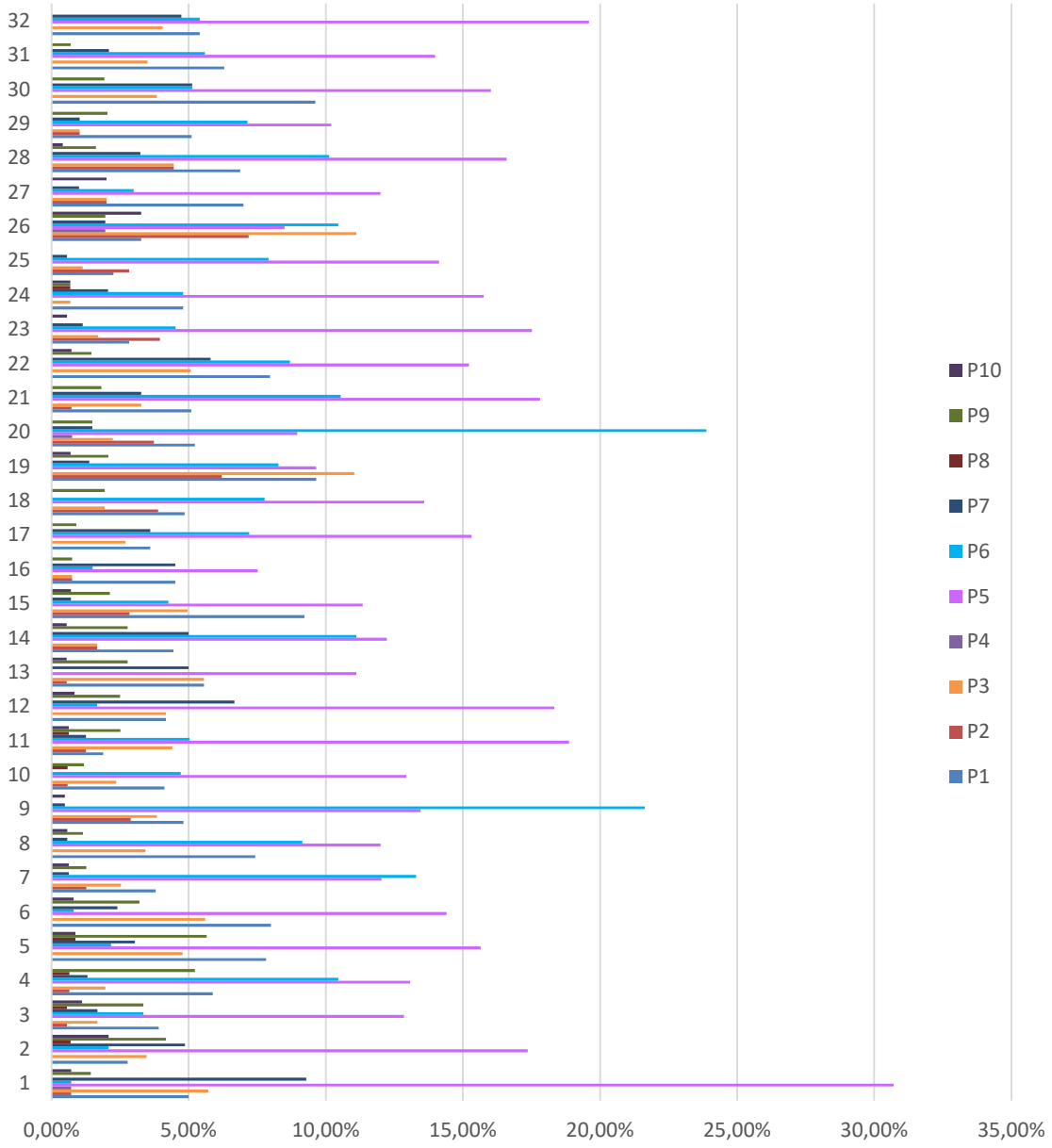


Figure 4.2. Pragmatic Sub-criteria for each competition.

- *Better managed and operated actions* (P5) and *Need and concerns of stakeholders* (P6) are the most coded pragmatic legitimacy sub-criteria in the ADCs.
- *Quick and effective design solutions* (P4), *Collaboration/Consideration of other organizations' activities and contemporary methods* (P8) *and Reputation, ethics, public opinion and certification aspects of projects* (P10) are the least coded pragmatic legitimacy sub-criteria in ADCs.

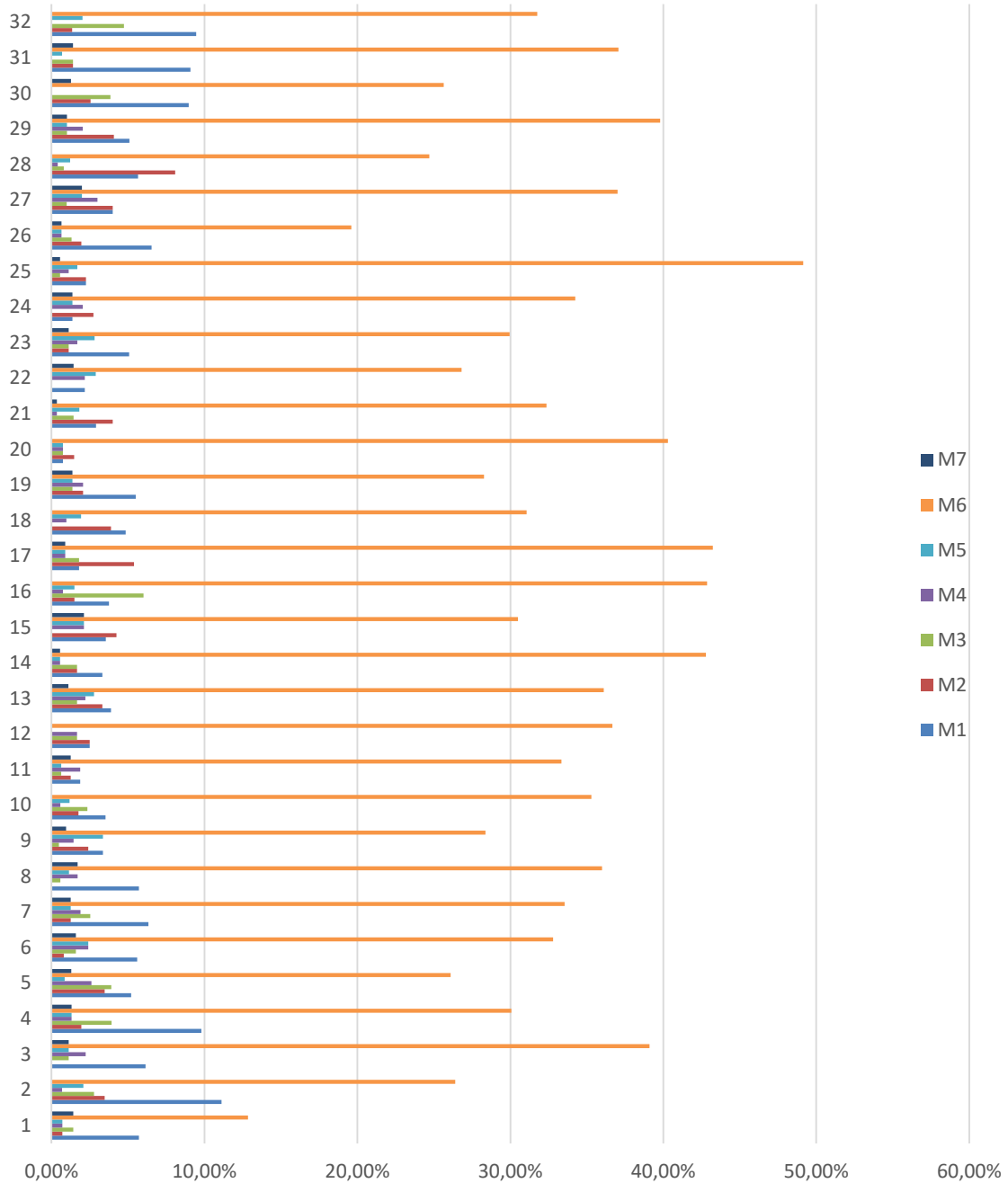


Figure 4.3. Moral Sub-criteria within each competition.

- *Design aspects of spaces (designing innovative, flexible, interoperable, well-defined, contextual and historical-sensitive spaces)* (M6) followed by *Contributing meeting goals* (M1) are the most coded moral legitimacy sub-criteria in the ADCs.

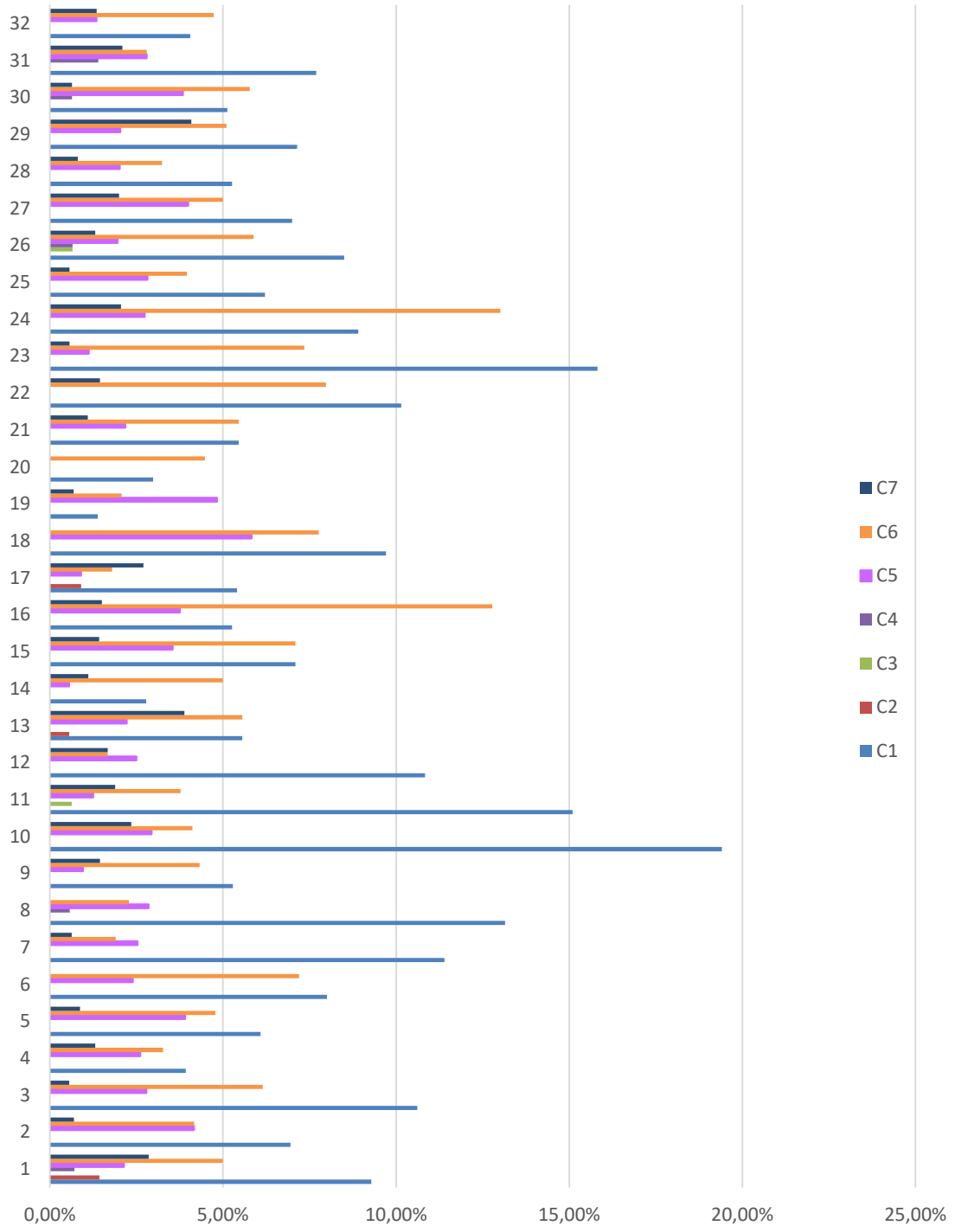


Figure 4.4. Cognitive Sub-criteria within each competition.

• *Best possible manner to solve problems* (C1) followed by *Communication capability, understandability* (C6) are the most coded cognitive legitimacy sub-criteria in the ADCs.

• *Effective management of participant groups* (C2), *Attending architectural industry practices* (C3) and *Characteristics of participants* (C4) are the least coded criteria in ADCs.

4.4.1.2. Analysis of Pragmatic, Moral and Cognitive Legitimacy Main Criteria within the Sub-phases of each ADCs

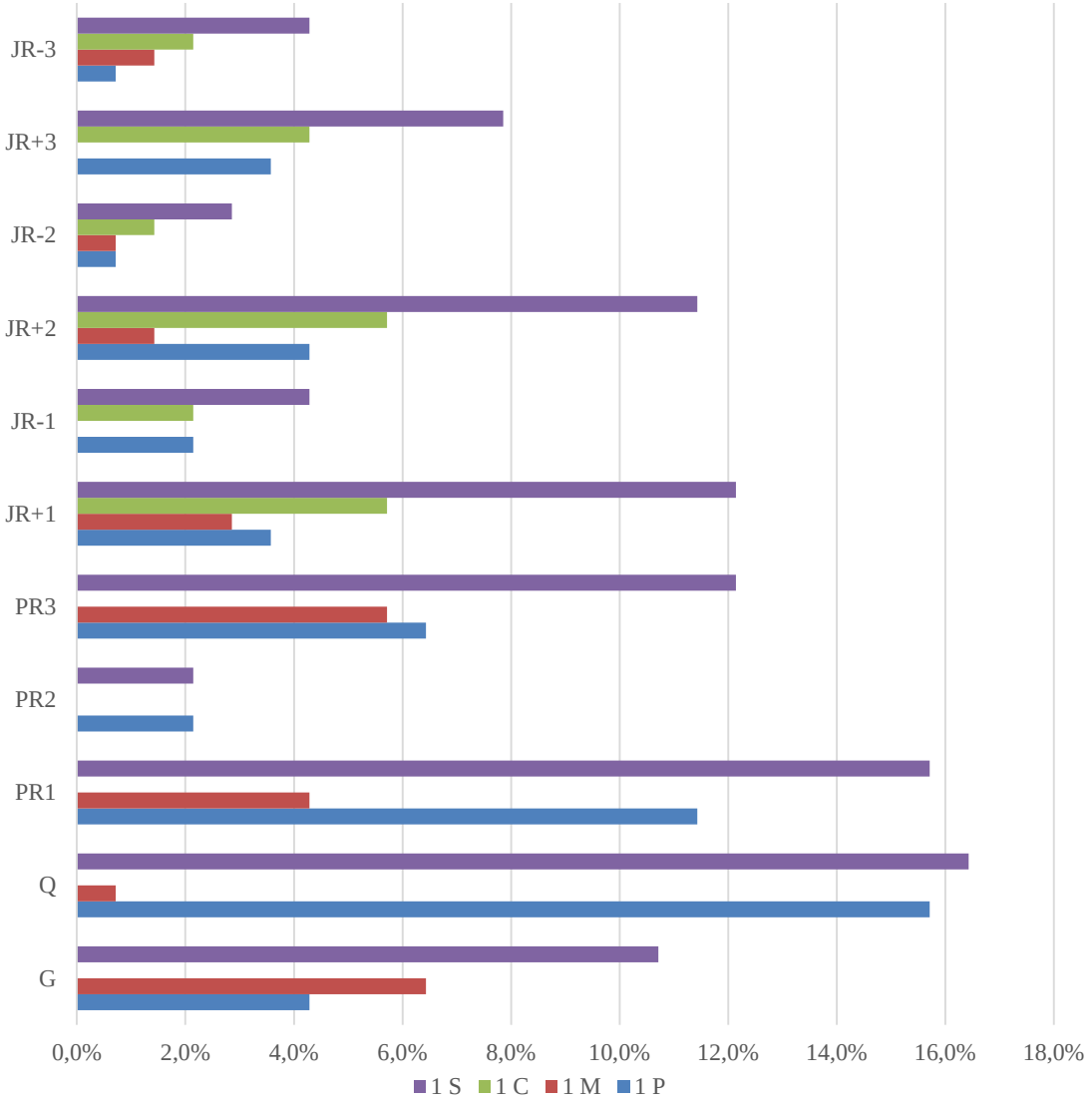


Figure 4.5. Main Legitimacy Criteria within each sub-phase of competition 1.

- Pragmatic legitimacy criteria are the most coded in the questions of competition 1.
- Moral legitimacy criteria are the least coded in the jury reports and questions; not exist in the 2nd awarded project report and affirmative jury report for the 3rd awarded project.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report for the 1st and 2nd awarded projects.

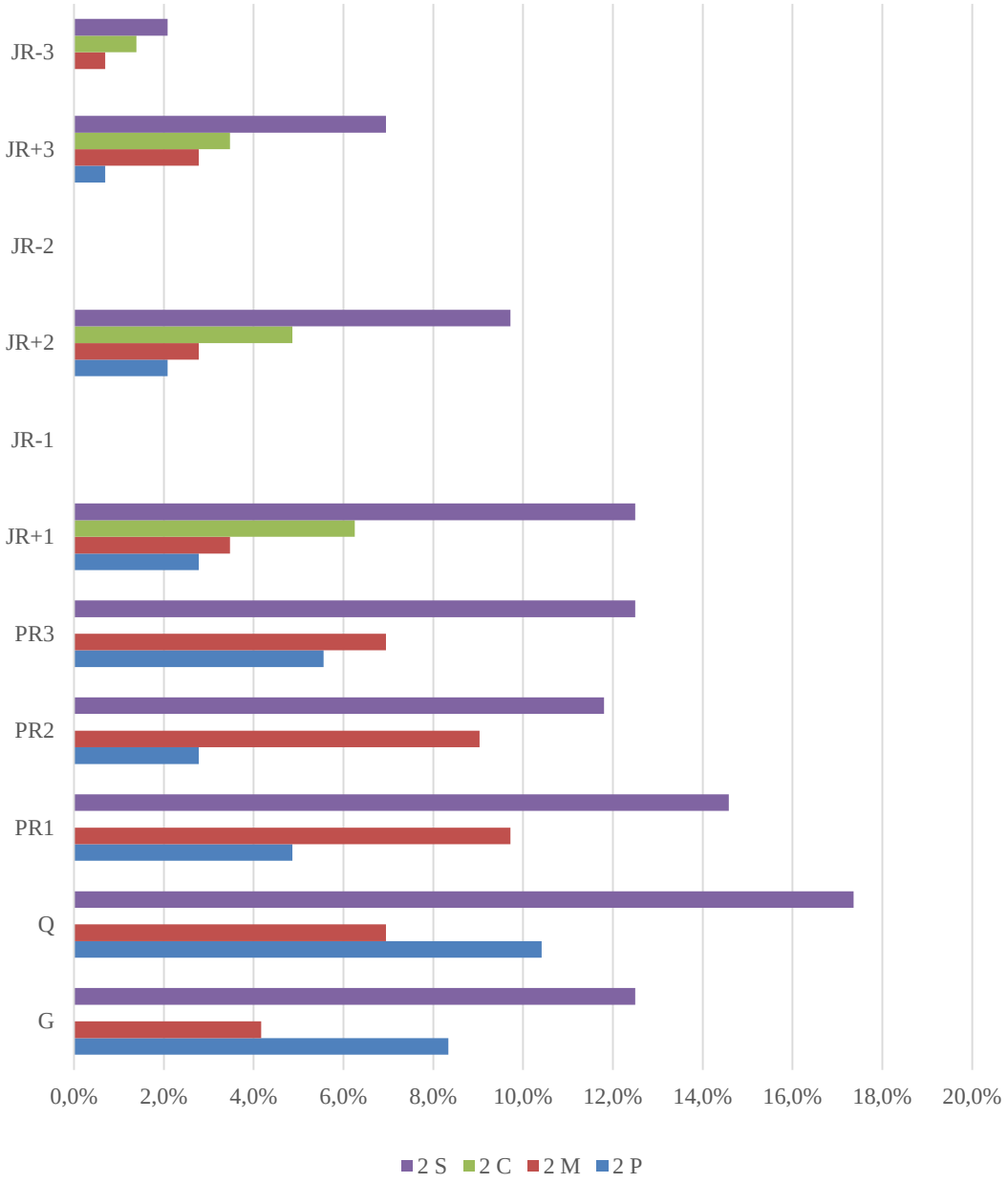


Figure 4.6. Main Legitimacy Criteria within each sub-phase of competition 2.

• Pragmatic legitimacy criteria are the most coded in the questions followed by guidelines of competition 2; not coded in the negative jury report of the 3rd awarded project.

• Moral legitimacy criteria are the most coded in project reports followed by the questions.

• Cognitive legitimacy criteria are the most coded in the affirmative jury report for the 1st awarded project.

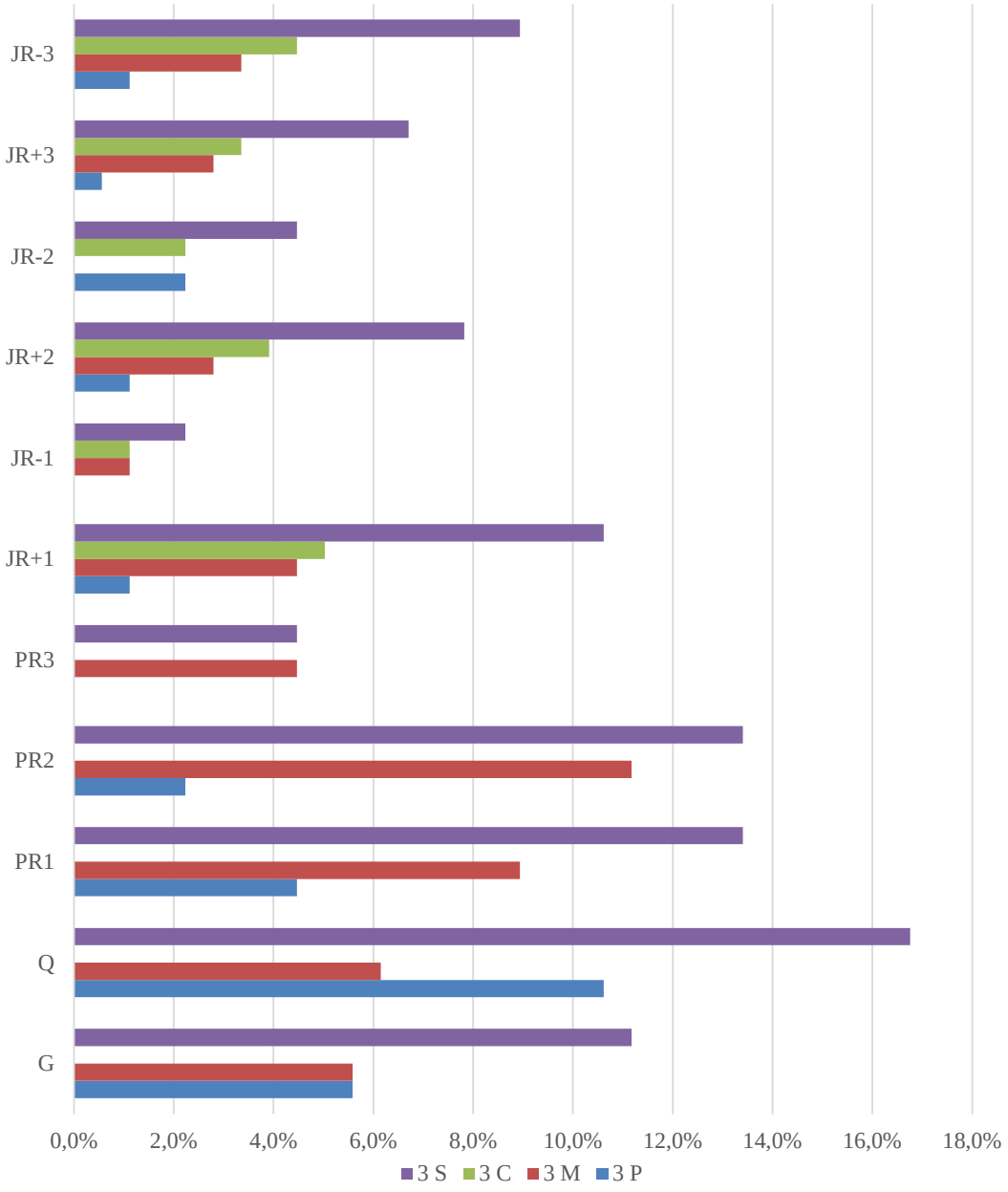


Figure 4.7. Main Legitimacy Criteria within each sub-phase of competition 3.

- Pragmatic legitimacy criteria are the most coded in the questions of competition 3.
- Moral legitimacy criteria are the most coded in project reports followed by questions and guidelines.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of 1st awarded project followed by the negative jury report for 3rd awarded project.

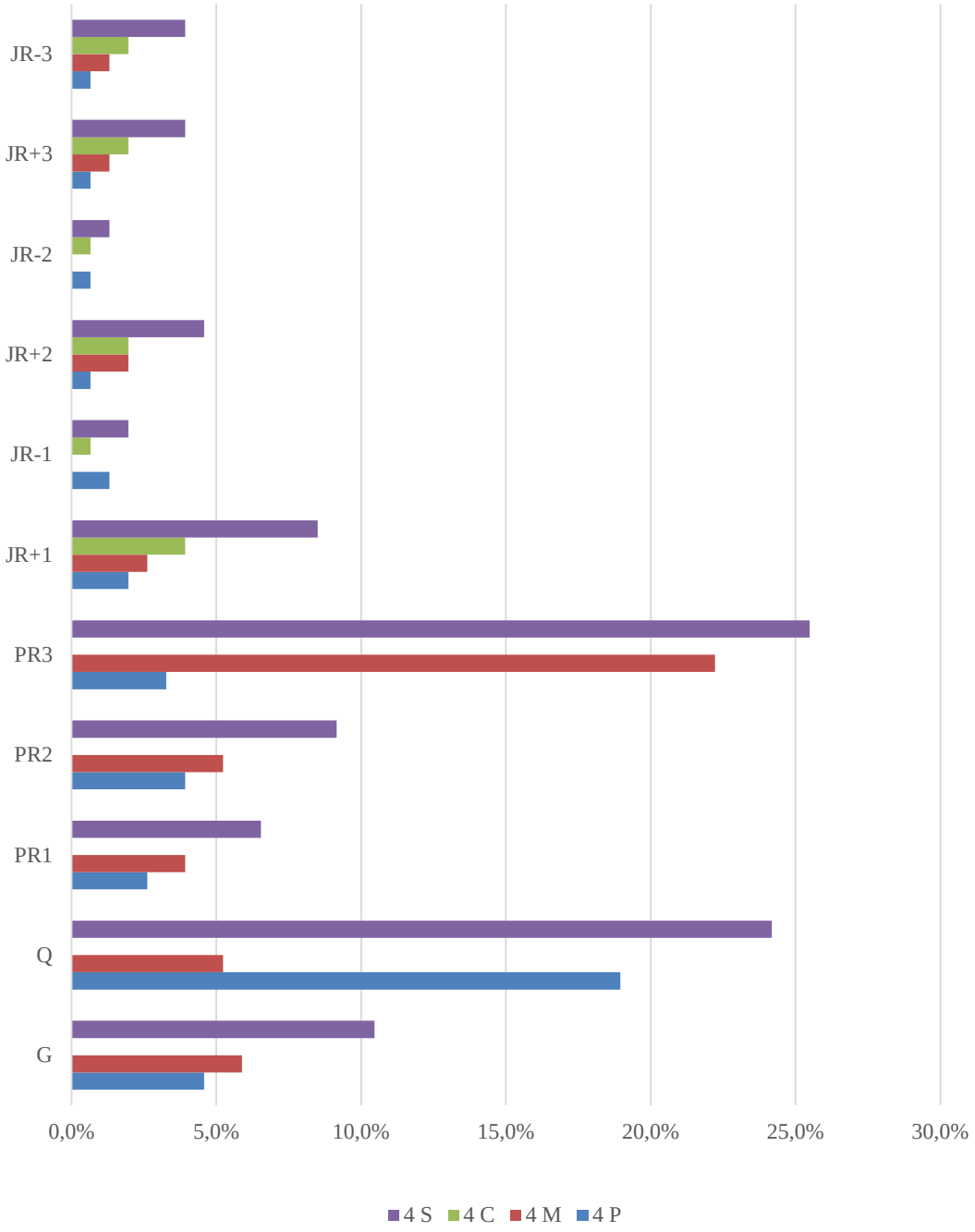


Figure 4.8. Main Legitimacy Criteria within each sub-phase of competition 4.

- Pragmatic legitimacy criteria are the most coded in the questions of competition 4.
- Moral legitimacy criteria are the most coded in the project report of the 3rd awarded project.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report for the 1st awarded project.

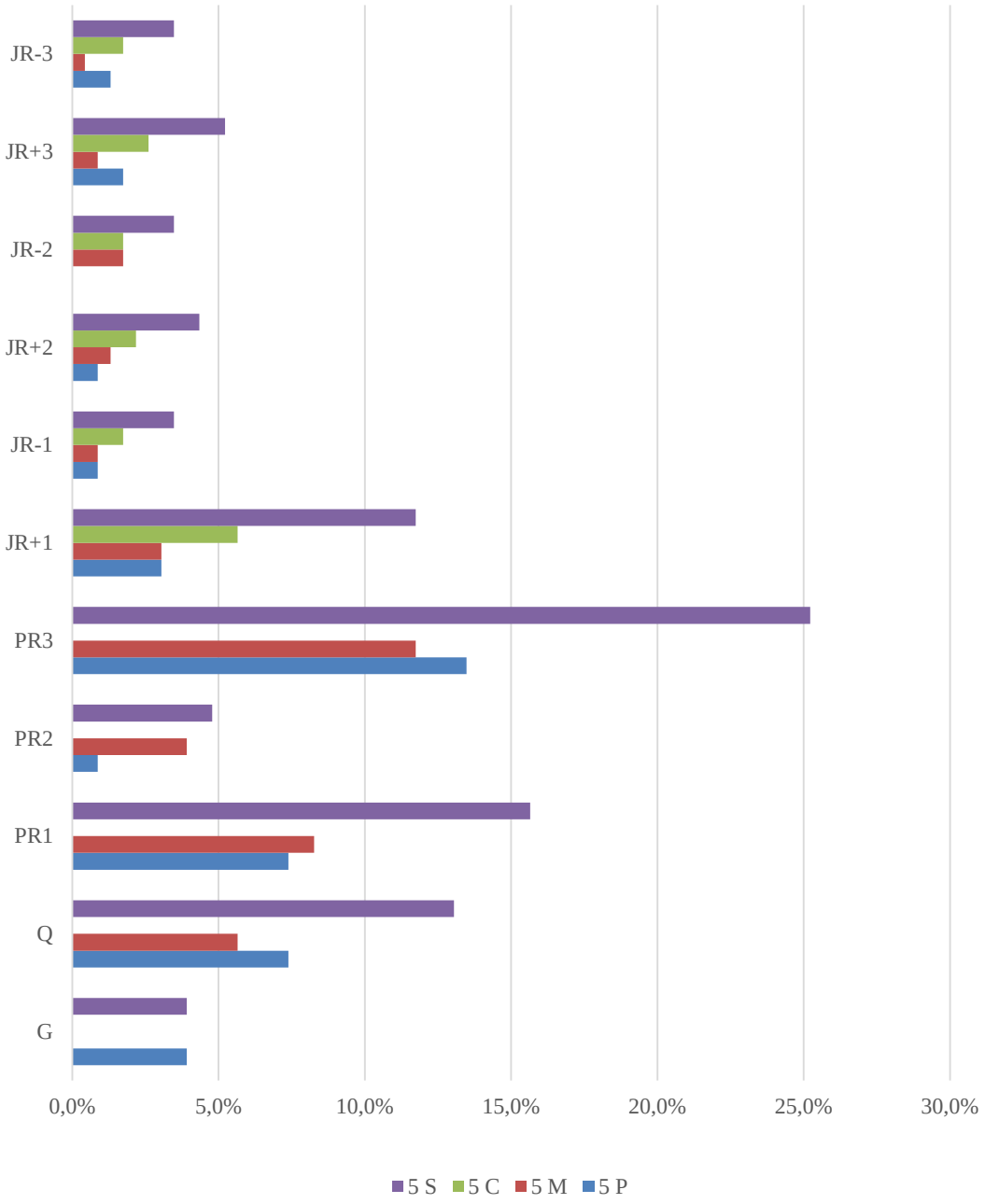


Figure 4.9. Main Legitimacy Criteria within each sub-phase of competitions 5.

• Pragmatic legitimacy criteria are the most coded in the 3rd project report in competition 5.

• Moral legitimacy criteria are the most coded in project reports followed by questions.

• Cognitive legitimacy criteria are the most coded in the affirmative jury report for the 1st awarded project.

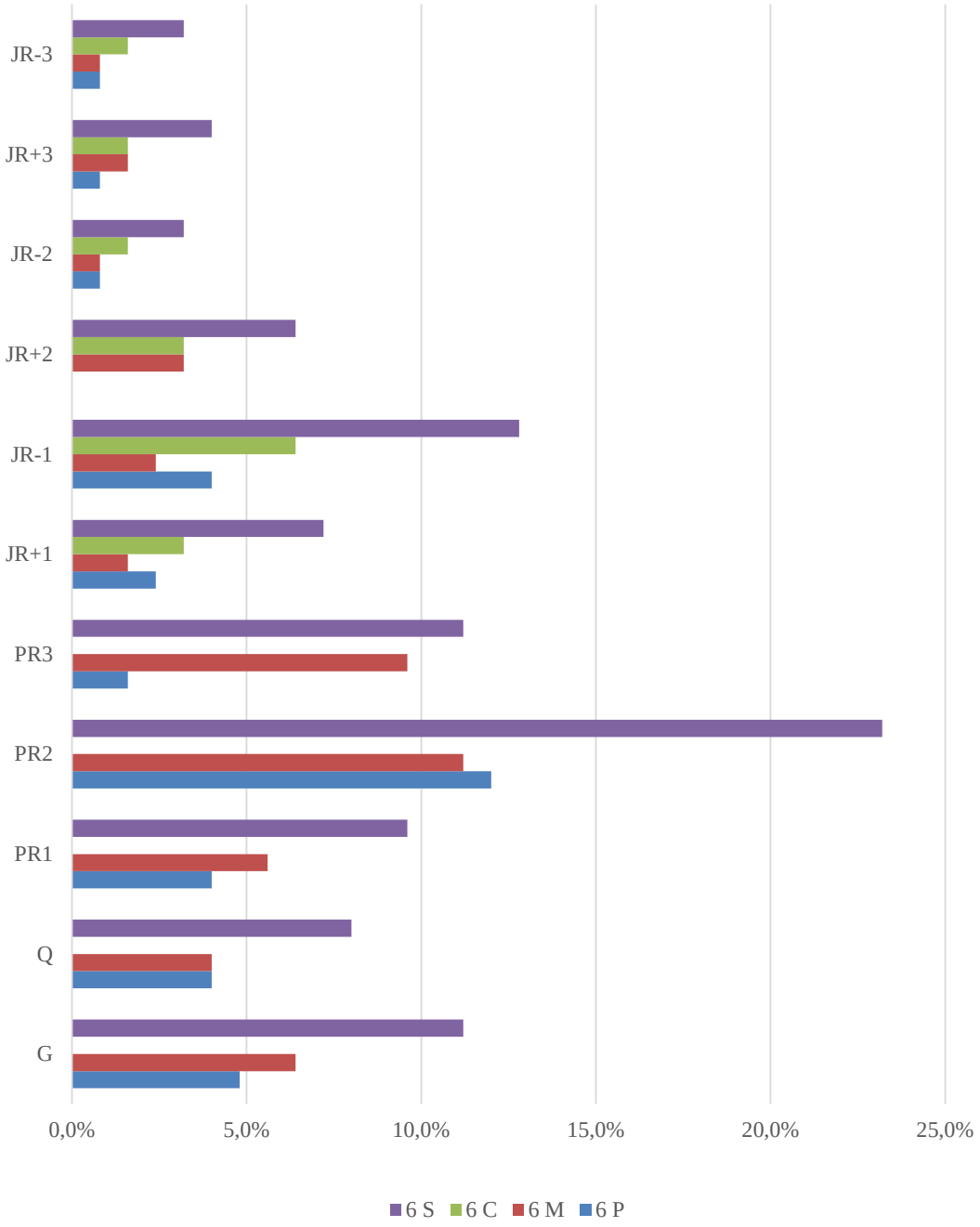


Figure 4.10. Main Legitimacy Criteria within each sub-phase of competition 6.

• Pragmatic legitimacy criteria are the most coded in the 2nd awarded project followed by guidelines in competition 6.

• Moral legitimacy criteria are the most coded in project reports followed by guidelines.

• Cognitive legitimacy criteria are the most coded in the negative jury report of the 1st awarded project.

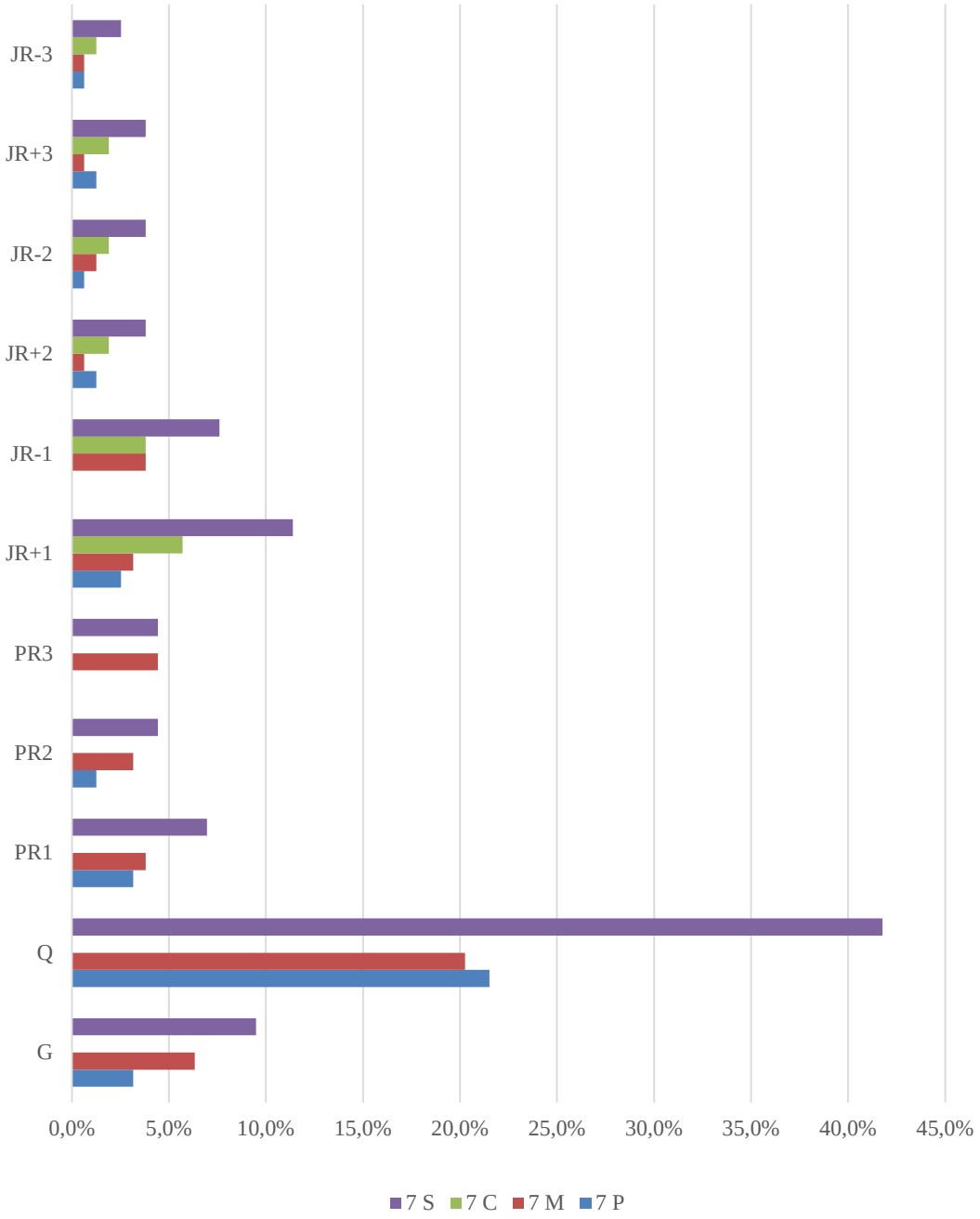


Figure 4.11. Main Legitimacy Criteria within each sub-phase of competition 7.

- Pragmatic legitimacy criteria are the most coded in questions of competition 7.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the jury report for the 1st awarded project.

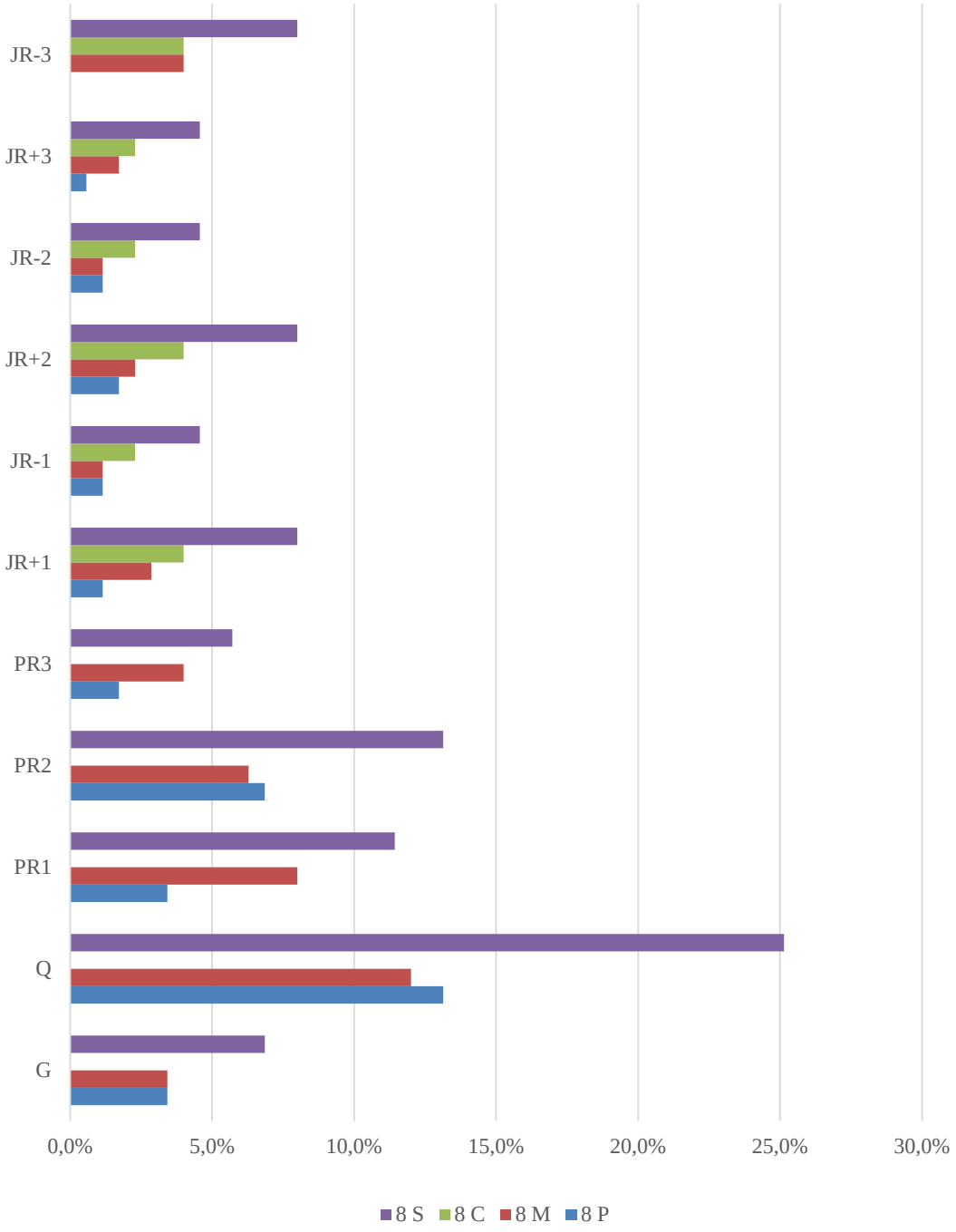


Figure 4.12. Main Legitimacy Criteria within each sub-phase of competition 8.

- Pragmatic legitimacy criteria are the most coded in questions of competition 8.
- Moral legitimacy criteria are the most coded in questions followed by project reports.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 2nd awarded project and negative jury report of the 3rd awarded project.

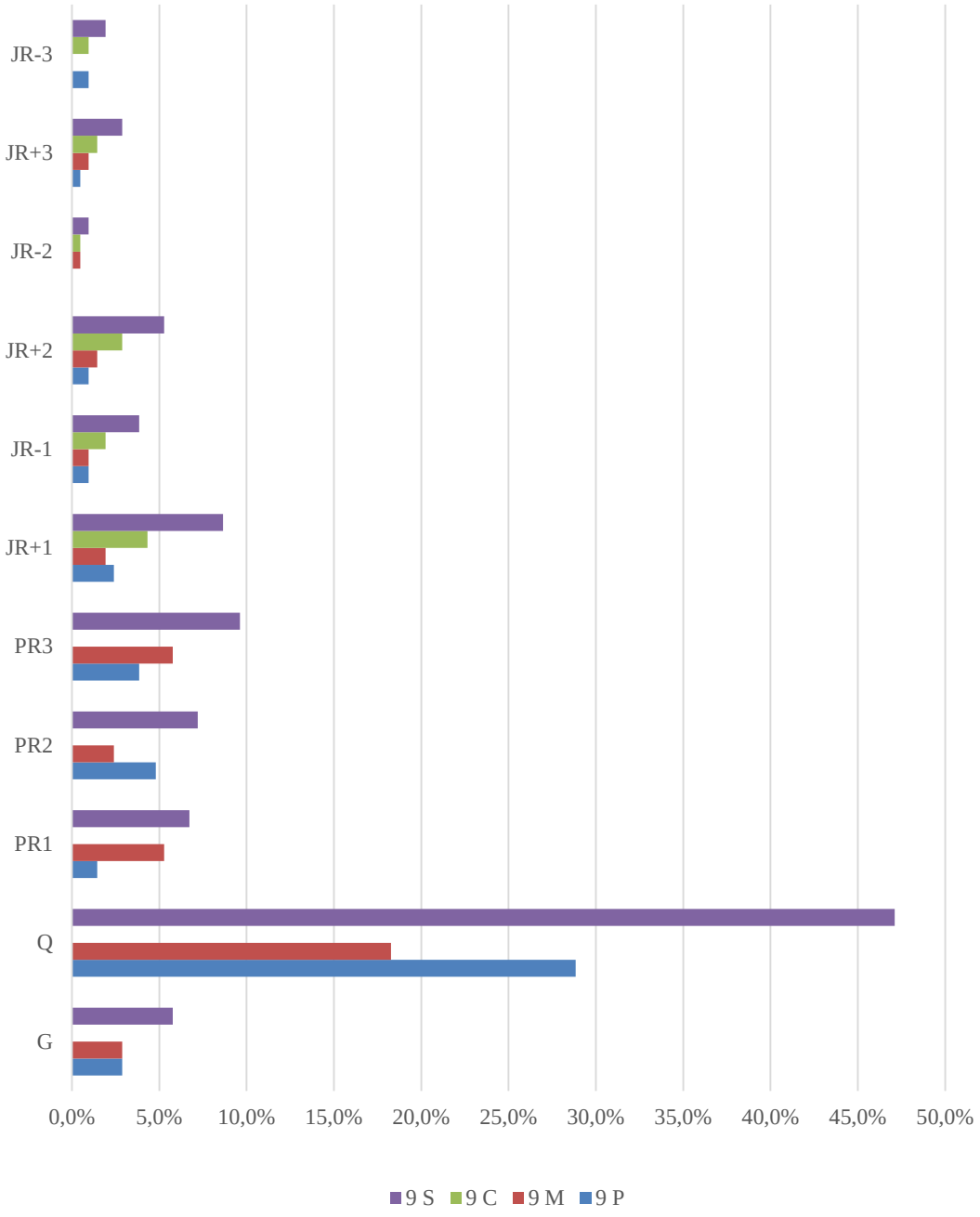


Figure 4.13. Main Legitimacy Criteria within each sub-phase of competitions 9.

• Pragmatic and moral legitimacy criteria are the most coded in questions of competition 9.

• Cognitive legitimacy criteria are the most coded in affirmative jury reports of the 1st and the 2nd awarded projects.

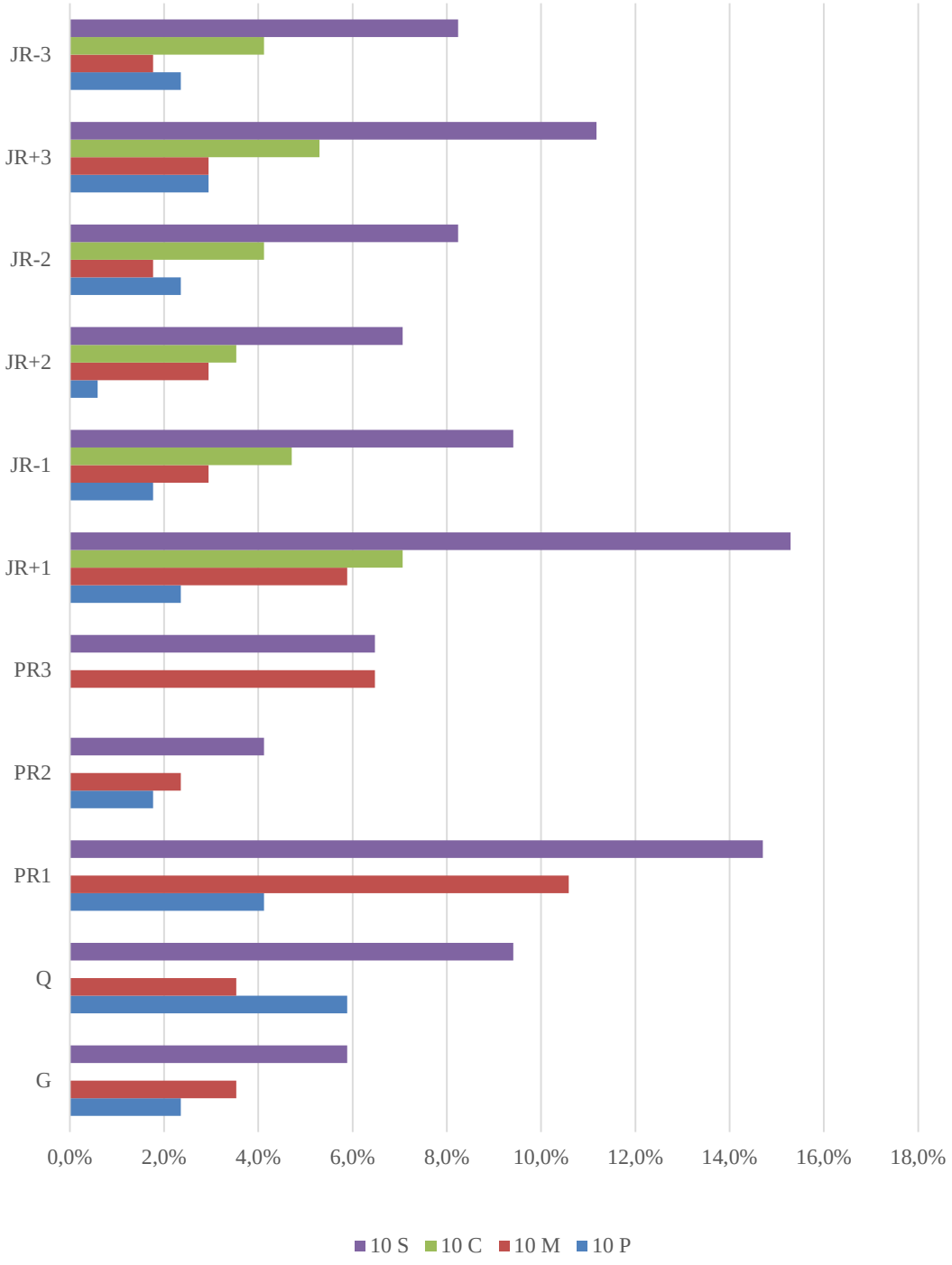


Figure 4.14. Main Legitimacy Criteria within each sub-phase of competition 10.

- Pragmatic legitimacy criteria are the most coded in questions of competition 10; not coded in the 3rd project report.
- Moral legitimacy criteria are the most coded in 1st awarded project report.
- Cognitive legitimacy criteria are the most coded in the jury report of the 1st awarded project.

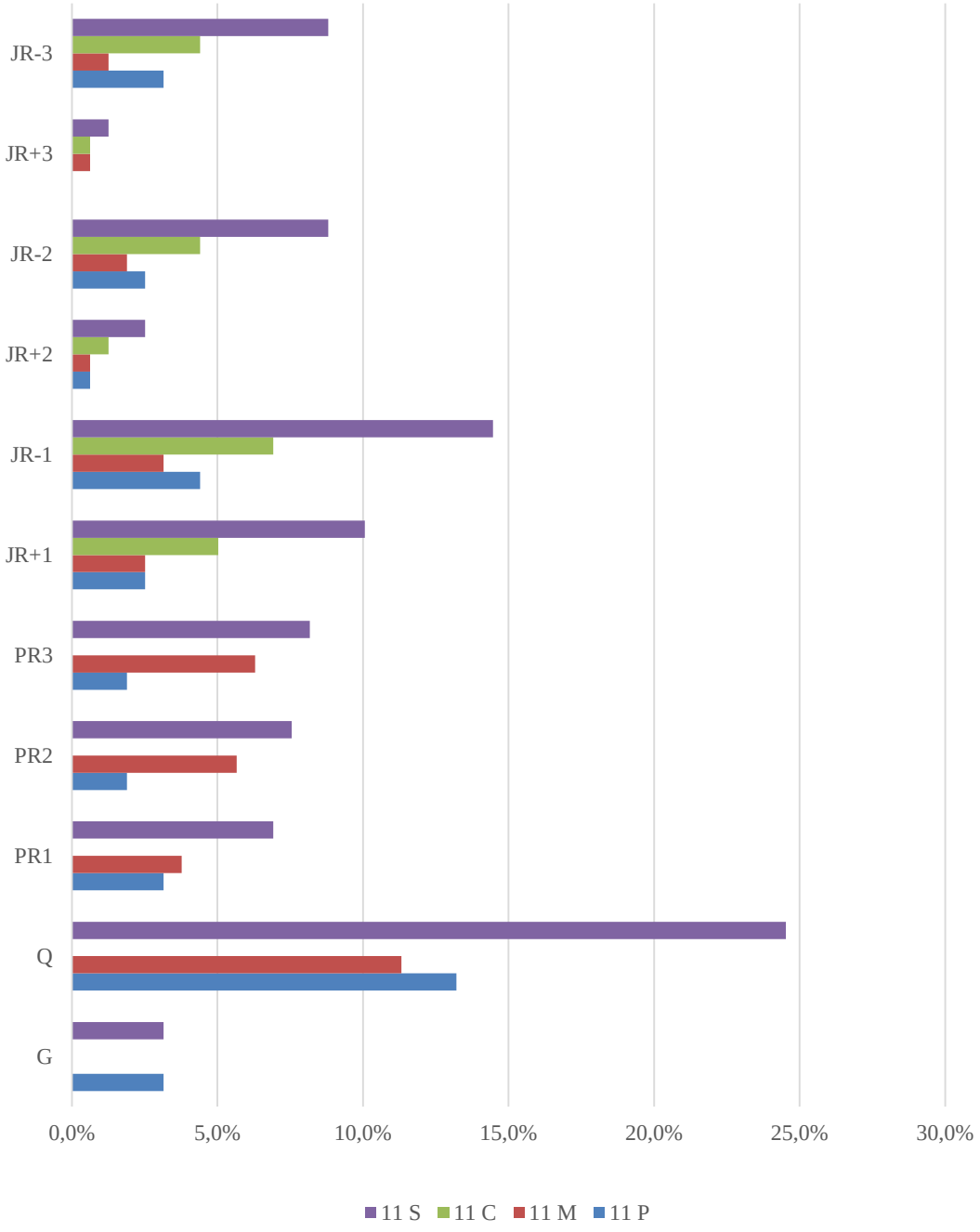


Figure 4.15. Main Legitimacy Criteria within each sub-phase of competition 11.

- Pragmatic legitimacy criteria are the most coded in questions of competition 11; not coded affirmative jury report of the 3rd awarded project.
- Moral legitimacy criteria are the most coded in questions; not coded in guidelines.
- Cognitive legitimacy criteria are the most coded in the jury report of the 1st awarded project.

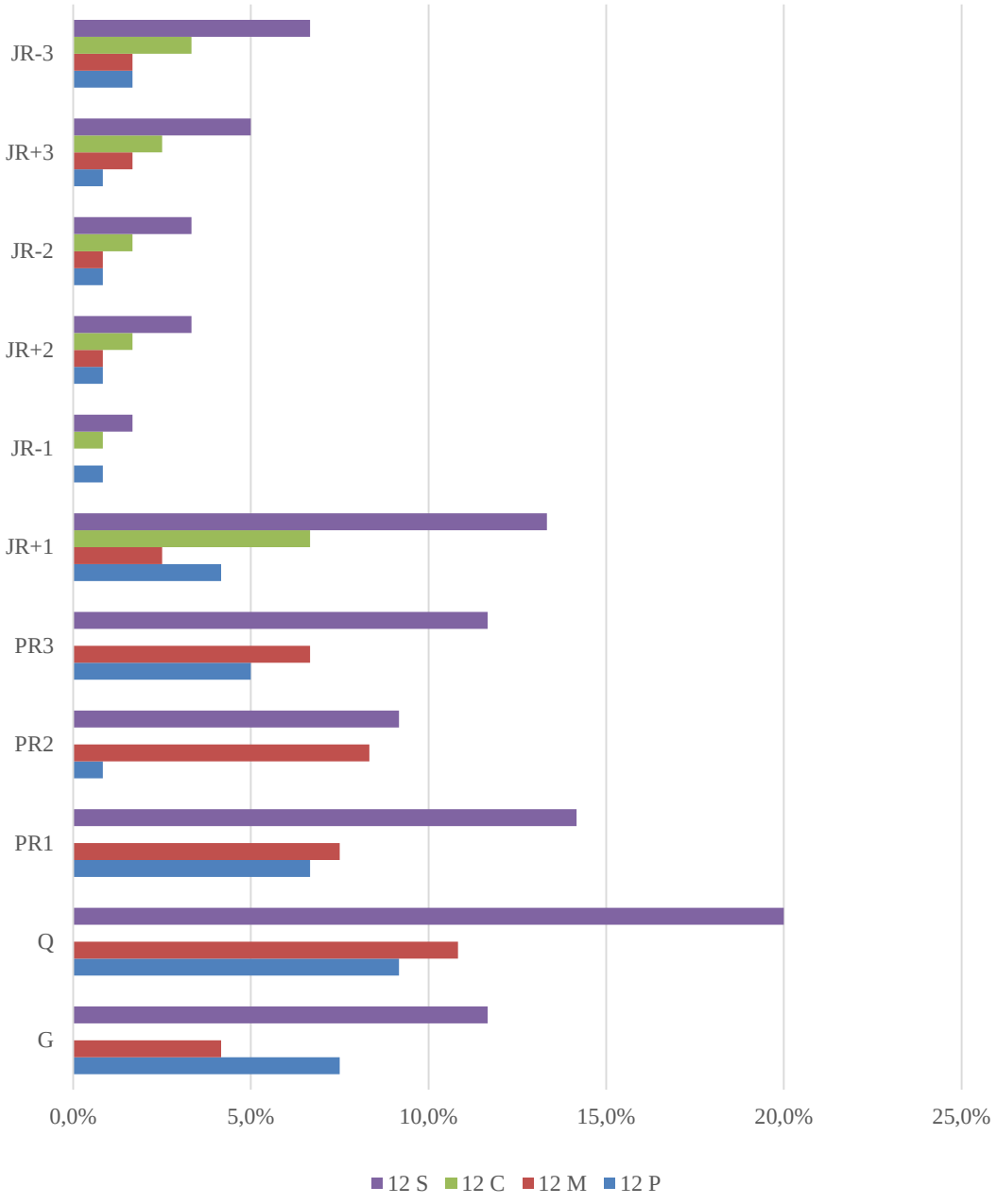


Figure 4.16. Main Legitimacy Criteria within each sub-phase of competition 12.

- Pragmatic legitimacy criteria are the most coded in questions of competition 12.
- Moral legitimacy criteria are the most coded in questions; not coded in the negative jury report of the 1st awarded project.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st awarded project.

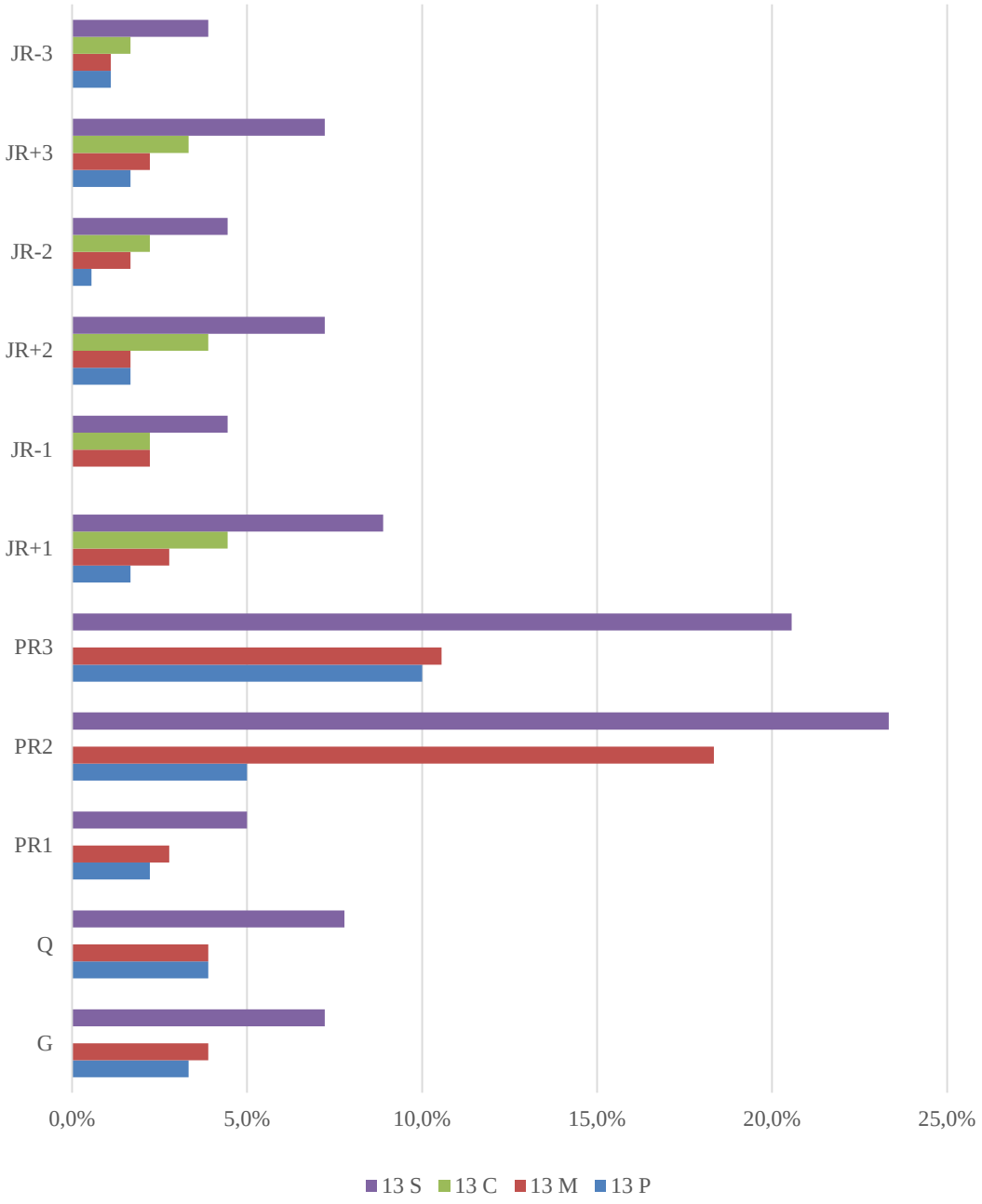


Figure 4.17. Main Legitimacy Criteria within each sub-phase of competition 13.

- Pragmatic legitimacy criteria are the most coded in project reports of competition 13.
- Moral legitimacy criteria are the most coded in the 2nd and the 3rd project reports.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st awarded project.

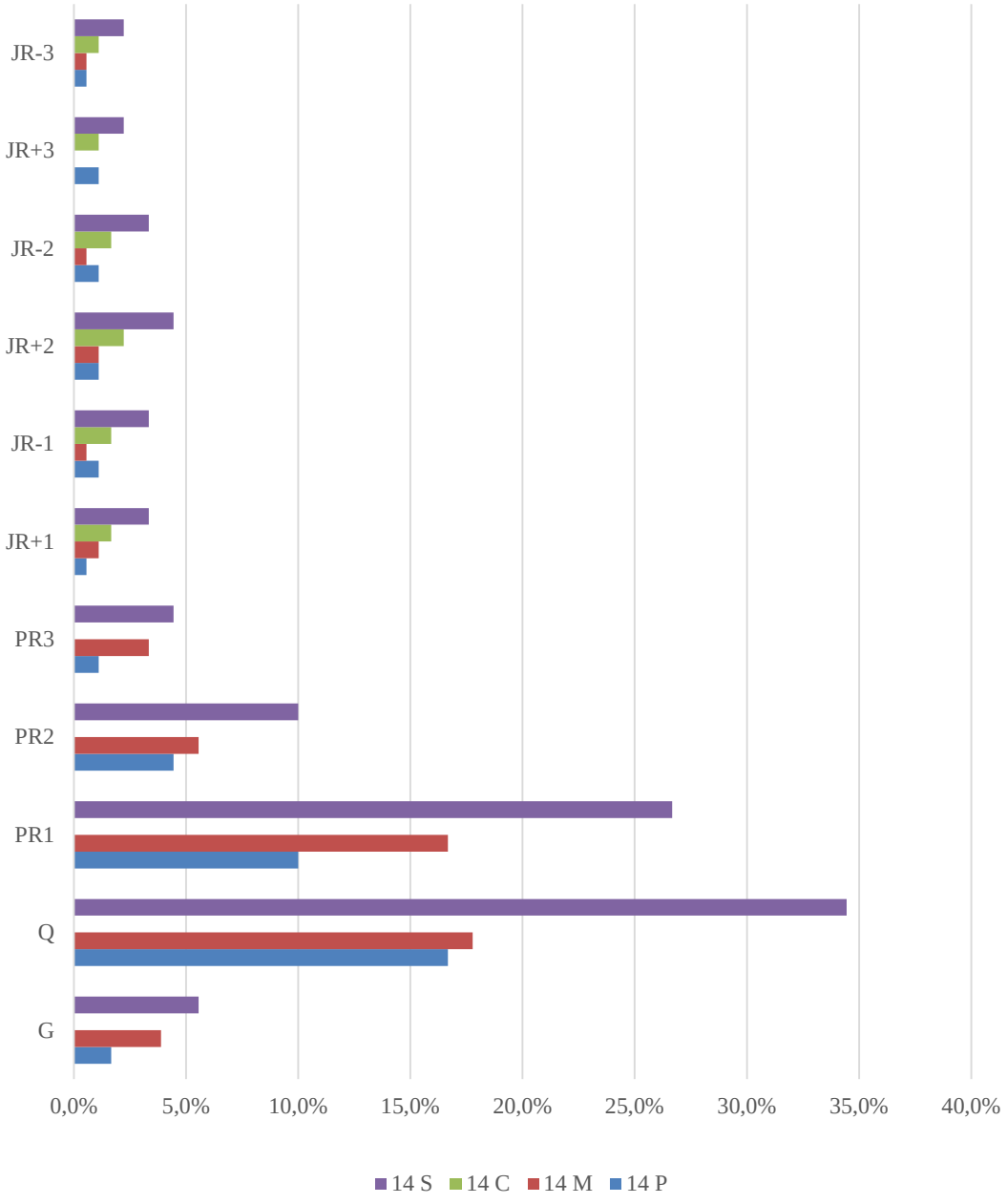


Figure 4.18. Main Legitimacy Criteria within each sub-phase of competition 14.

- Pragmatic legitimacy criteria are the most coded in questions of competition 14.
- Moral legitimacy criteria are the most coded in questions followed by project reports.
- Cognitive legitimacy criteria are almost equally coded in the jury reports.

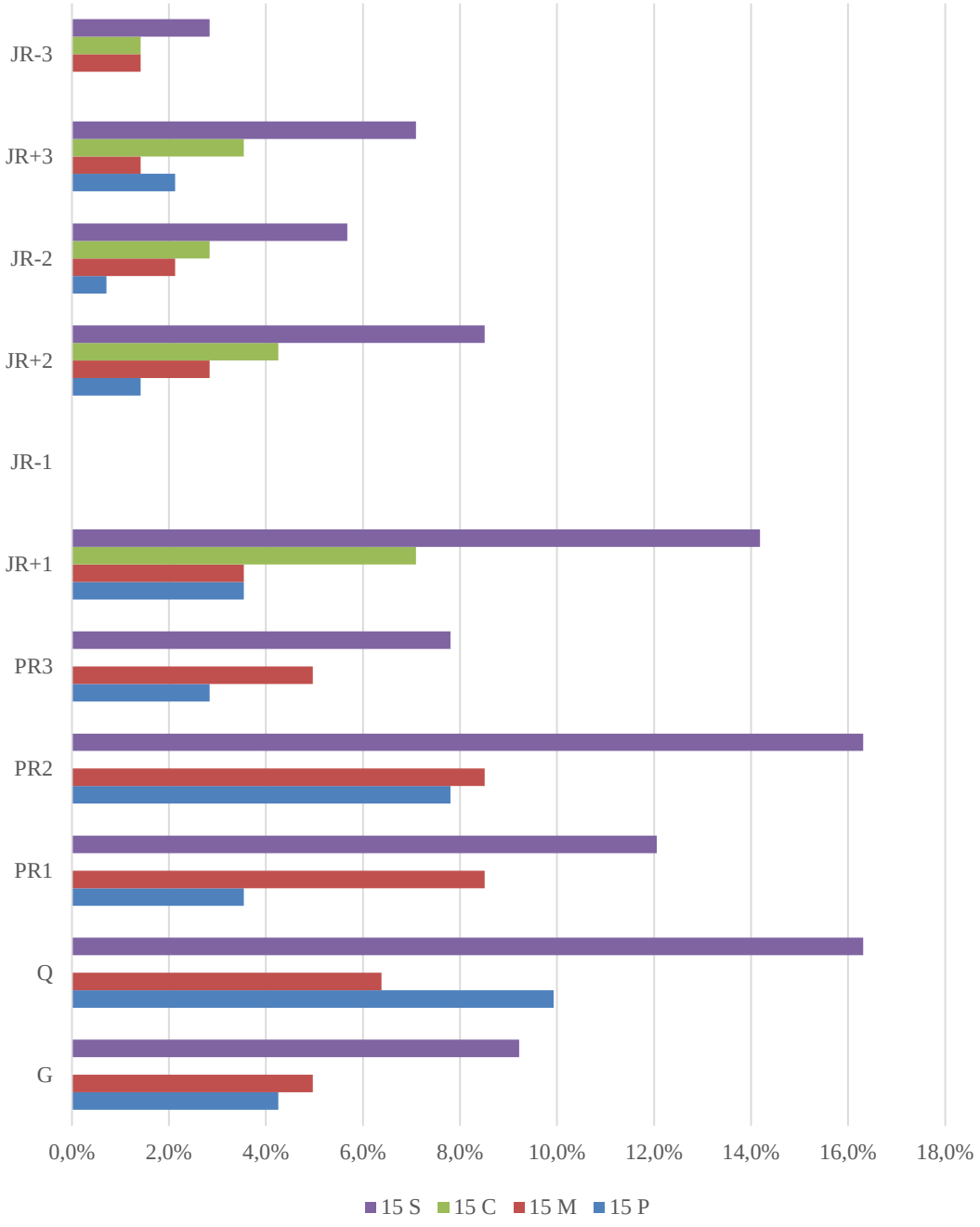


Figure 4.19. Main Legitimacy Criteria within each sub-phase of competition 15.

- Pragmatic legitimacy criteria are the most coded in questions of competition 15.
- Moral legitimacy criteria are the most coded in project reports followed by questions.
- Cognitive legitimacy criteria are the most coded in affirmative jury reports of the 1st awarded project.

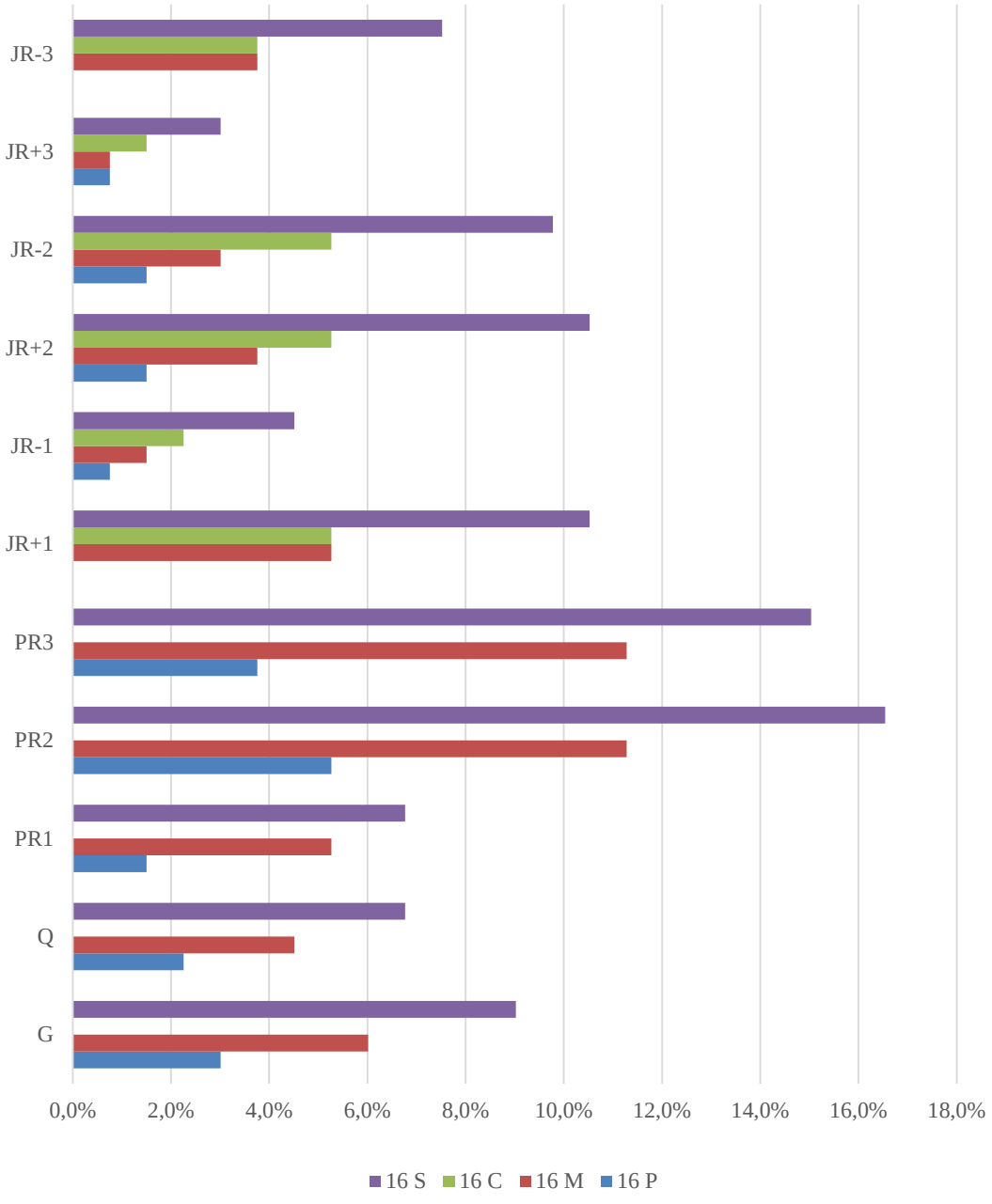


Figure 4.20. Main Legitimacy Criteria within each sub-phase of competition 16.

- Pragmatic legitimacy criteria are the most coded in the 2nd and 3rd project reports of competition 16.
- Moral legitimacy criteria are the most coded in the 2nd and 3rd awarded project reports.
- Cognitive legitimacy criteria are the most coded in affirmative jury reports of 1st awarded project followed by jury reports of 2nd awarded project.

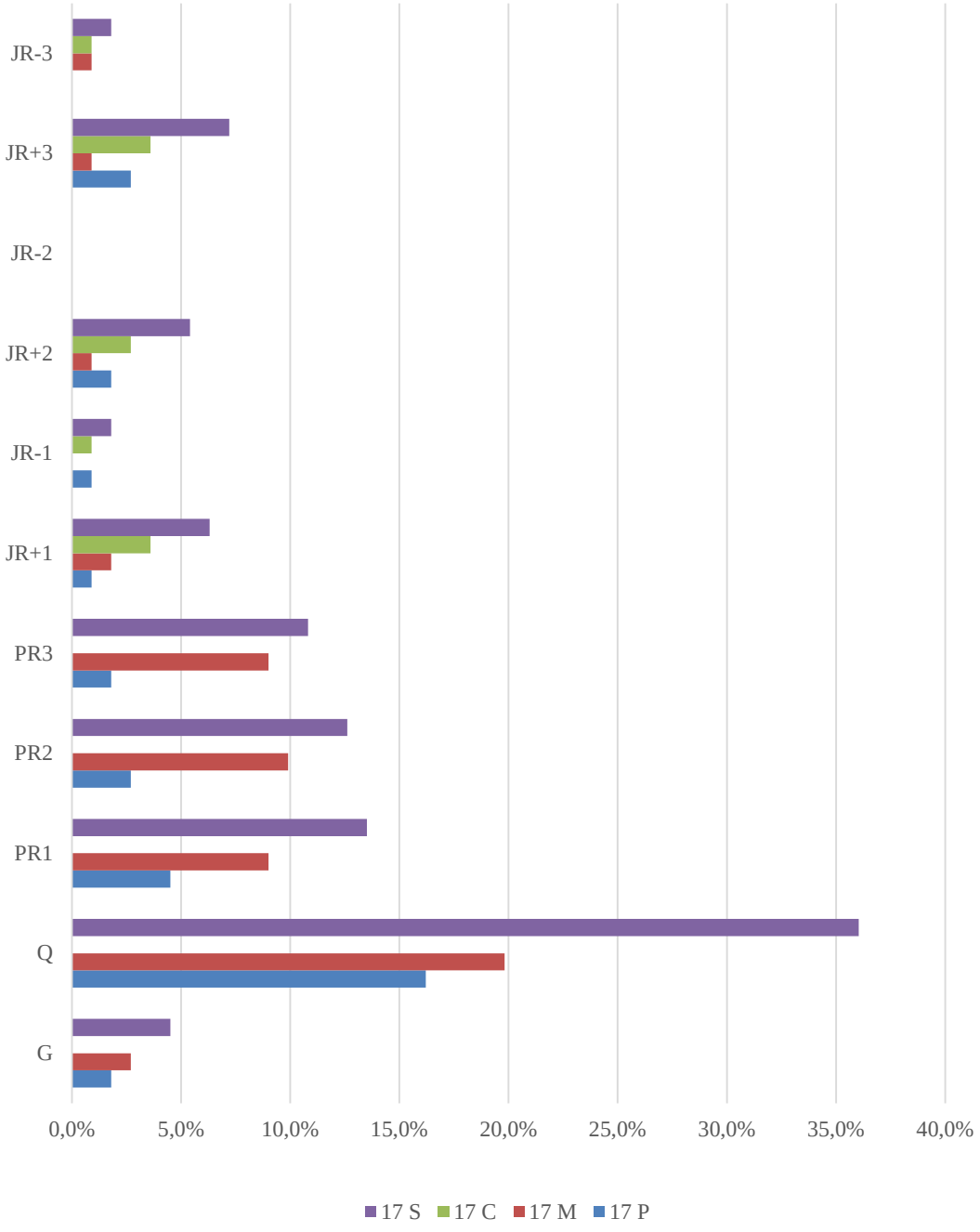


Figure 4.21. Main Legitimacy Criteria within each sub-phase of competition 17.

- Pragmatic legitimacy criteria are the most coded in questions of competition 17.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are not coded in the negative jury report of the 2nd awarded project.

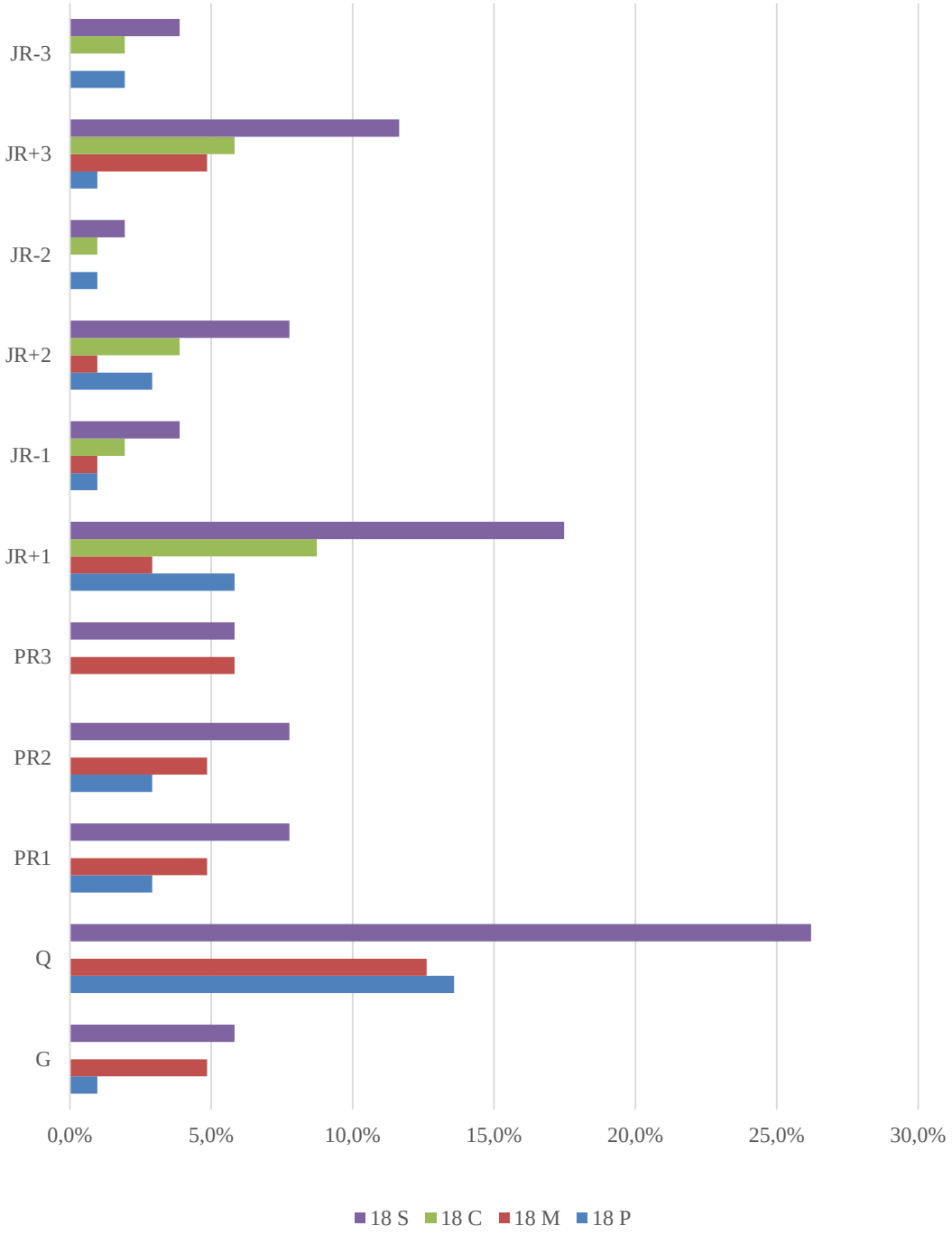


Figure 4.22. Main Legitimacy Criteria within each sub-phase of competition 18.

- Pragmatic legitimacy criteria are the most coded in questions of competition 18.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st awarded project.

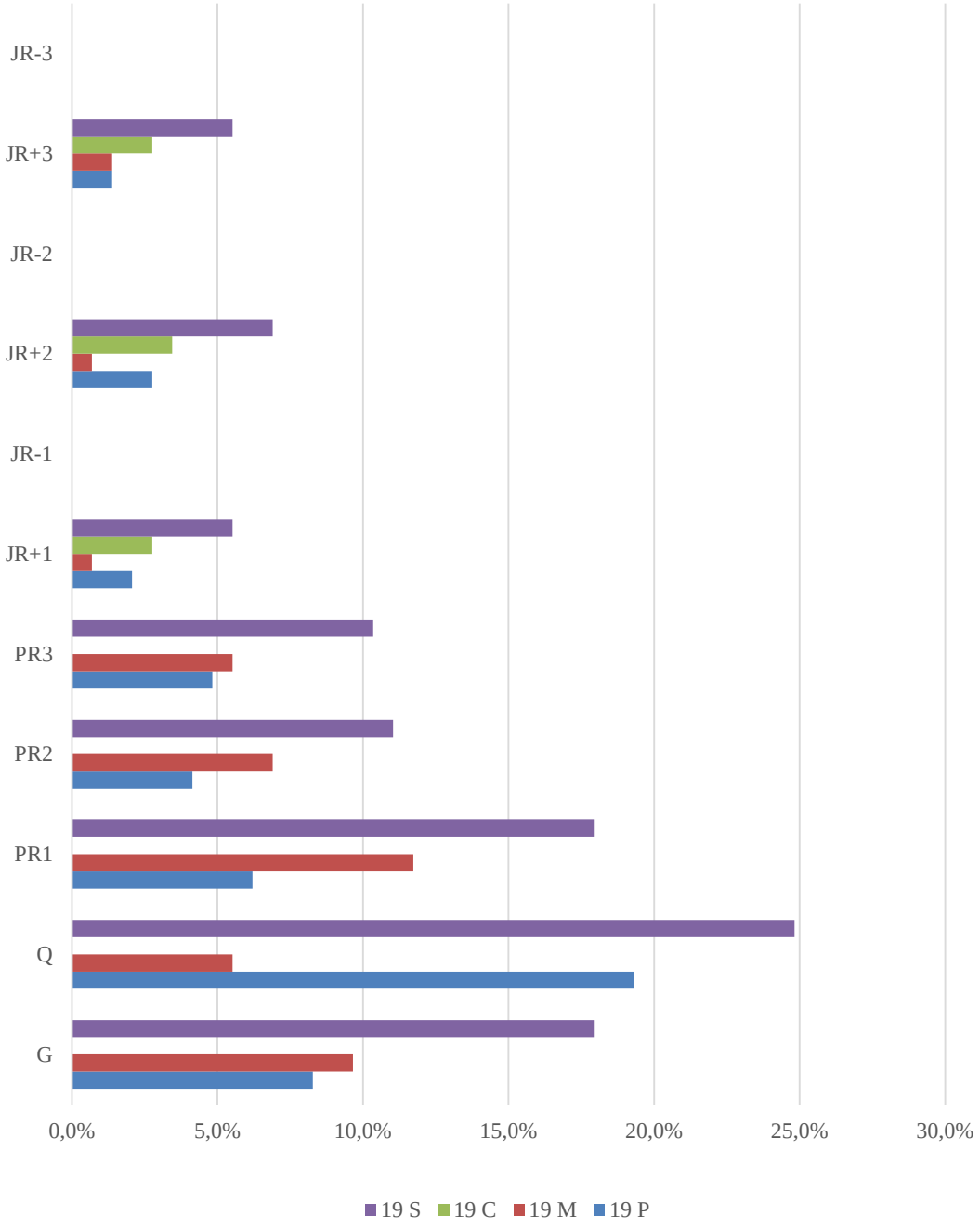


Figure 4.23. Main Legitimacy Criteria within each sub-phase of competition 19.

- Pragmatic legitimacy criteria are the most coded in questions of competition 19.
- Moral legitimacy criteria are the most coded the 1st awarded project report.
- Cognitive legitimacy criteria are not coded in negative jury reports.

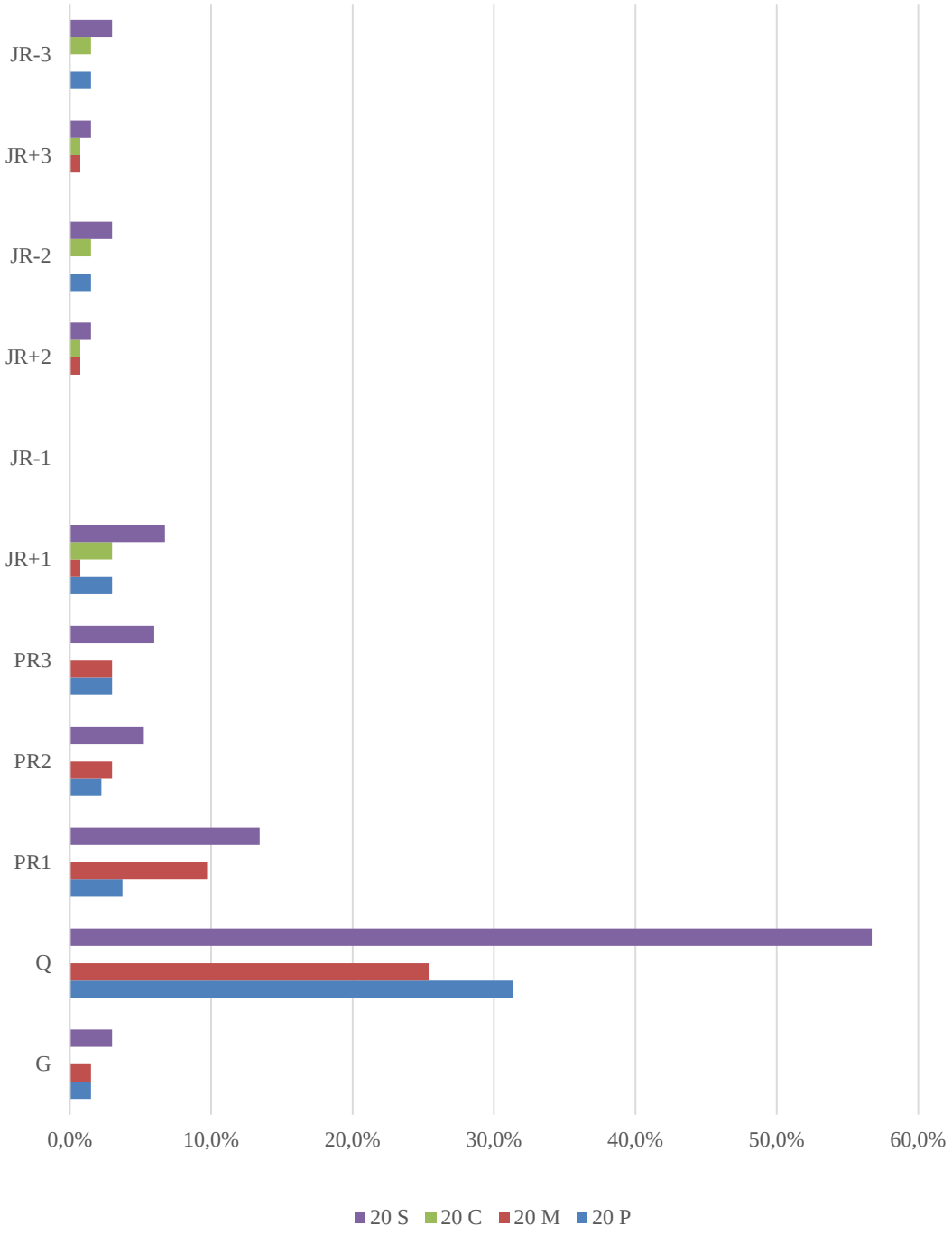


Figure 4.24. Main Legitimacy Criteria within each sub-phase of competition 20.

- Pragmatic legitimacy criteria are the most coded in questions of competition 20.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are not coded in the negative jury report of the 1st awarded project.

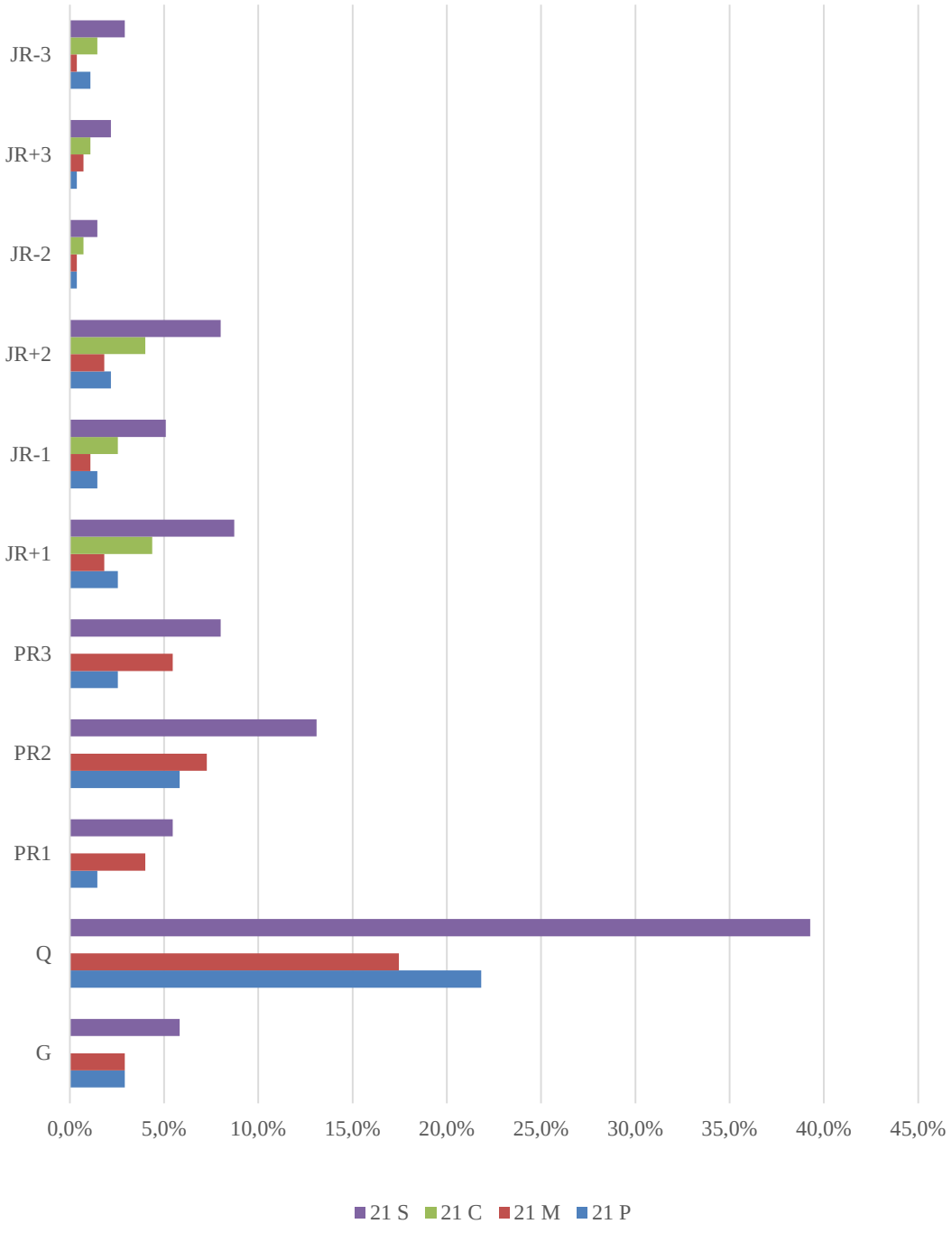


Figure 4.25. Main Legitimacy Criteria within each sub-phase of competition 21.

- Pragmatic legitimacy criteria are the most coded in questions of competition 21.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the affirmative jury reports of the 1st and 2nd awarded projects.

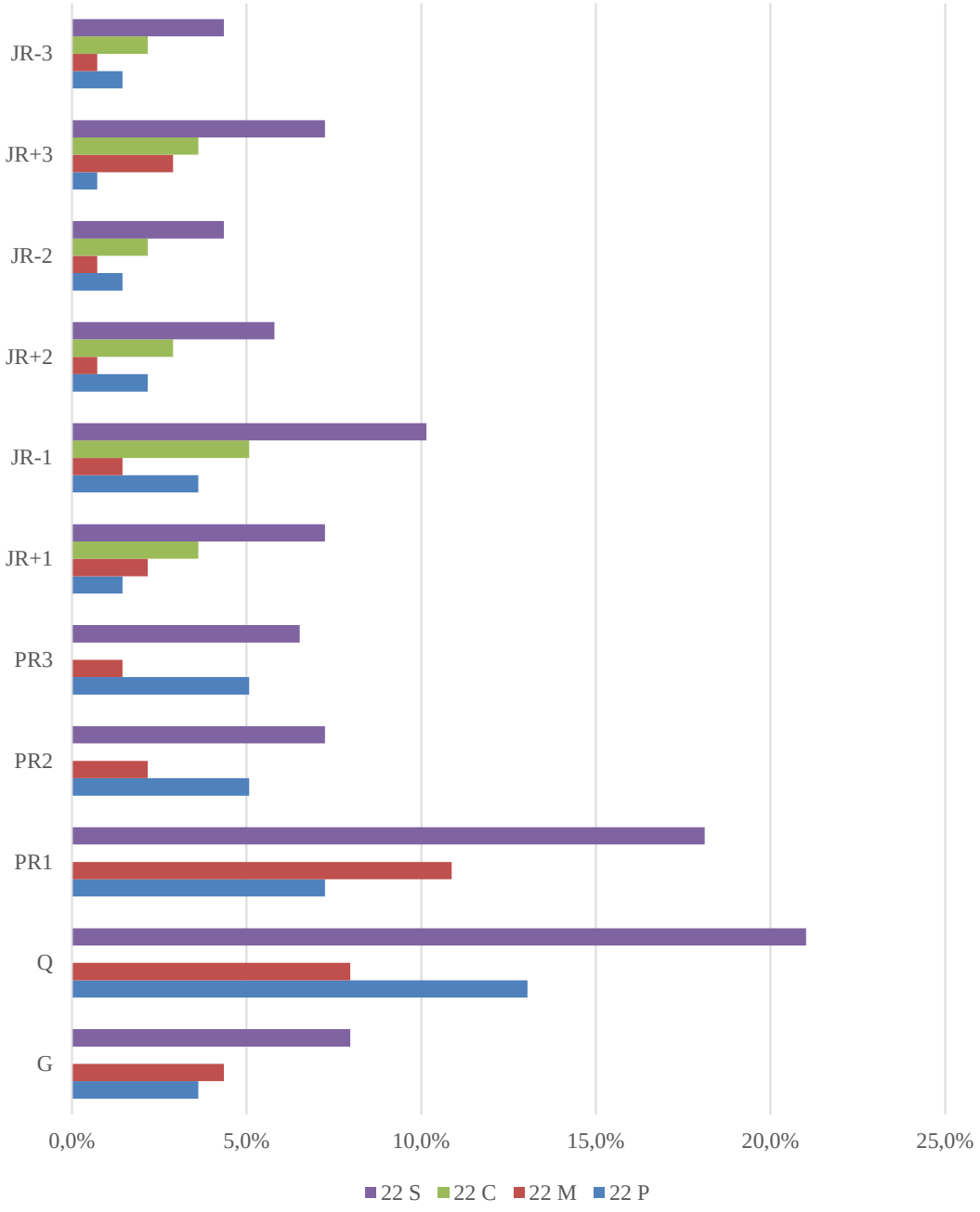


Figure 4.26. Main Legitimacy Criteria within each sub-phase of competition 22.

- Pragmatic legitimacy criteria are the most coded in questions of competition 22.
- Moral legitimacy criteria are the most coded in the 1st awarded project report followed by questions.
- Cognitive legitimacy criteria are the most coded in the jury report of the 1st awarded project.

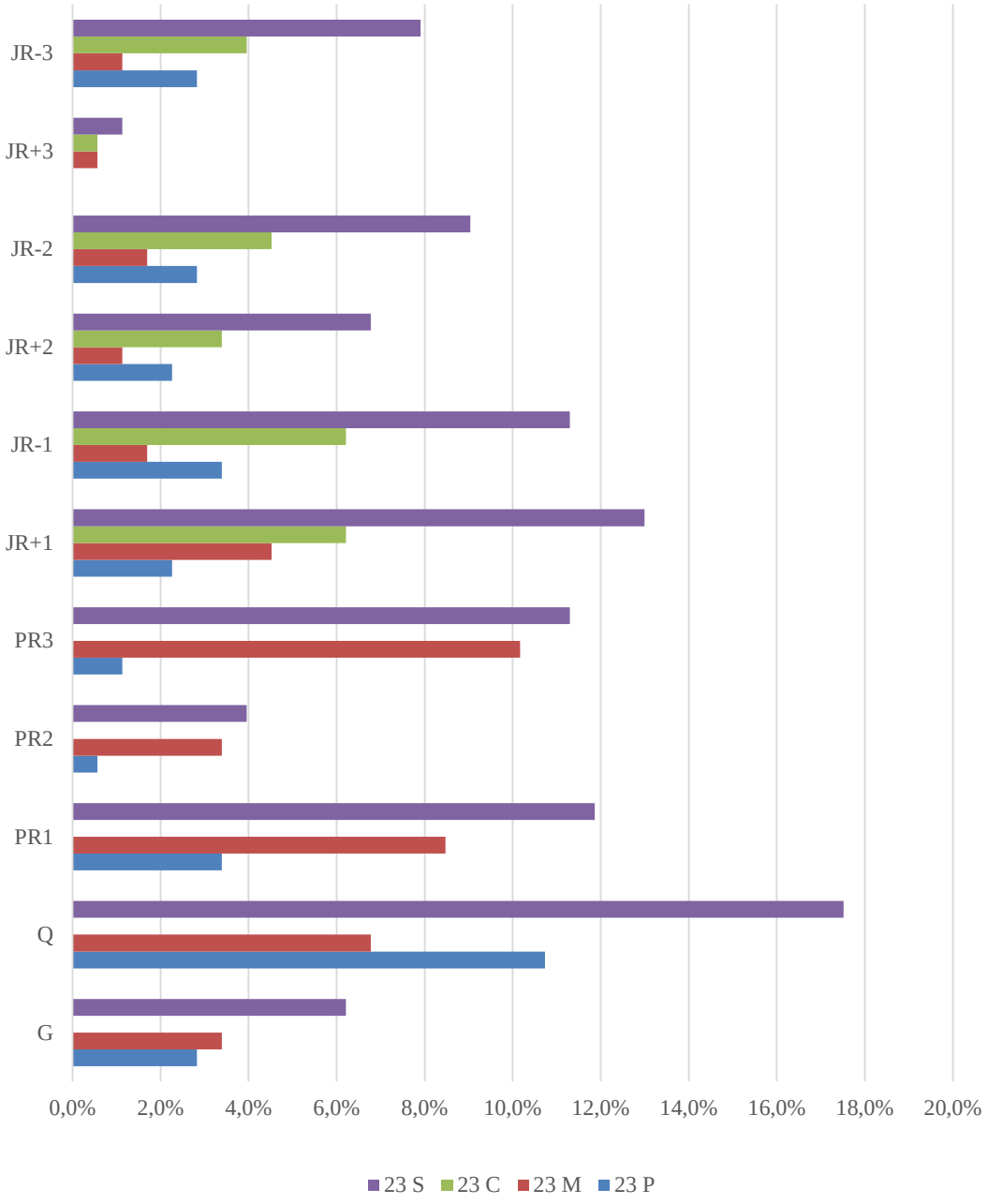


Figure 4.27. Main Legitimacy Criteria within each sub-phase of competition 23.

- Pragmatic legitimacy criteria are the most coded in questions of competition 23.
- Moral legitimacy criteria are the most coded in the 3rd awarded project report followed by the 1st awarded project.
- Cognitive legitimacy criteria are the most coded in the jury report of the 1st awarded project.

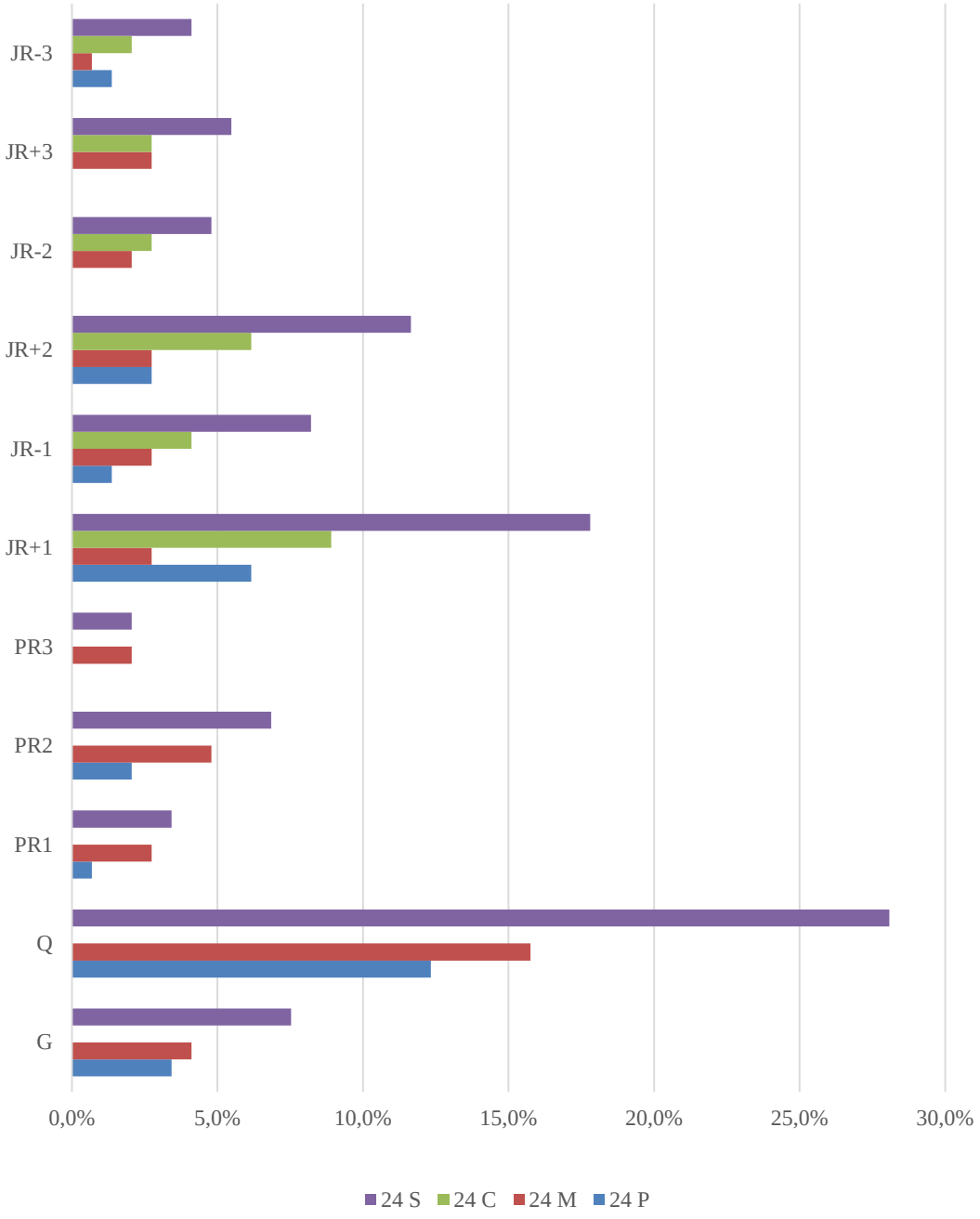


Figure 4.28. Main Legitimacy Criteria within each sub-phase of competition 24.

- Pragmatic legitimacy criteria are the most coded in questions of competition 24.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st awarded project.

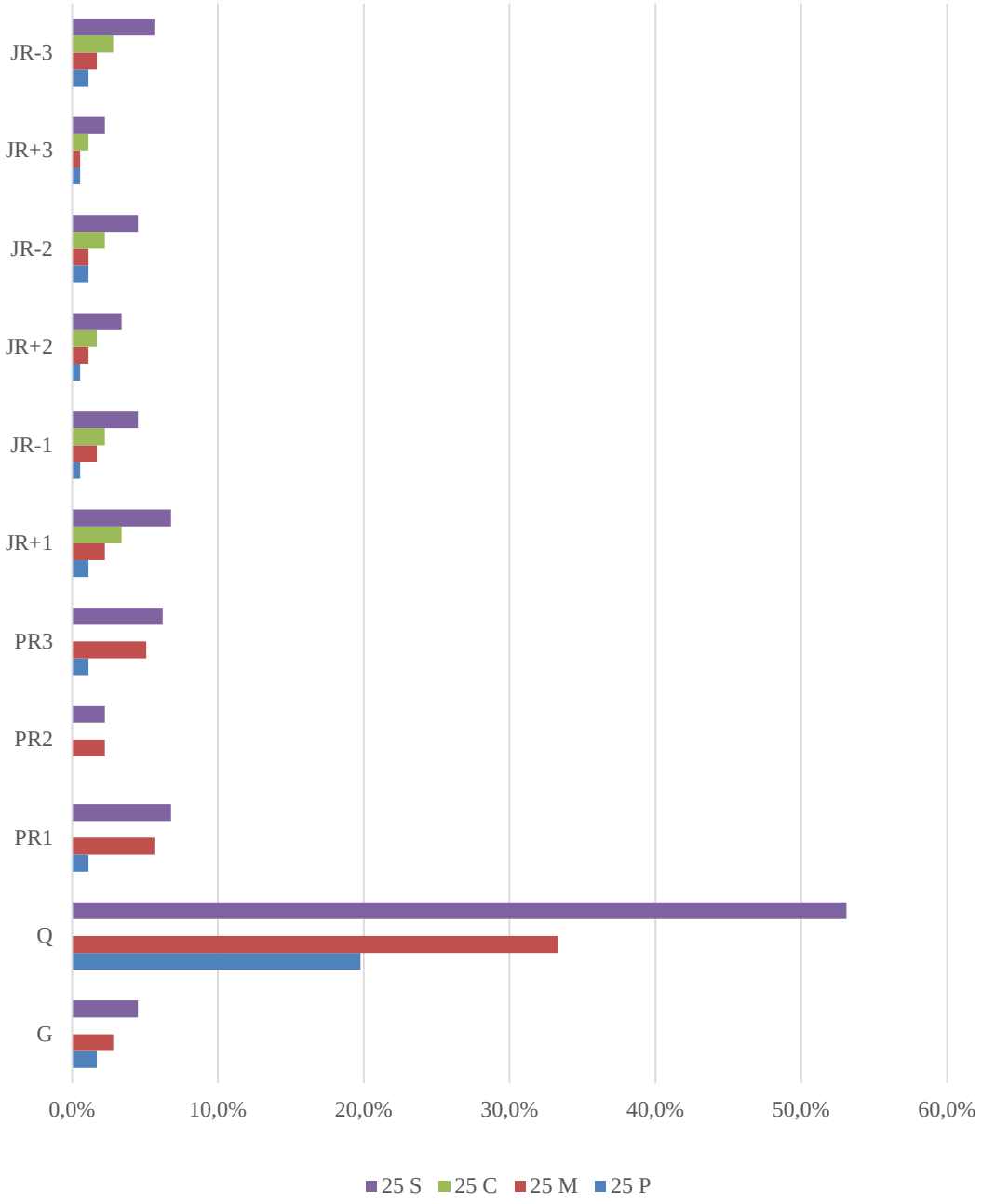


Figure 4.29. Main Legitimacy Criteria within each sub-phase of competition 25.

- Pragmatic legitimacy criteria are the most coded in questions of competition 25.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st awarded project followed by the negative jury report of the 3rd awarded project.

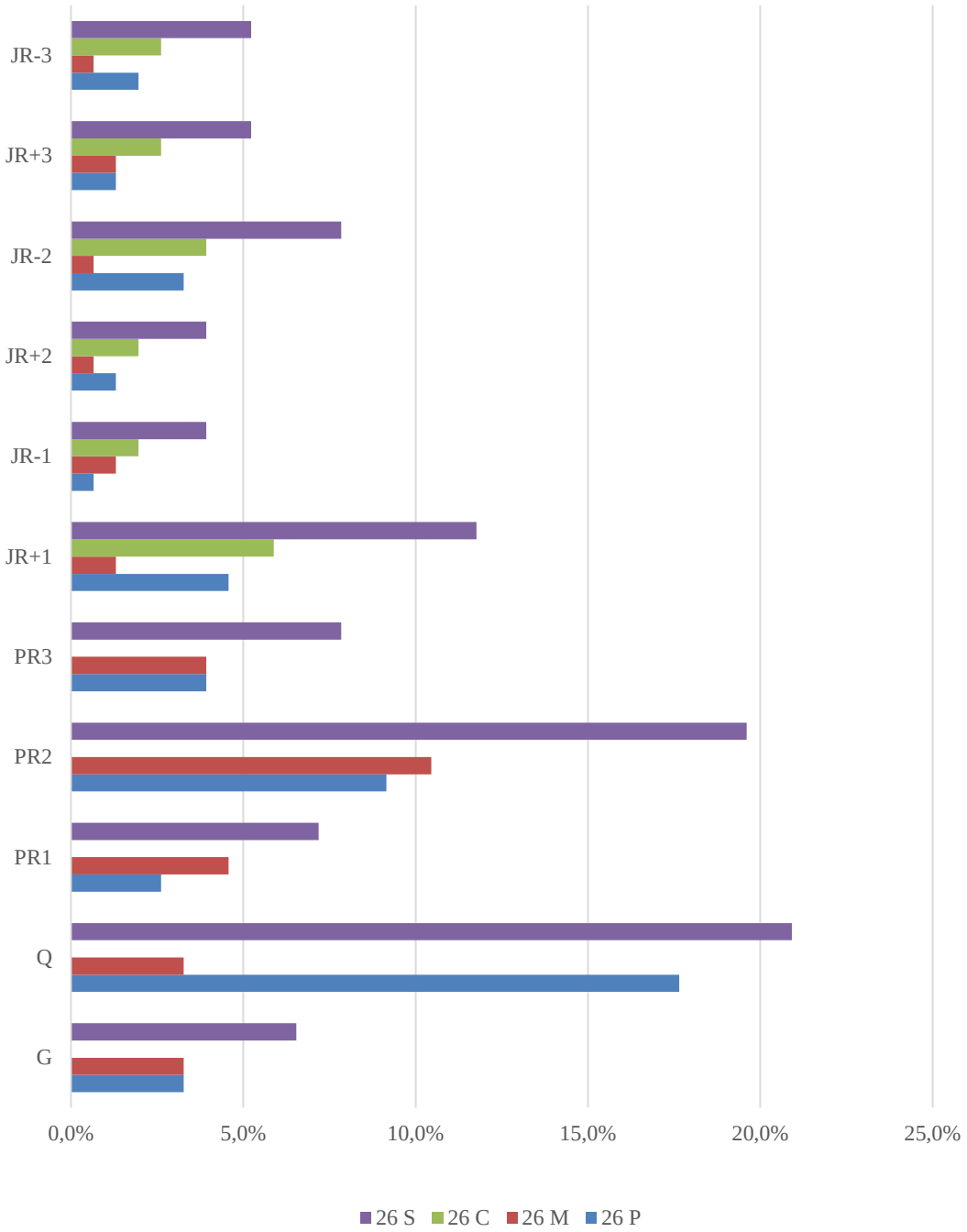


Figure 4.30. Main Legitimacy Criteria within each sub-phase of competition 26.

- Pragmatic legitimacy criteria are the most coded in questions of competition 26.
- Moral legitimacy criteria are the most coded in the 2nd awarded project.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st awarded project.

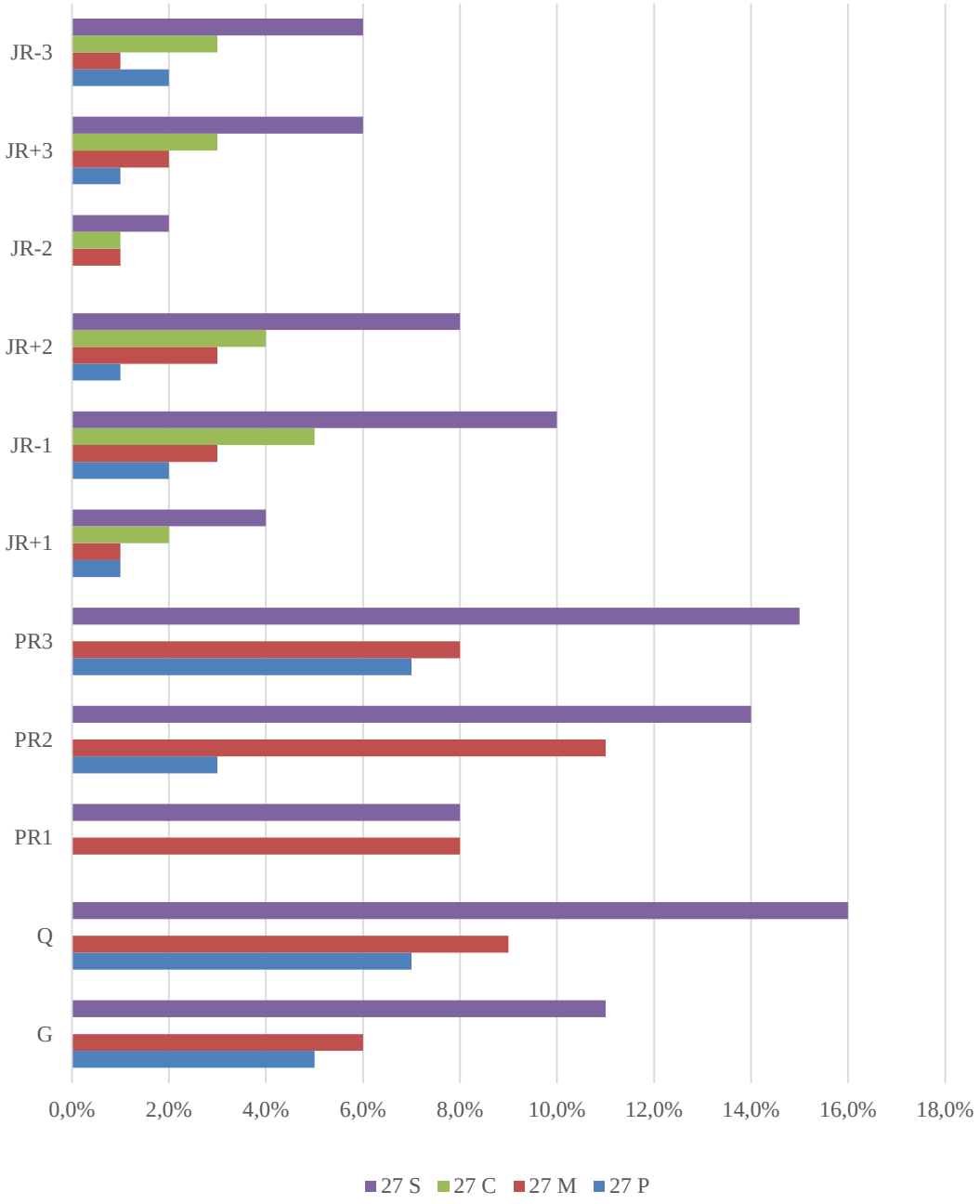


Figure 4.31. Main Legitimacy Criteria within each sub-phase of competition 27.

- Pragmatic legitimacy criteria are the most coded in questions and the 3rd awarded project of competition 27.
- Moral legitimacy criteria are the most coded in the 2nd awarded project.
- Cognitive legitimacy criteria are the most coded in the negative jury report of the 1st awarded project.

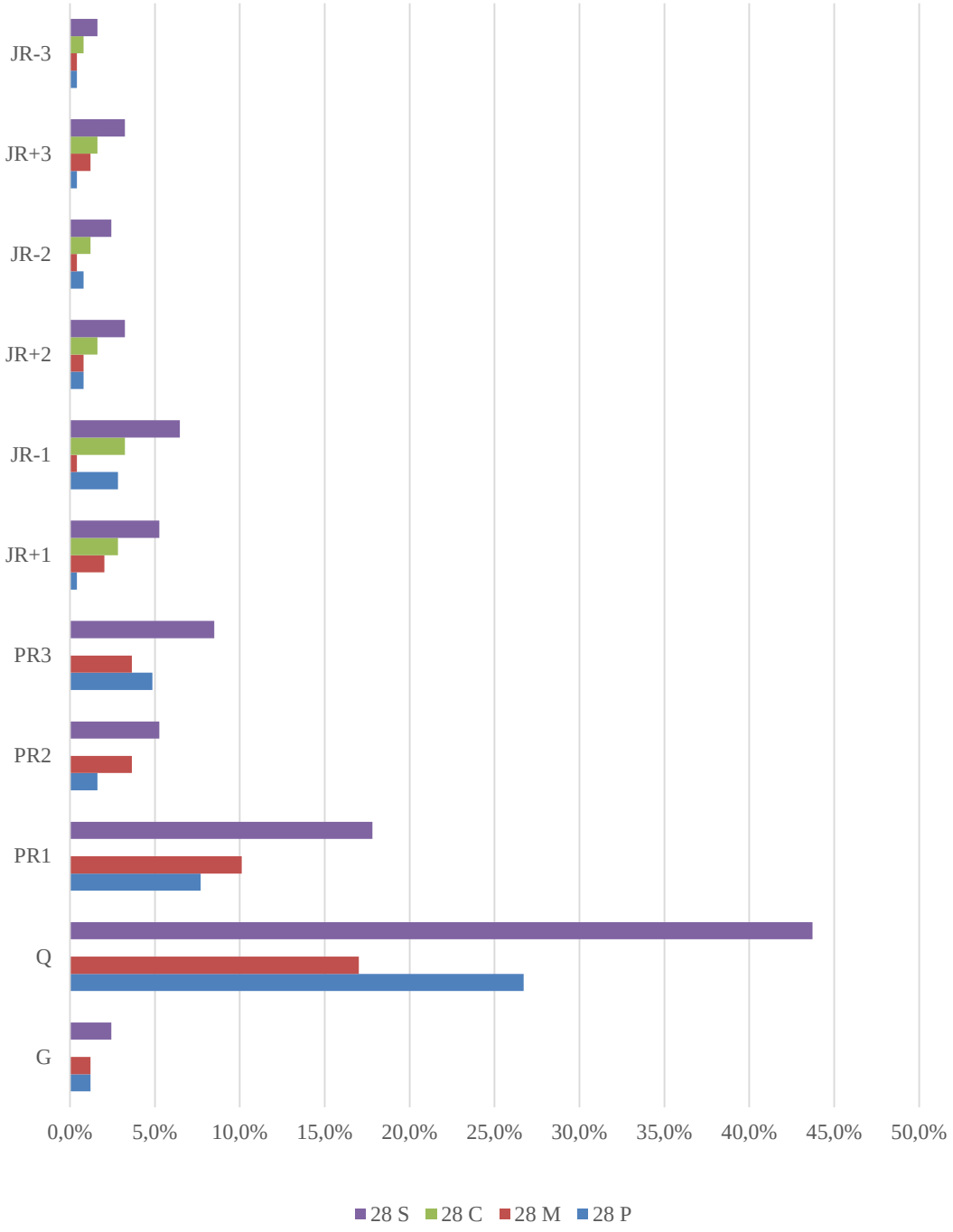


Figure 4.32. Main Legitimacy Criteria within each sub-phase of competition 28.

- Pragmatic legitimacy criteria are the most coded in questions of competition 28.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the negative jury report of the 1st awarded project.

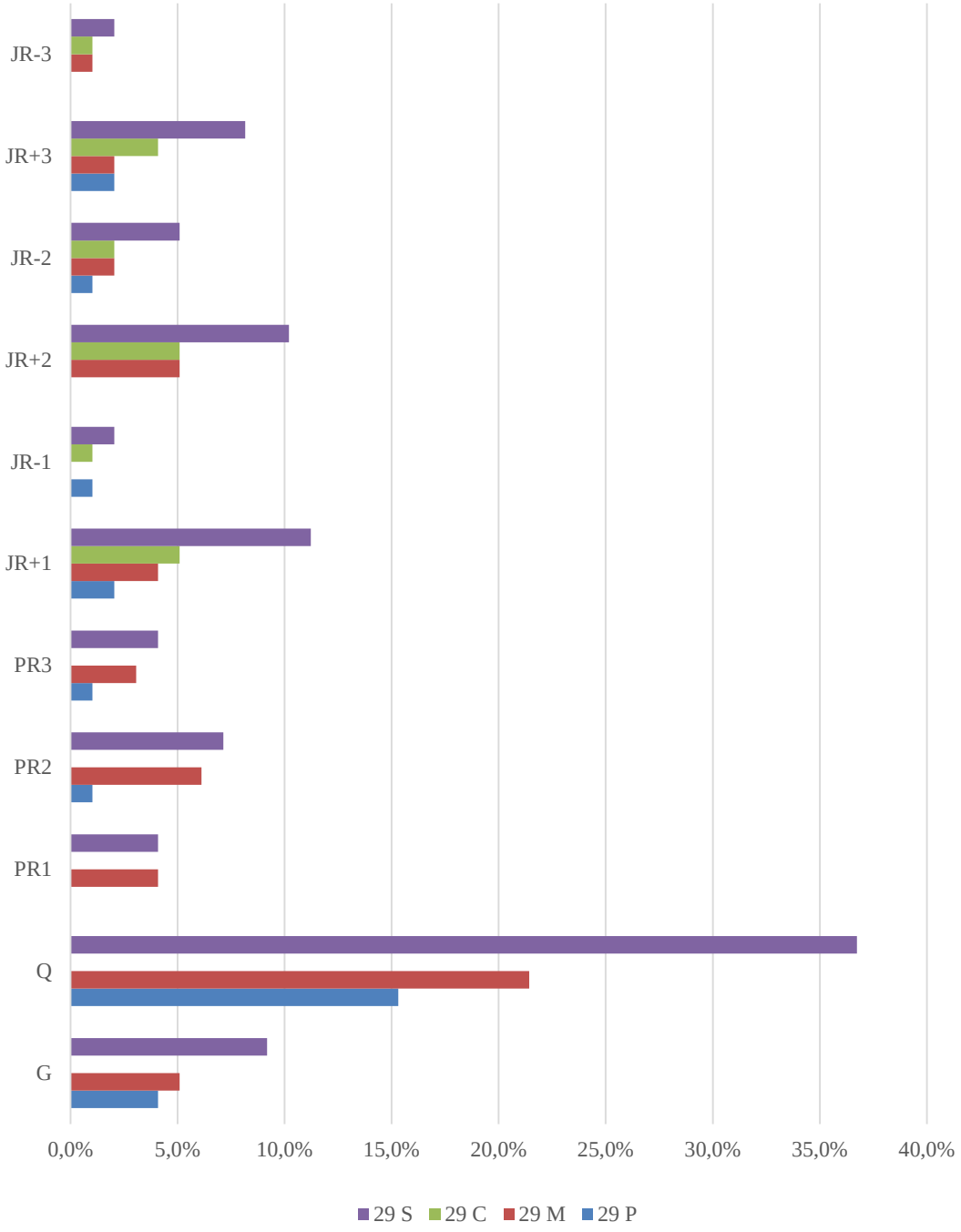


Figure 4.33. Main Legitimacy Criteria within each sub-phase of competition 29.

- Pragmatic legitimacy criteria are the most coded in questions of competition 29.
- Moral legitimacy criteria are the most coded in questions.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st and 2nd awarded projects.

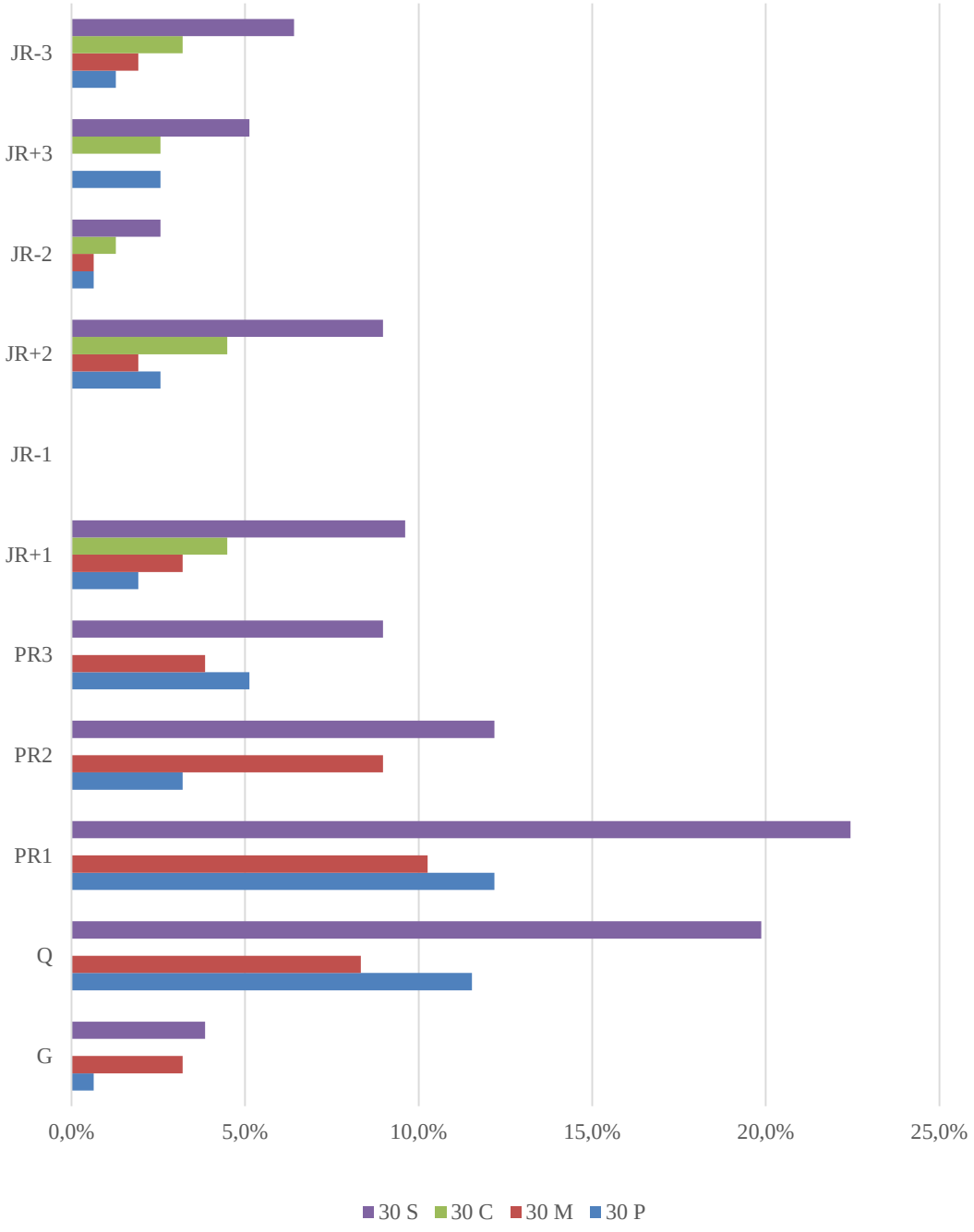


Figure 4.34. Main Legitimacy Criteria within each sub-phase of competition 30.

- Pragmatic legitimacy criteria are the most coded in the 1st awarded project report of competition 30.
- Moral legitimacy criteria are the most coded in the 1st awarded project report.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st and the 2nd awarded projects.

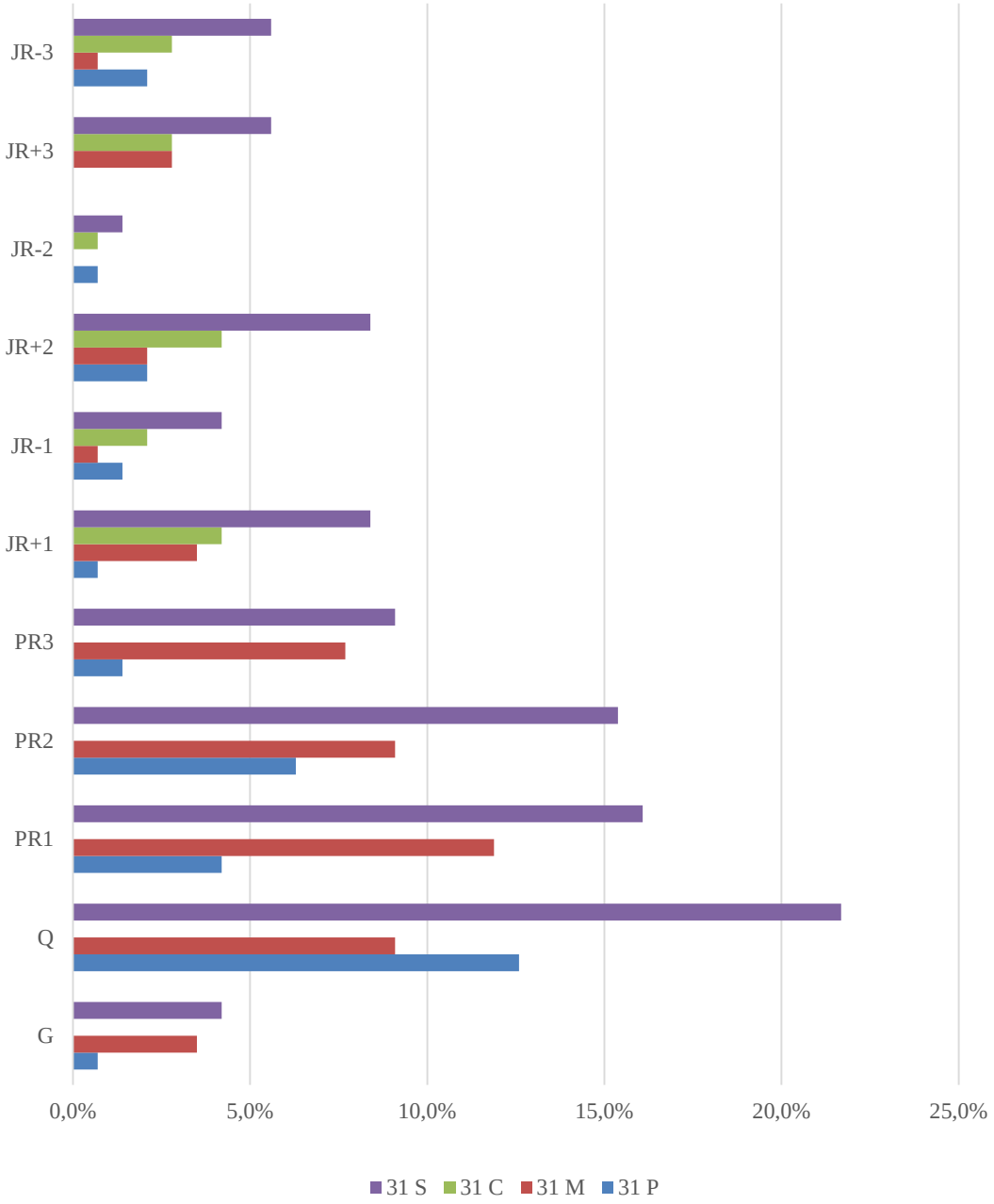


Figure 4.35. Main Criteria Legitimacy within each sub-phase of competition 31.

- Pragmatic legitimacy criteria are the most coded in question competition 31.
- Moral legitimacy criteria are the most coded in the 1st awarded project report.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 1st and 2nd awarded projects.

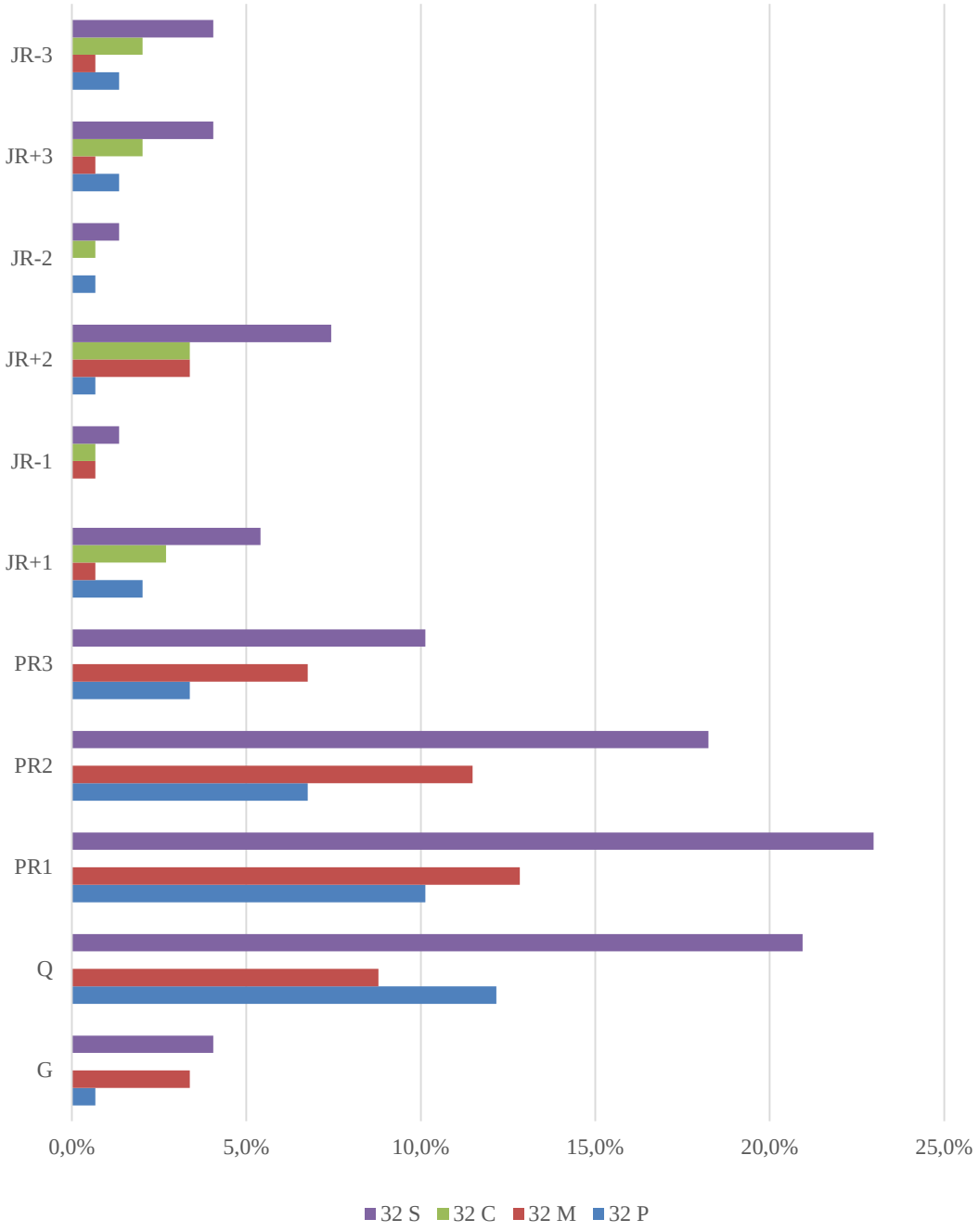


Figure 4.36. Main Legitimacy Criteria within each sub-phase of competition 32.

- Pragmatic legitimacy criteria are the most coded in questions of competition 32.
- Moral legitimacy criteria are the most coded in the 1st awarded project report.
- Cognitive legitimacy criteria are the most coded in the affirmative jury report of the 2nd awarded project.

Table 4.5. Main Legitimacy criteria with the most coded sub-phases.

code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P	Q	Q	Q	Q	PR3	PR2	Q	Q	Q	Q	Q	Q	PR3	Q	Q	PR2
M	G, PR3	PR	PR1 PR2	PR3	PR	PR2, PR3	Q	Q	Q	PR1	Q	Q	PR2	Q, PR1	PR	PR2, PR3
C	J+1, J+2	J+1	J+1 J+2, JR-3	J+1	J+1	J-1	J+1	J+1, J+2, J-3	J+1, J+2	J1	J1	J+1	J+1	J	J+1	J+1
code	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
P	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q, PR3	Q	Q	PR1	Q	Q
M	Q	Q	PR1	Q	Q	PR1	PR3	Q	Q	PR2	PR2	Q	Q	PR1	PR1	PR1
C	J+1, J+3	J+1	J+	J+1	J+1	J-1	J1	J+1	J+1, J-3	J+1	J-1	J1	J+	J+1, J+2	J+1, J+2	J+2

- The most coded Pragmatic and Moral legitimacy criteria are in questions followed by project reports.
- The most coded Cognitive legitimacy criteria are mainly in the affirmative jury report of the 1st awarded project.

4.4.1.3. Analysis of each Main and Sub-Legitimacy criteria within each sub-phases of all ADCs

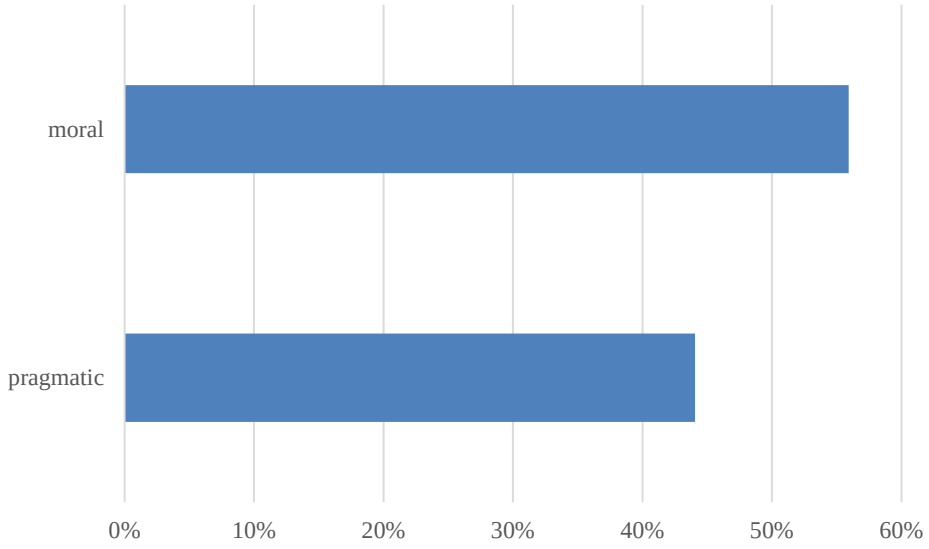


Figure 4.37. Main Legitimacy Criteria within “Guidelines”.

- In guideline phases, moral legitimacy criteria are more coded than pragmatic legitimacy criteria.

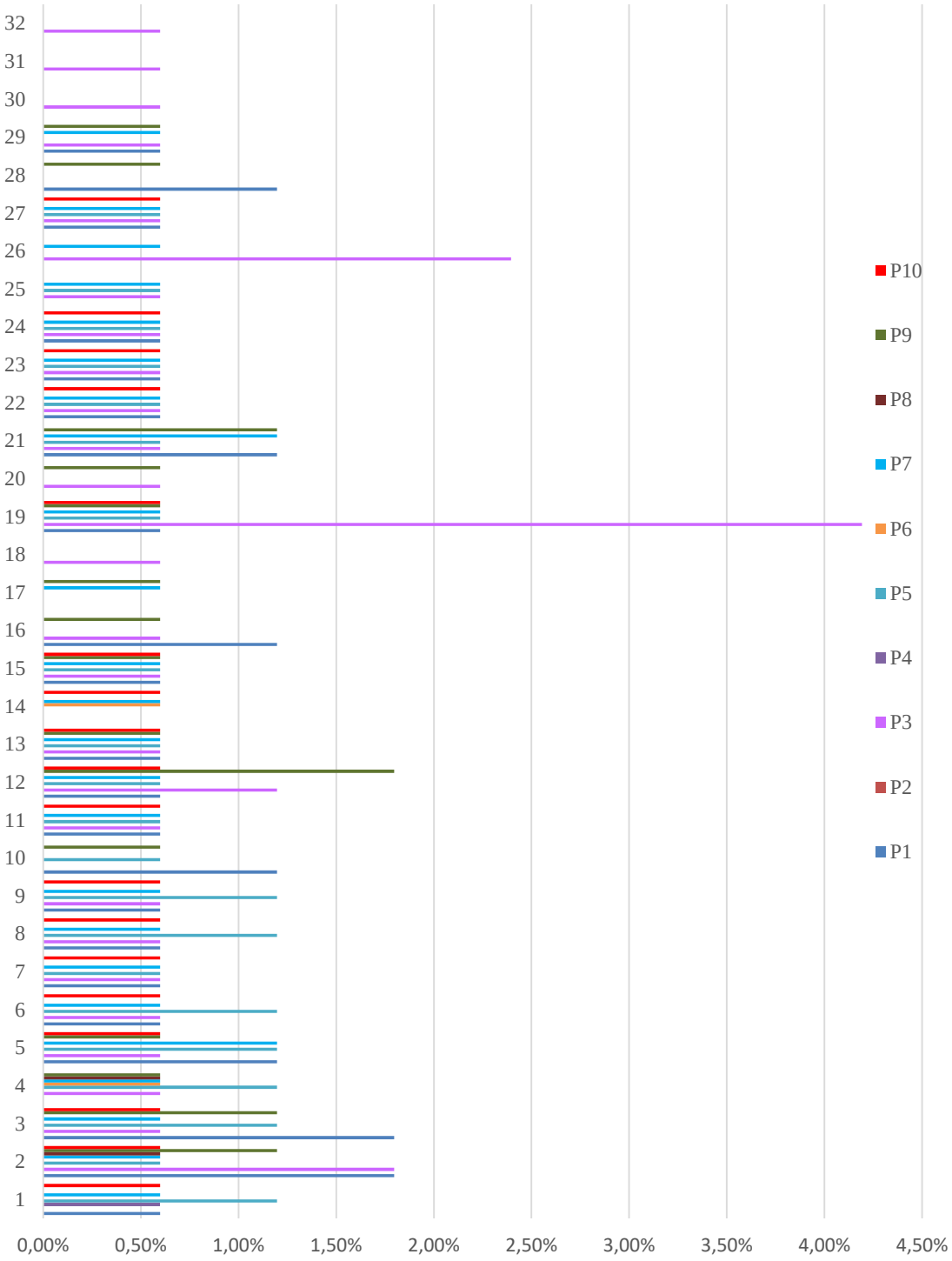


Figure 4.38. Sub-criteria of Pragmatic Legitimacy within “Guidelines”.

- *Value and interest creation for customers* (P3), *Get and/or provide the necessary support from and/or to the relevant environment* (P1), *Better managed and operated actions* (P5) followed by *Technological, innovative, sustainable design solutions* (P7) are the most coded pragmatic sub-criteria in guidelines.

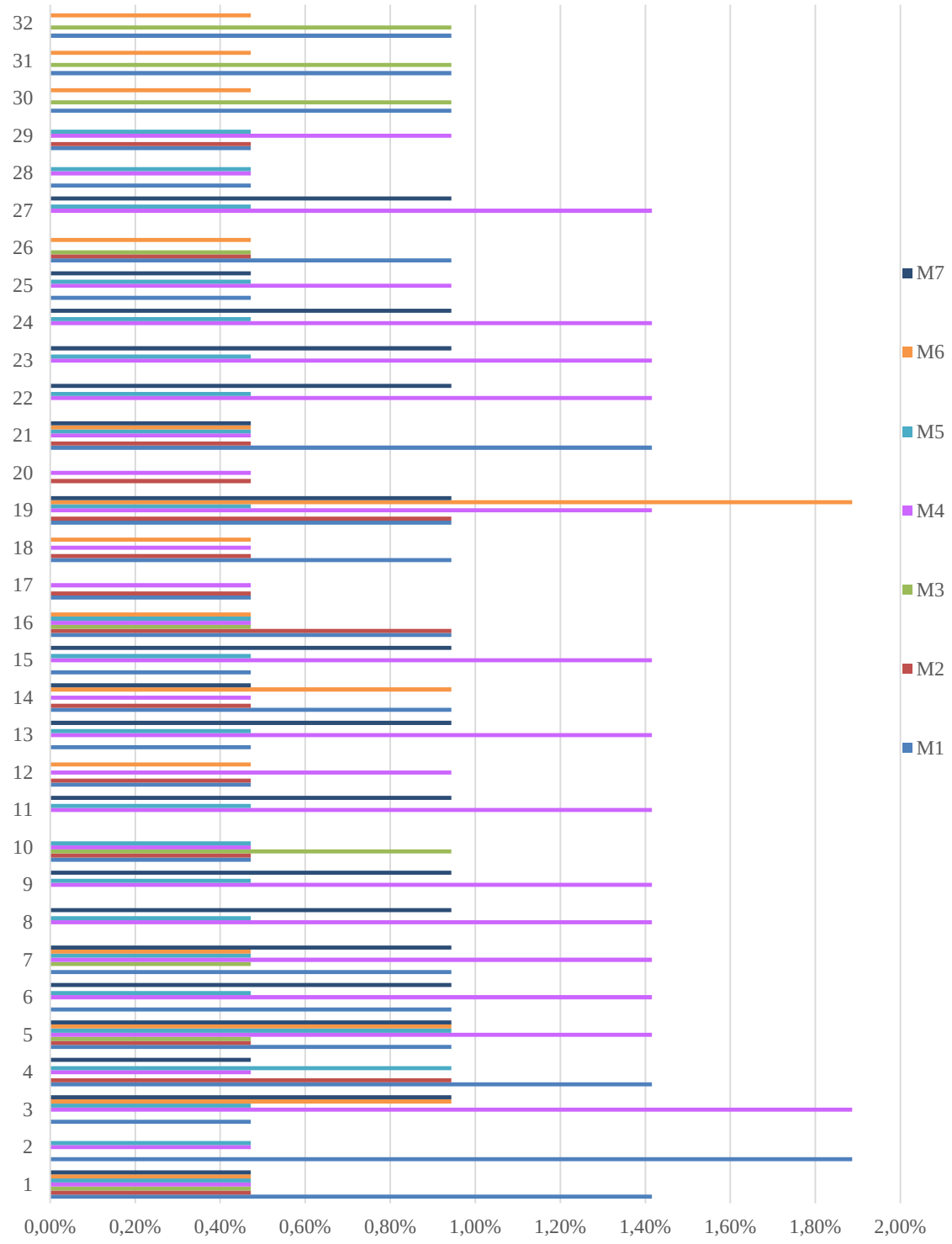


Figure 4.39. Sub-criteria of Moral Legitimacy within “Guidelines”.

- *Supporting reward policies* (M4) and *Contributing meeting goals* (M1) are the most coded moral sub-criteria in guidelines.

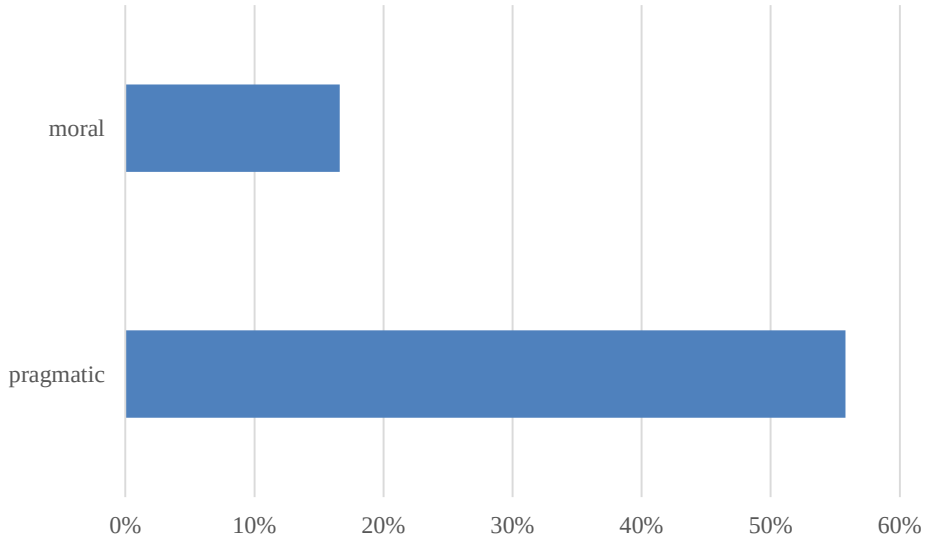


Figure 4.40. Main Legitimacy Criteria within “Questions”.

- In question phases, pragmatic legitimacy criteria are more coded than moral legitimacy criteria.

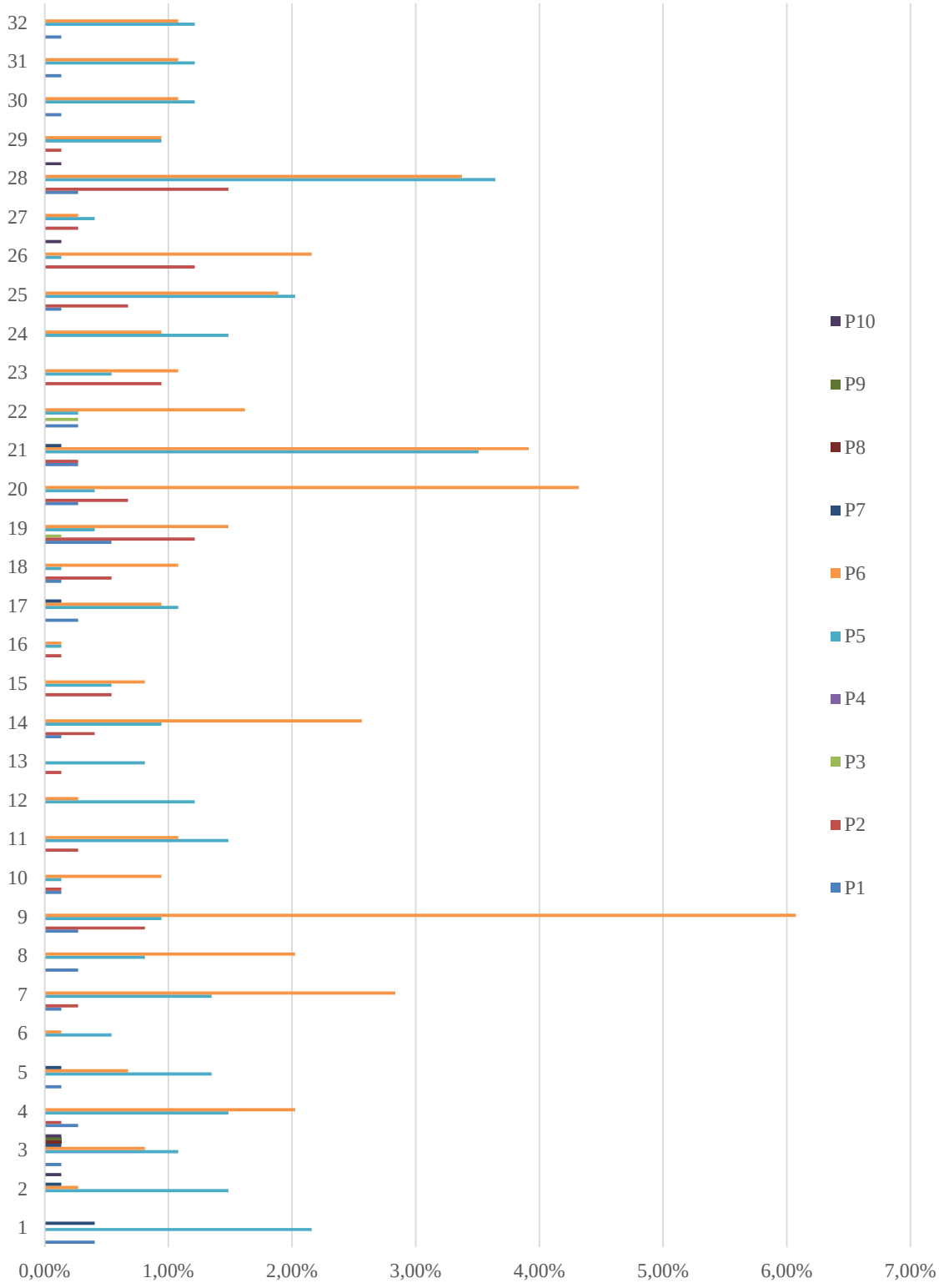


Figure 4.41. Sub-criteria of Pragmatic Legitimacy within “Questions”.

- *Need and concerns of stakeholders* (P6) and *better managed and operated actions* (P5) are the most coded pragmatic legitimacy sub-criteria in questions.

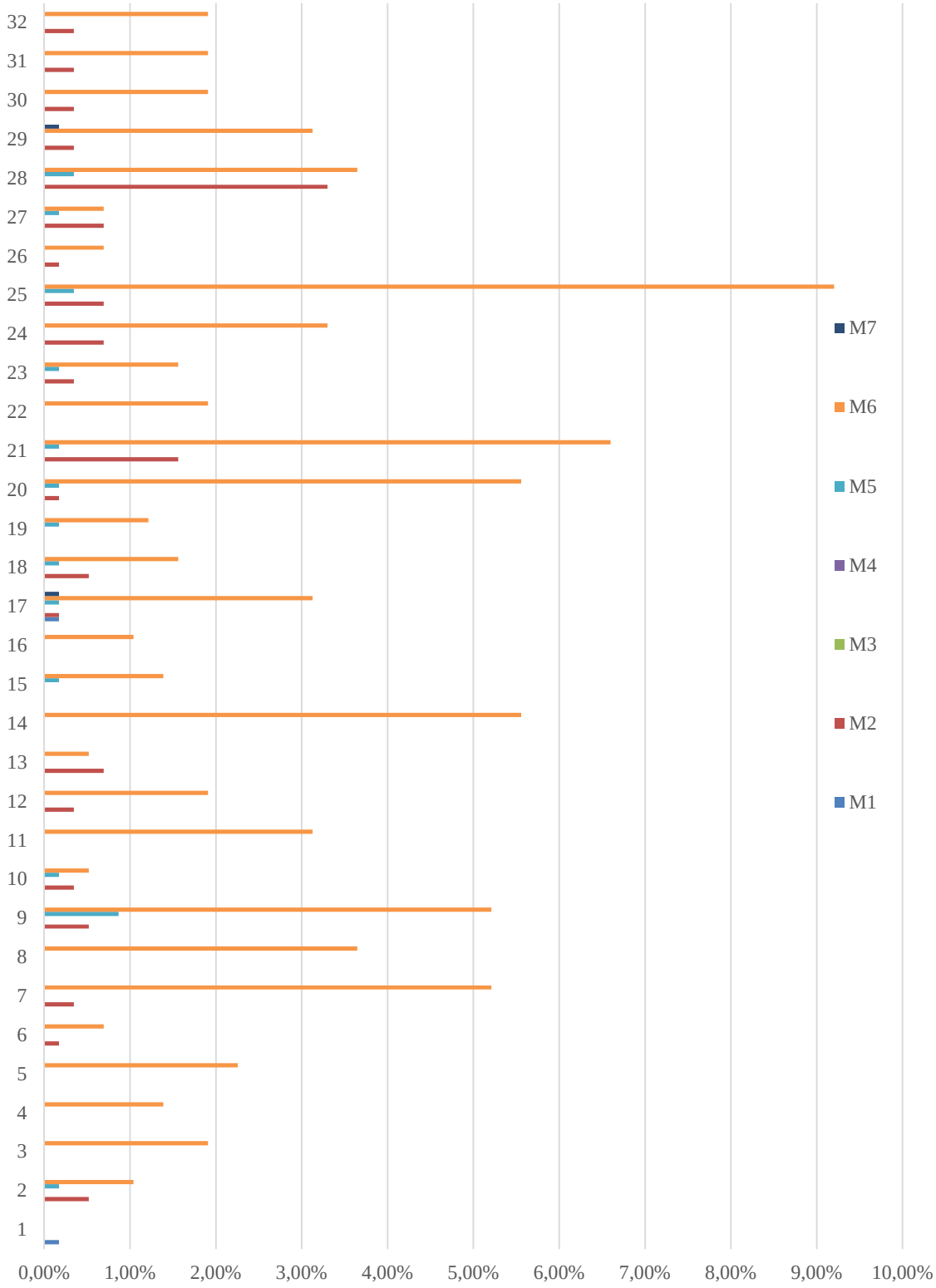


Figure 4.42. Sub-criteria of Moral Legitimacy within “Questions”.

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in questions.

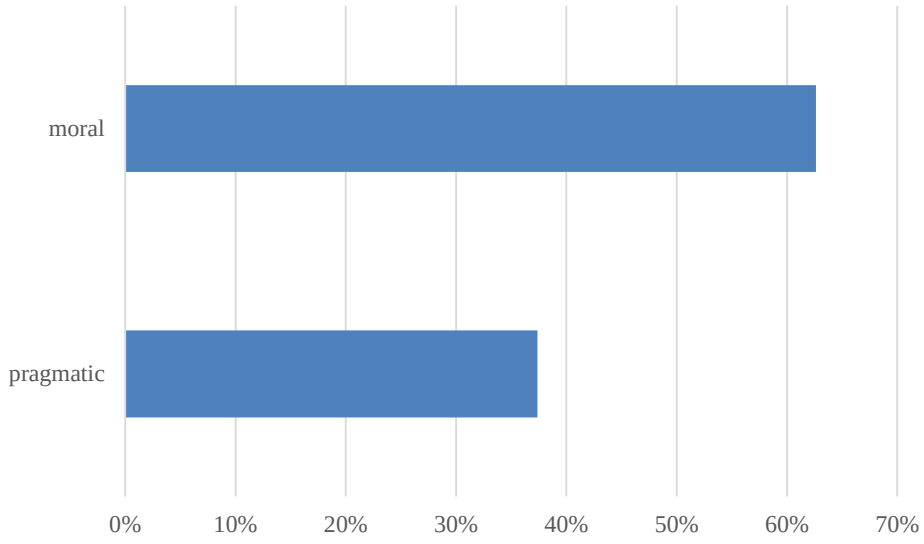


Figure 4.43. Main Legitimacy Criteria within the "1st awarded project".

- In the 1st awarded project reports, moral legitimacy criteria are more coded than pragmatic legitimacy criteria.

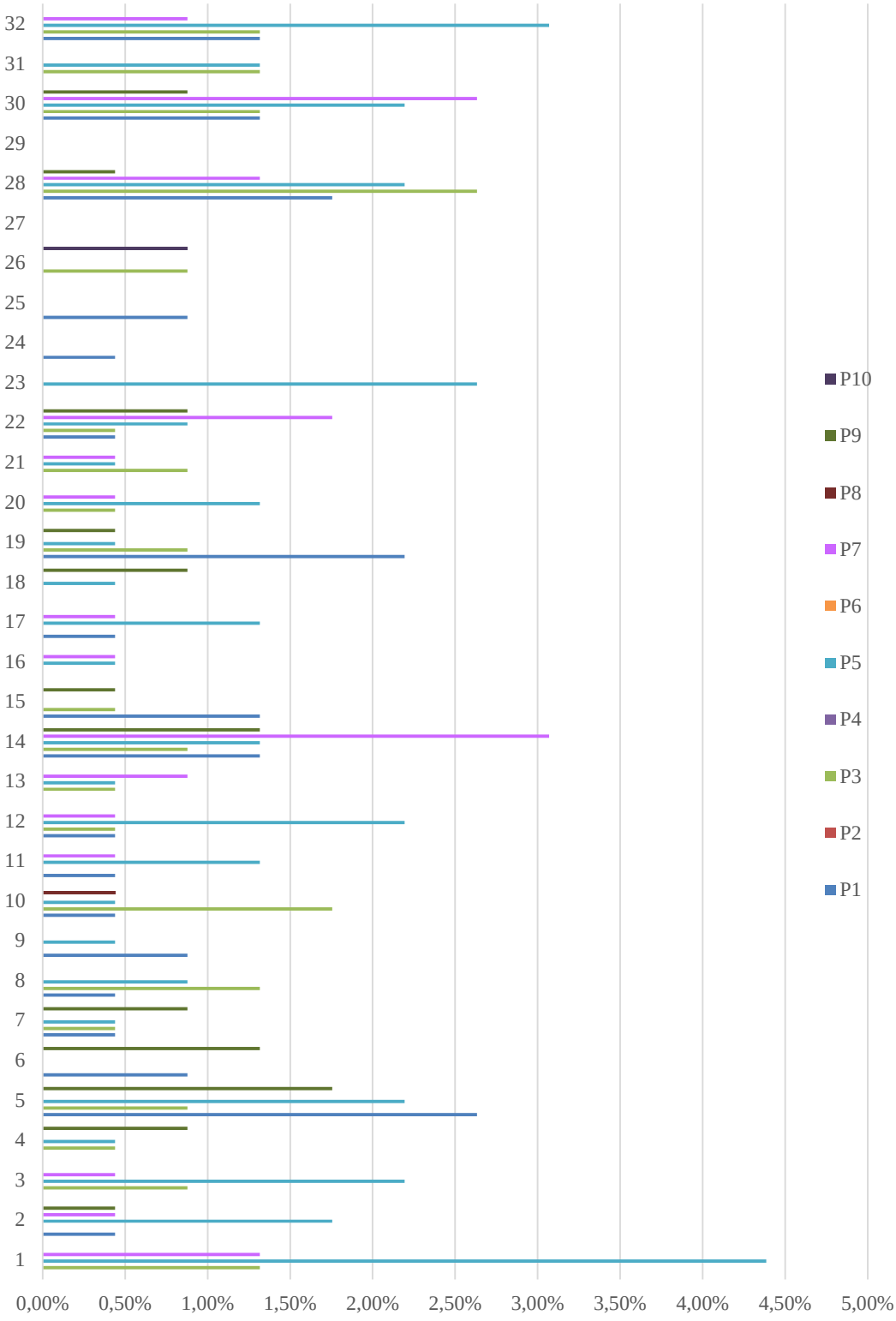


Figure 4.44. Sub-criteria of Pragmatic Legitimacy within the "1st awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the 1st awarded project report.

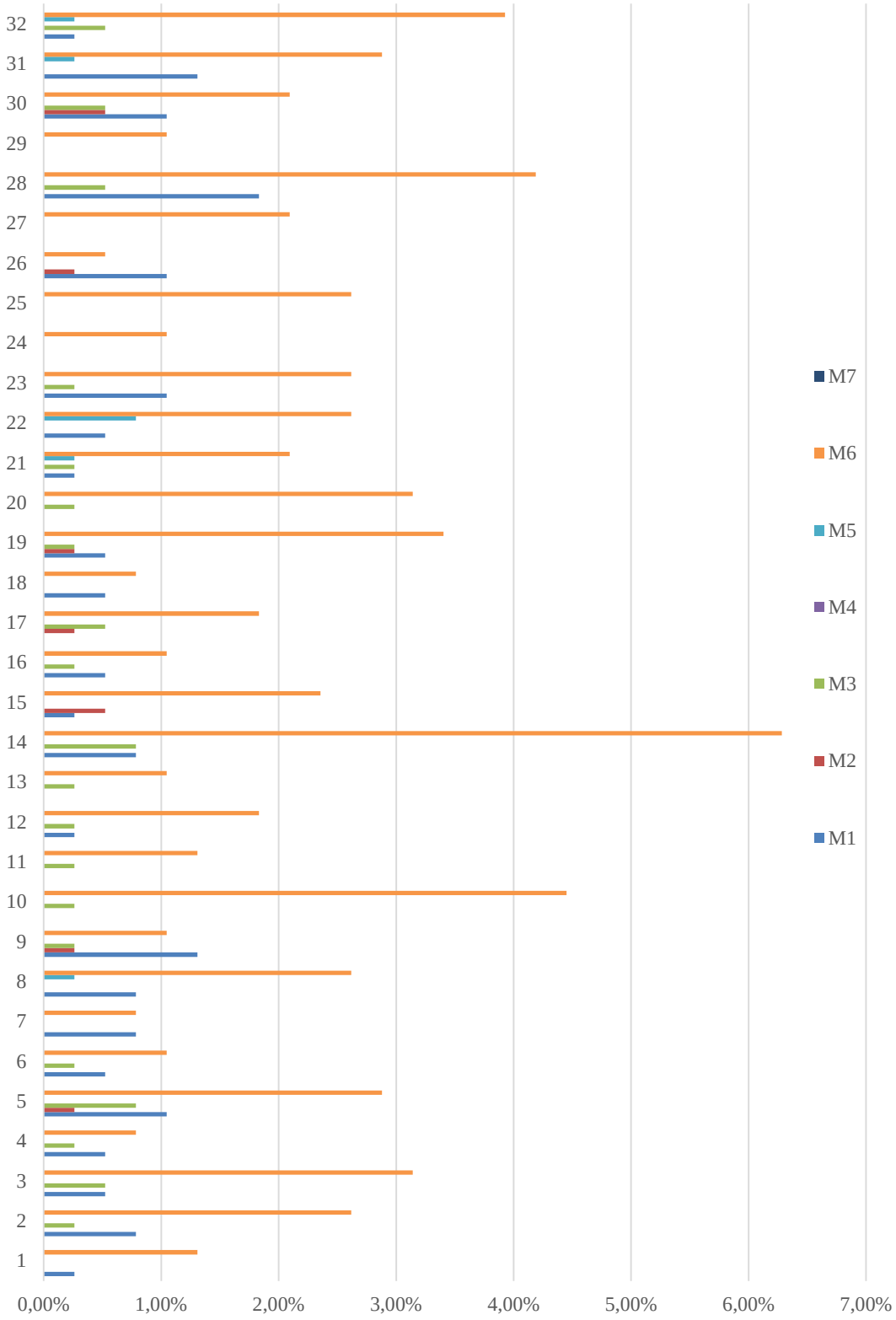


Figure 4.45. Sub-criteria of Moral Legitimacy within the "1st awarded project".

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the 1st awarded project report.

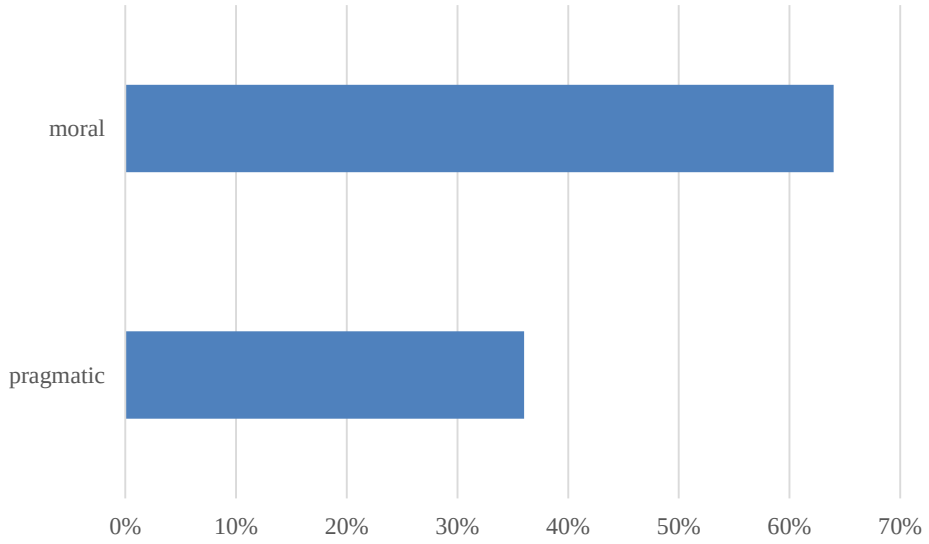


Figure 4.46. Main Legitimacy Criteria within the "2nd awarded project".

- In the 2nd awarded project reports, moral legitimacy criteria are more coded than pragmatic legitimacy criteria.

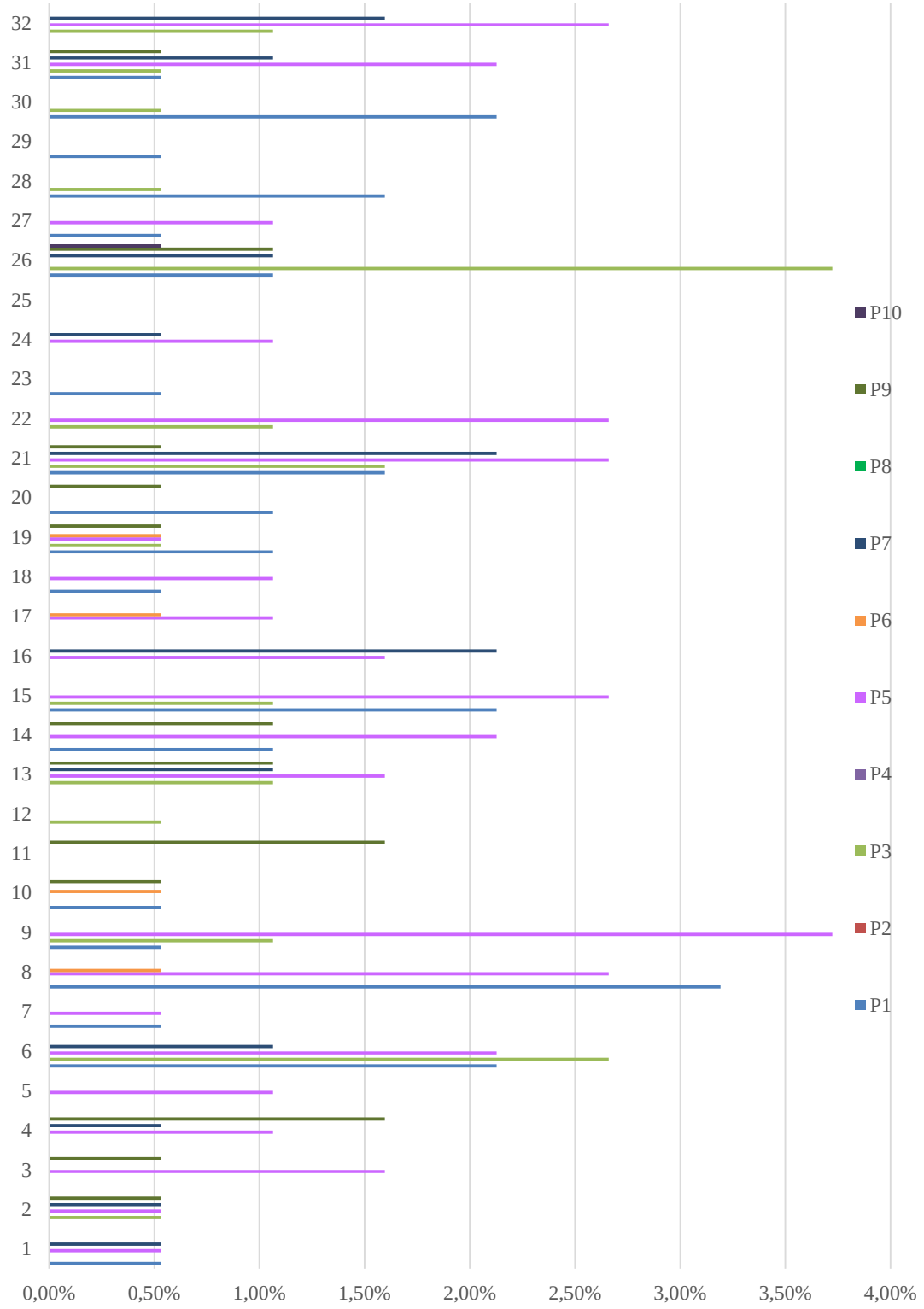


Figure 4.47. Sub-criteria of Pragmatic Legitimacy within the "2nd awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the 2nd awarded project report.

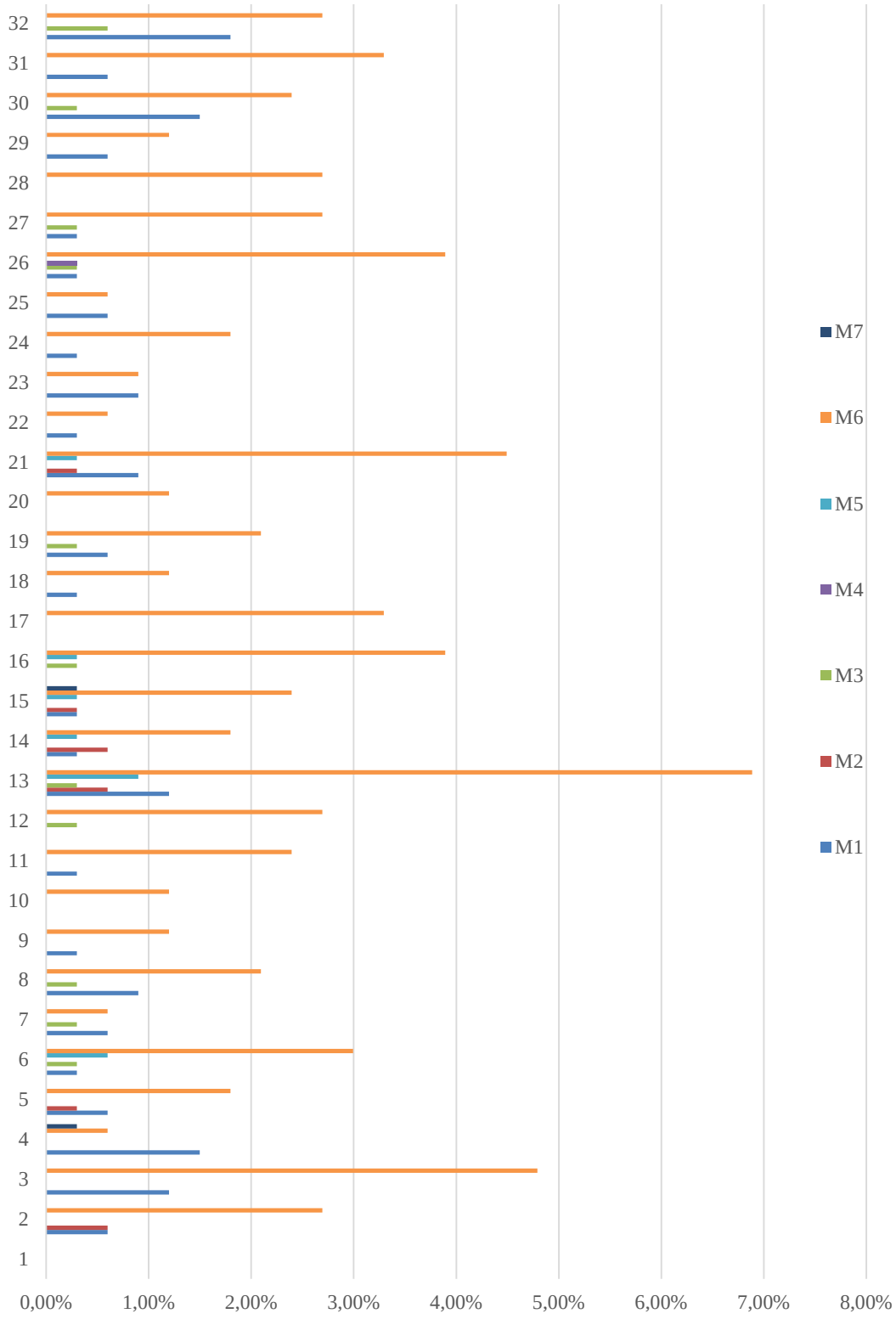


Figure 4.48. Sub-criteria of Moral Legitimacy within the "2nd awarded project".

- *Design aspects of spaces* (M6) is the most coded moral legitimacy sub-criteria in the 2nd awarded project report.

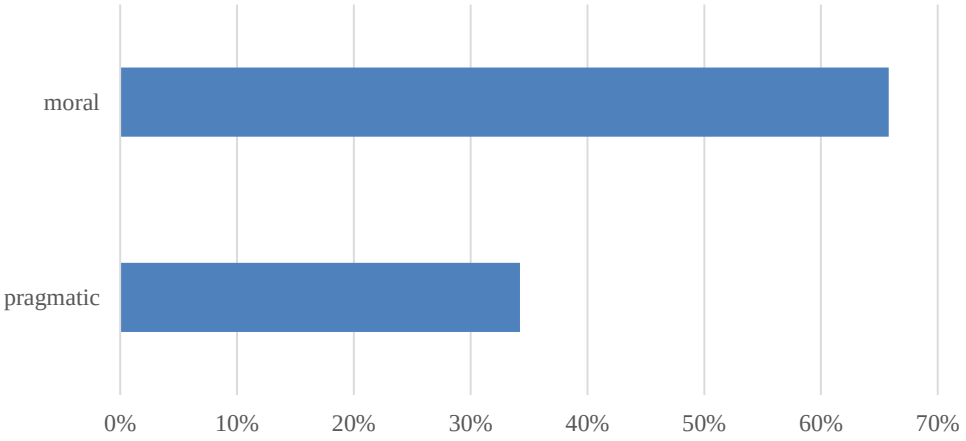


Figure 4.49. Main Legitimacy Criteria within the "3rd awarded project".

- In the 3rd awarded project reports, moral legitimacy criteria are more coded than pragmatic legitimacy criteria.

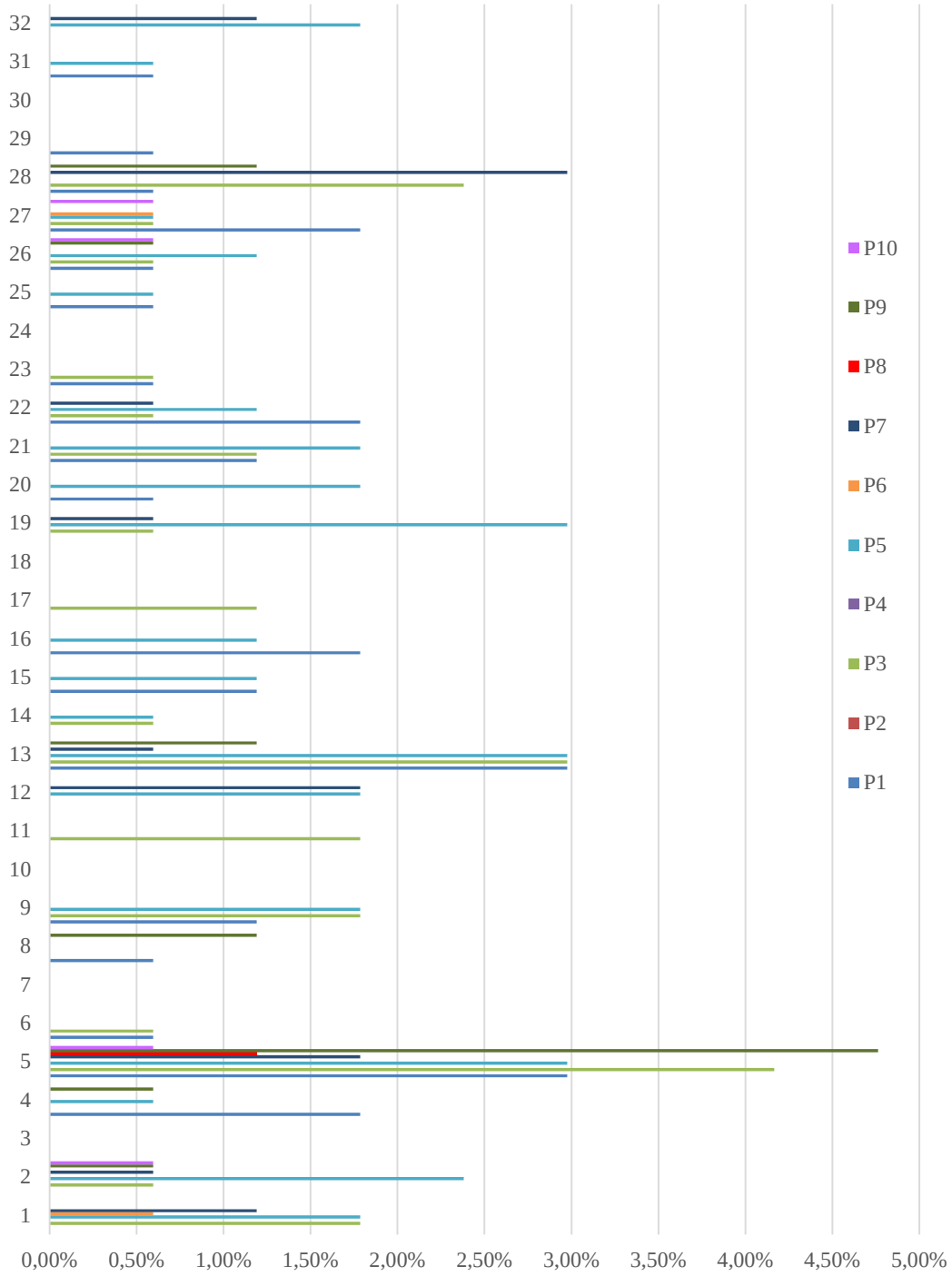


Figure 4.50. Sub-criteria of Pragmatic Legitimacy within the "3rd awarded project".

- *Better managed and operated actions* (P5) followed by *Work in harmony with project stakeholders followed by Value and interest creation for customers* (P3) and *Get and/or provide the necessary support from and/or to the relevant environment* (P1) are the most coded pragmatic legitimacy sub-criteria in the 3rd awarded project reports.

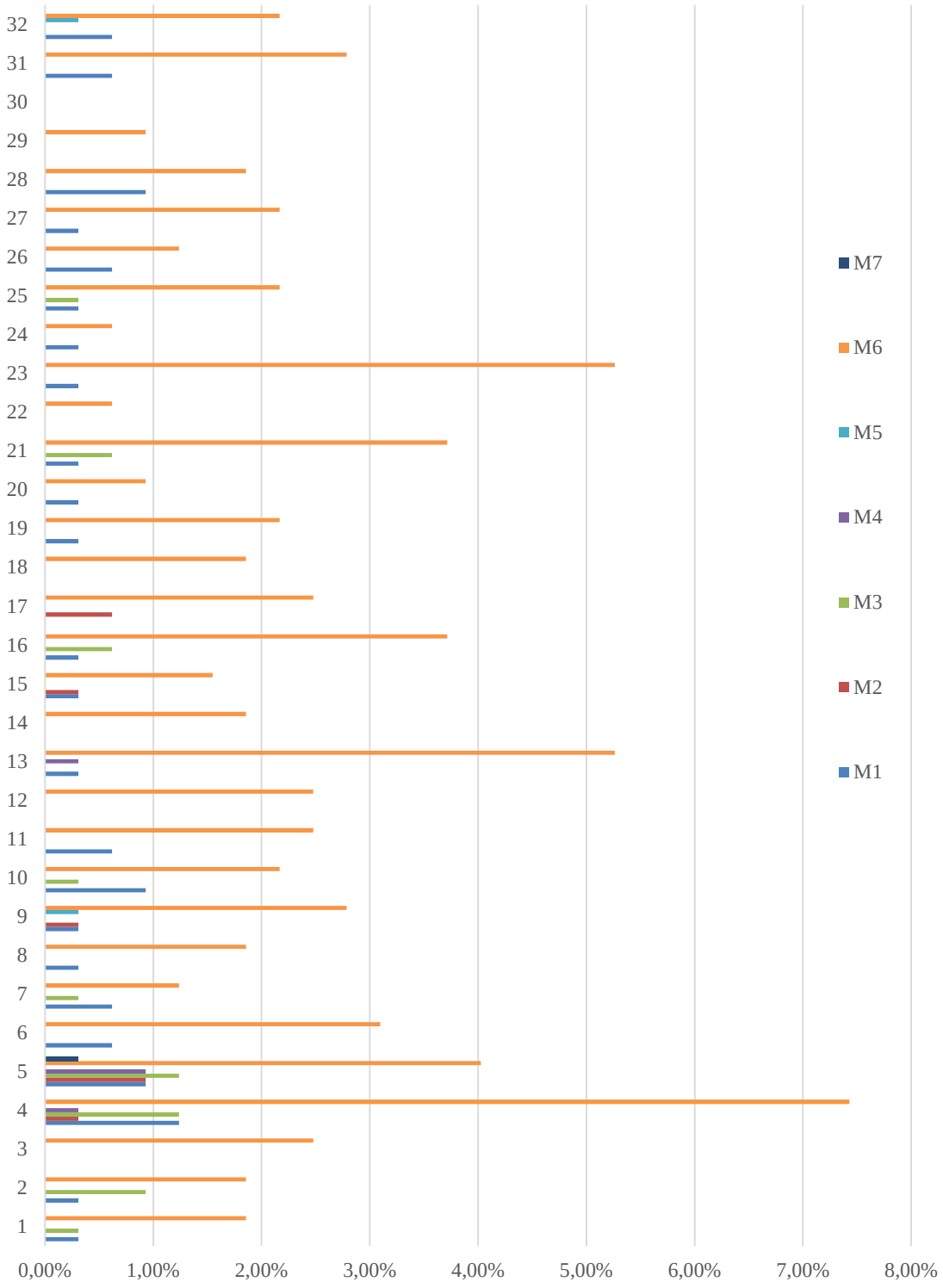


Figure 4.51. Sub-criteria of Moral Legitimacy within the "3rd awarded project".

- *Design aspect of space* (M6) is the most coded moral legitimacy sub-criteria in the 3rd awarded project.

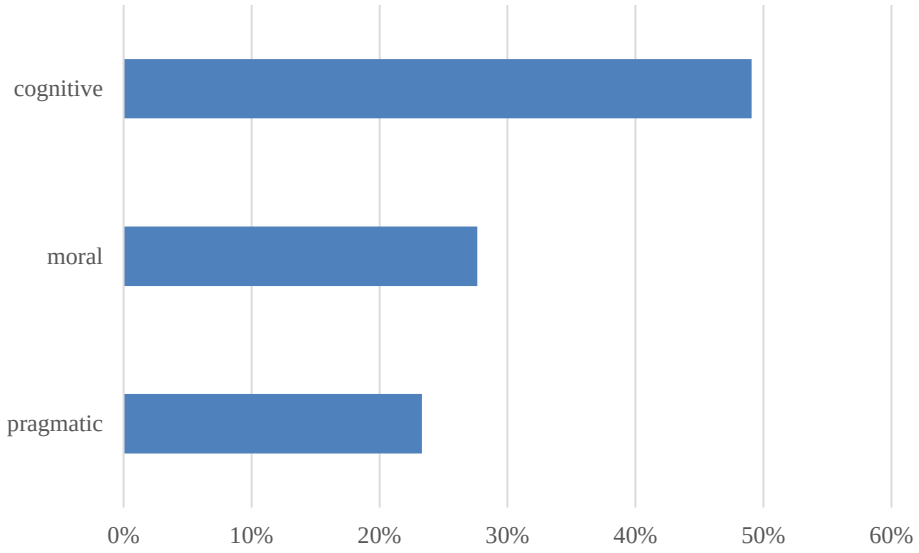


Figure 4.52. Main Legitimacy Criteria within “affirmative jury report for the 1st awarded project”.

- In the affirmative jury reports for the 1st awarded project, moral legitimacy criteria are more matched with cognitive legitimacy criteria than pragmatic legitimacy criteria.

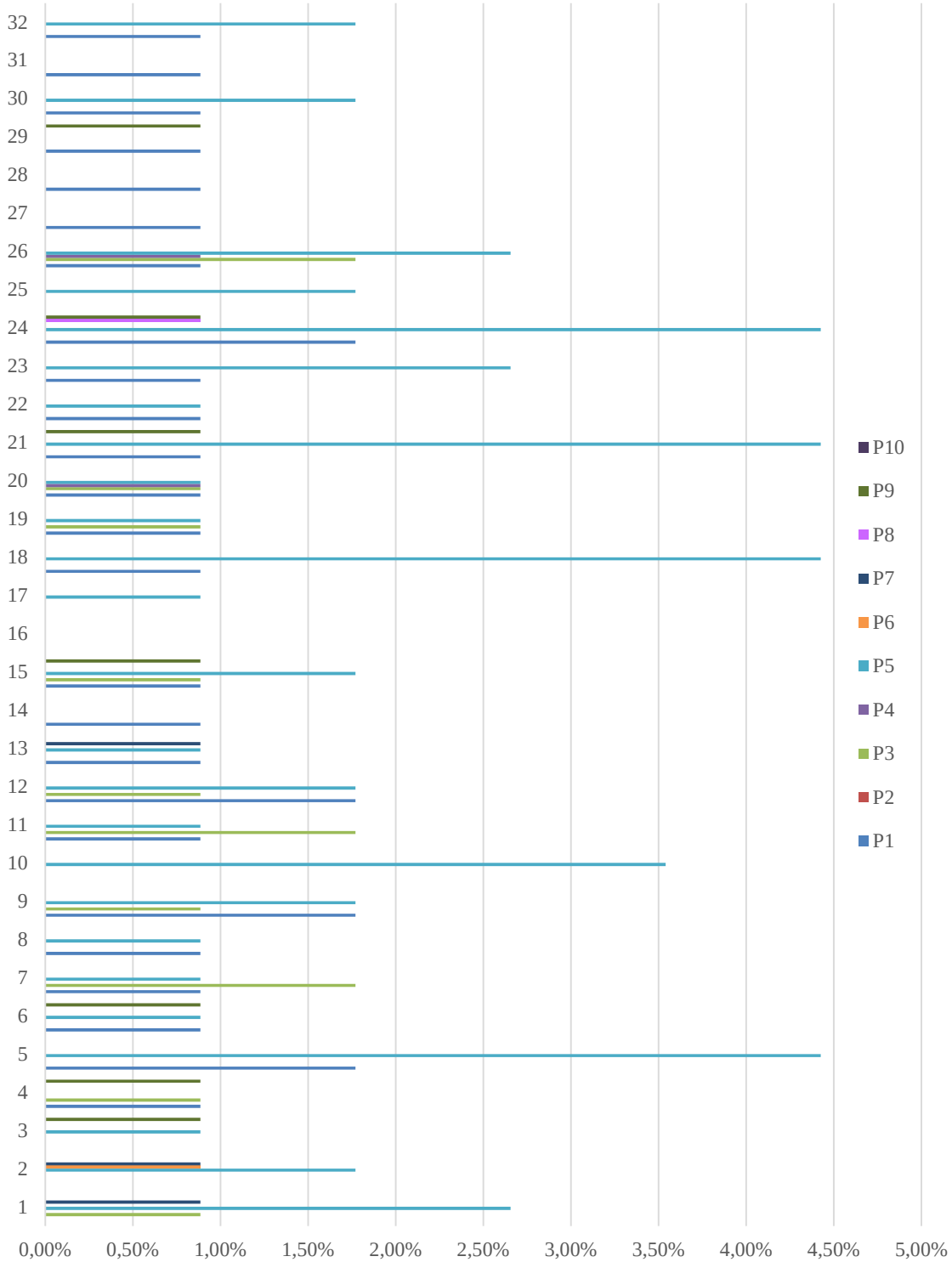


Figure 4.53. Sub-criteria of Pragmatic Legitimacy within "affirmative jury report for the 1st awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the affirmative jury reports for the 1st awarded project.

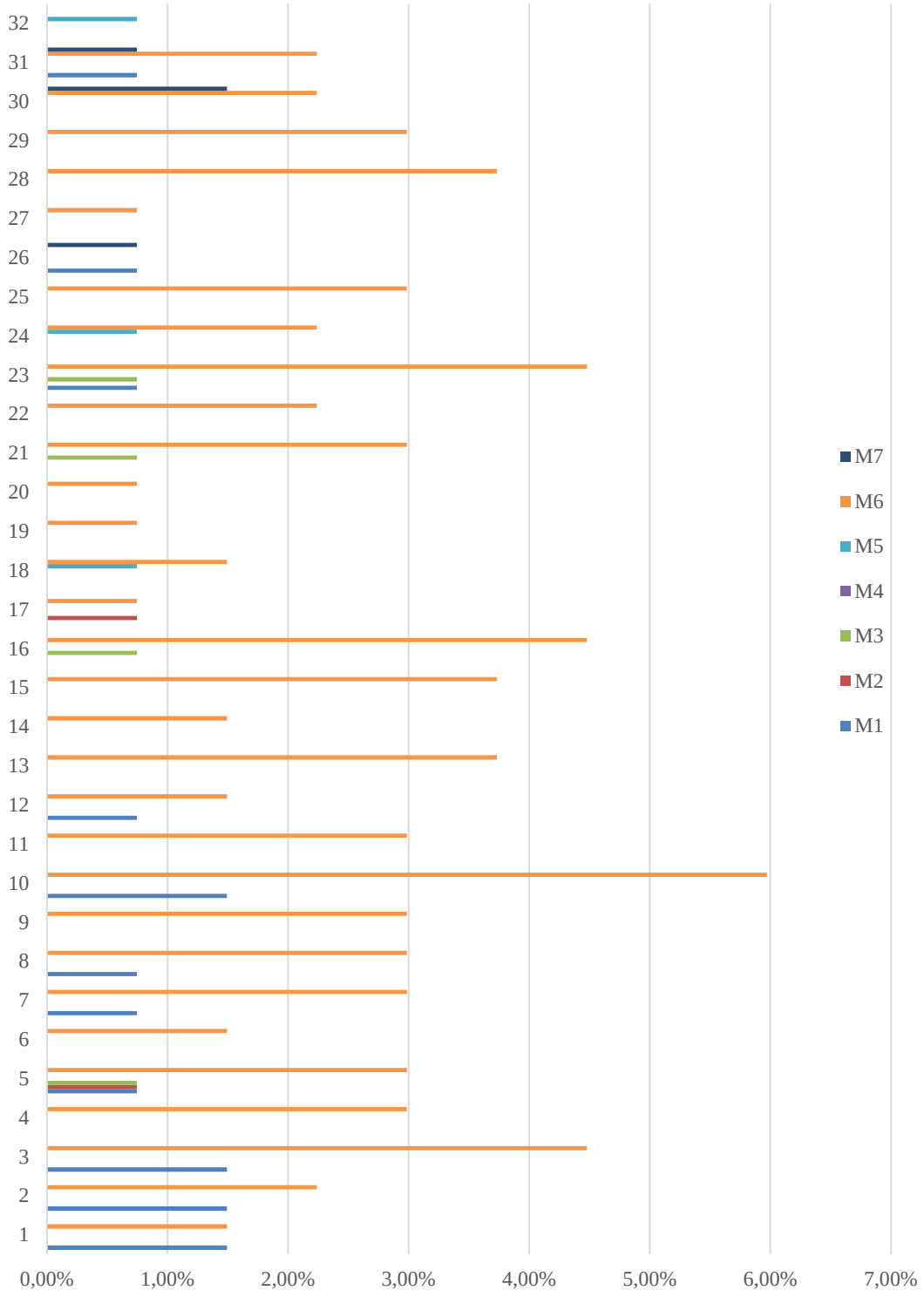


Figure 4.54. Sub-criteria of Moral Legitimacy within "affirmative jury report for the 1st awarded project"

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the affirmative jury reports for the 1st awarded project.

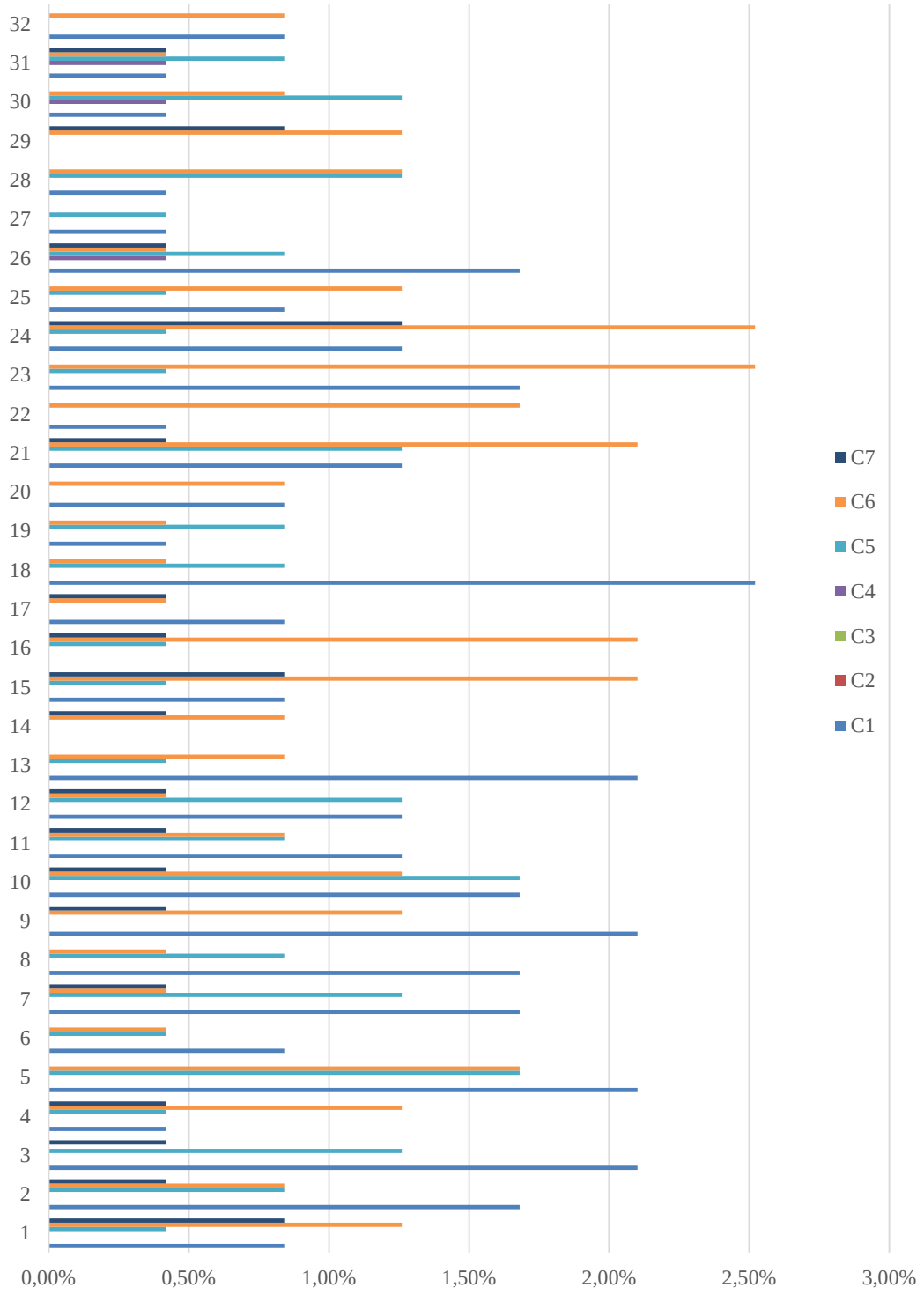


Figure 4.55. Sub-criteria of Cognitive Legitimacy within "affirmative jury report for the 1st awarded project".

- *Best possible manner to solve problems* (C1) followed by *communication capability, understandability* (C6) are the most coded cognitive legitimacy sub-criteria in the affirmative jury reports for the 1st awarded project.

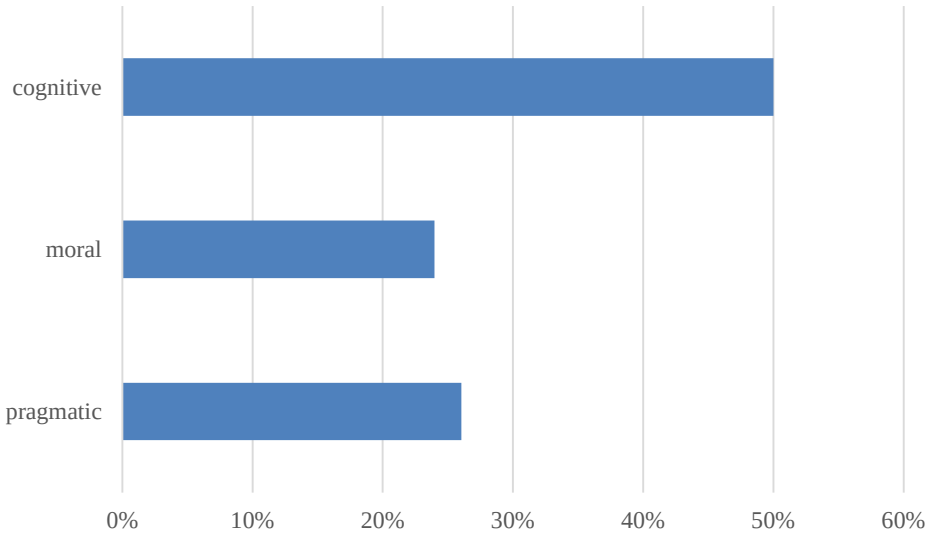


Figure 4.56. Main Legitimacy Criteria within “negative jury report for the 1st awarded project”.

- In the negative jury reports for the 1st awarded project, pragmatic legitimacy criteria are more matched with cognitive legitimacy criteria than moral legitimacy criteria.

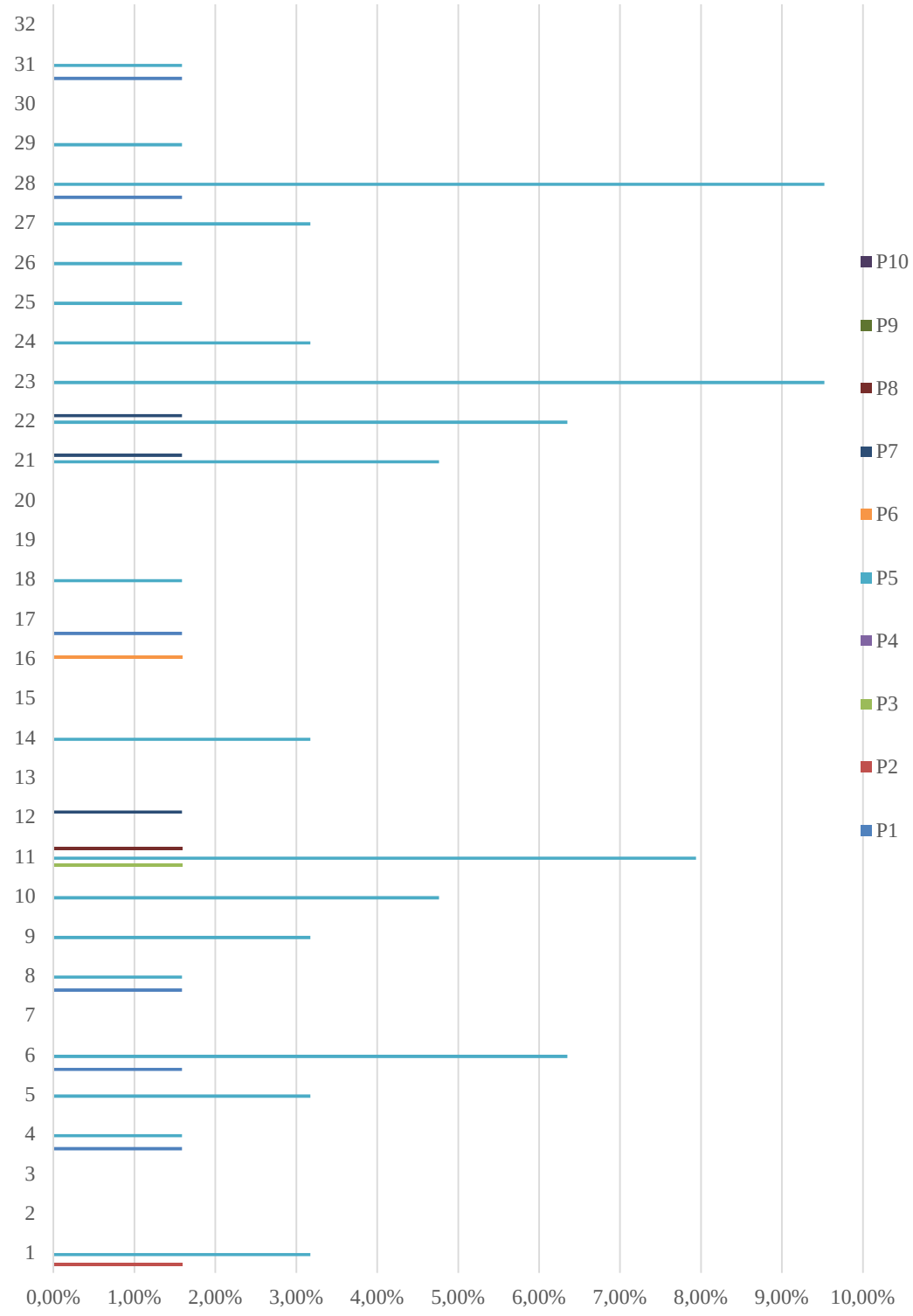


Figure 4.57. Sub-criteria of Pragmatic Legitimacy within "negative jury report for the 1st awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the negative jury reports for the 1st awarded project.

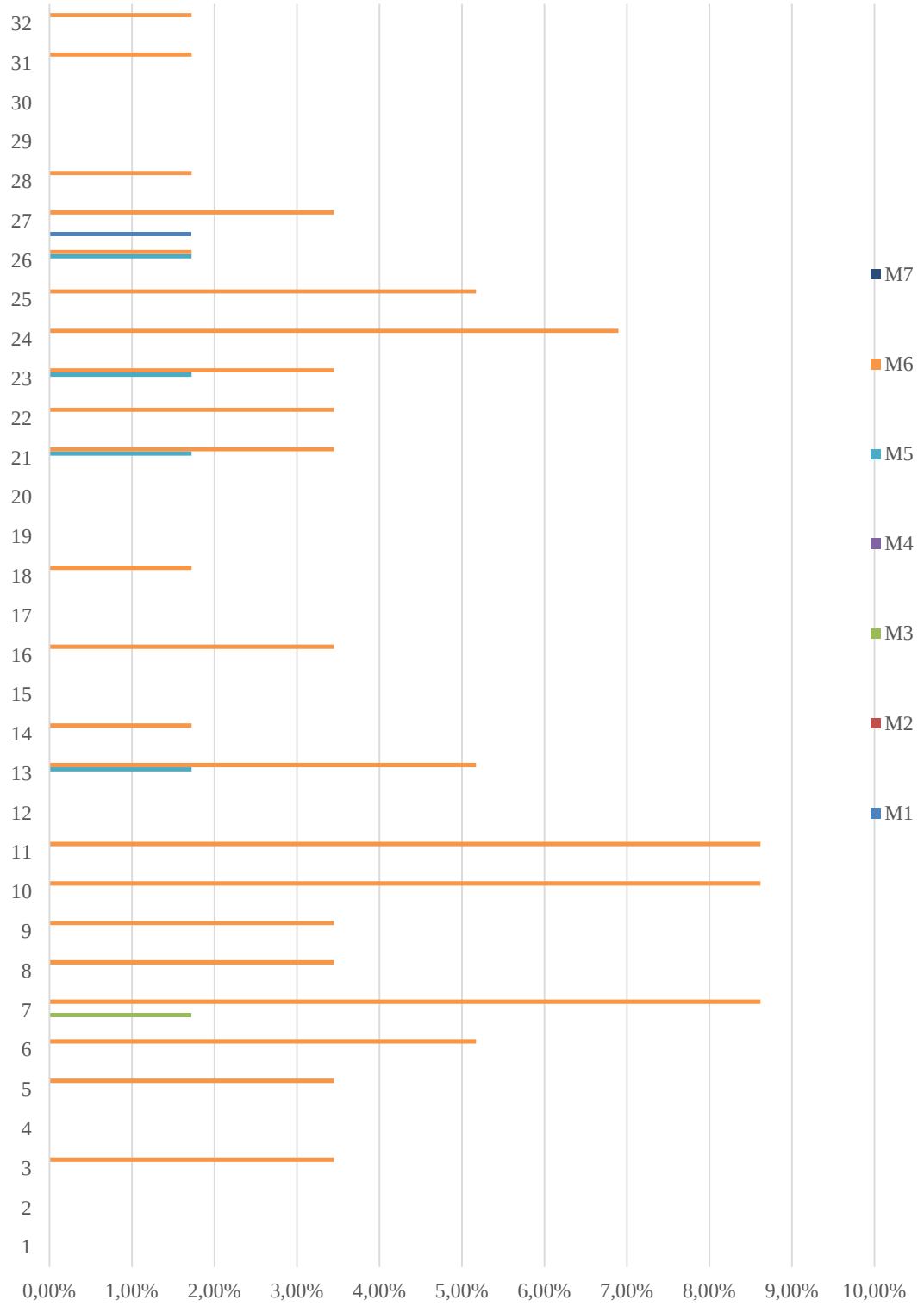


Figure 4.58. Sub-criteria of Moral Legitimacy within "negative jury report for the 1st awarded project".

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the negative jury reports for the 1st awarded project.

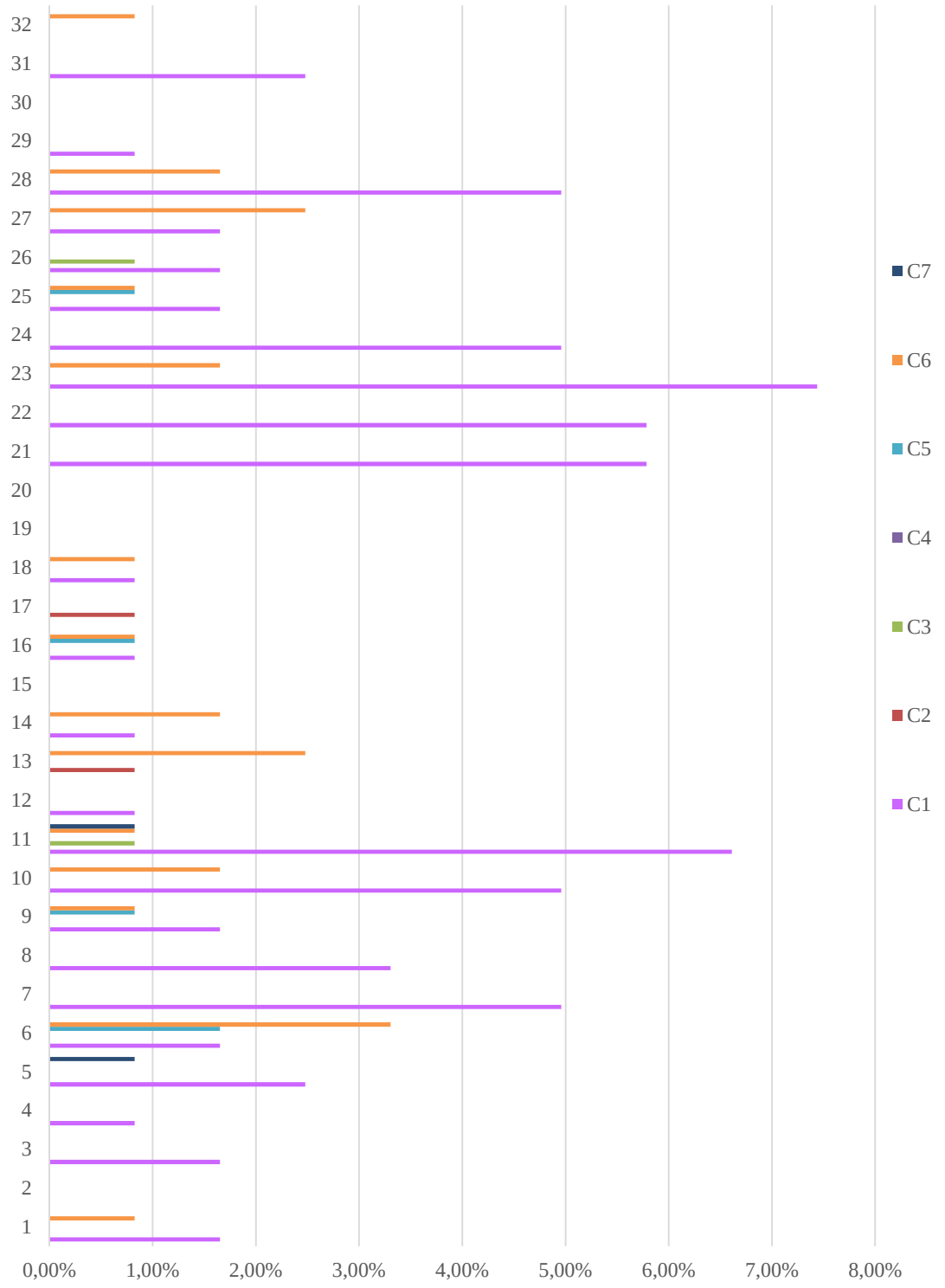


Figure 4.59. Sub-criteria of Cognitive Legitimacy within "negative jury report for the 1st awarded project".

- *Best possible manner to solve problems* (C1) is the most coded cognitive legitimacy sub-criteria in the negative jury reports for the 1st awarded project.

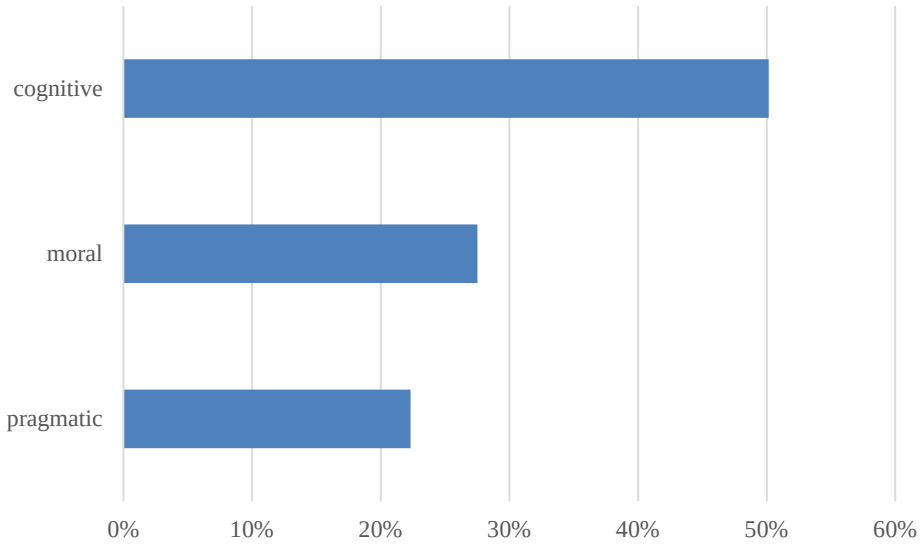


Figure 4.60. Main Legitimacy Criteria within “affirmative jury report for the 2nd awarded project”.

- In the affirmative jury reports for the 2nd awarded project, moral legitimacy criteria are more matched with cognitive legitimacy criteria than pragmatic legitimacy criteria.

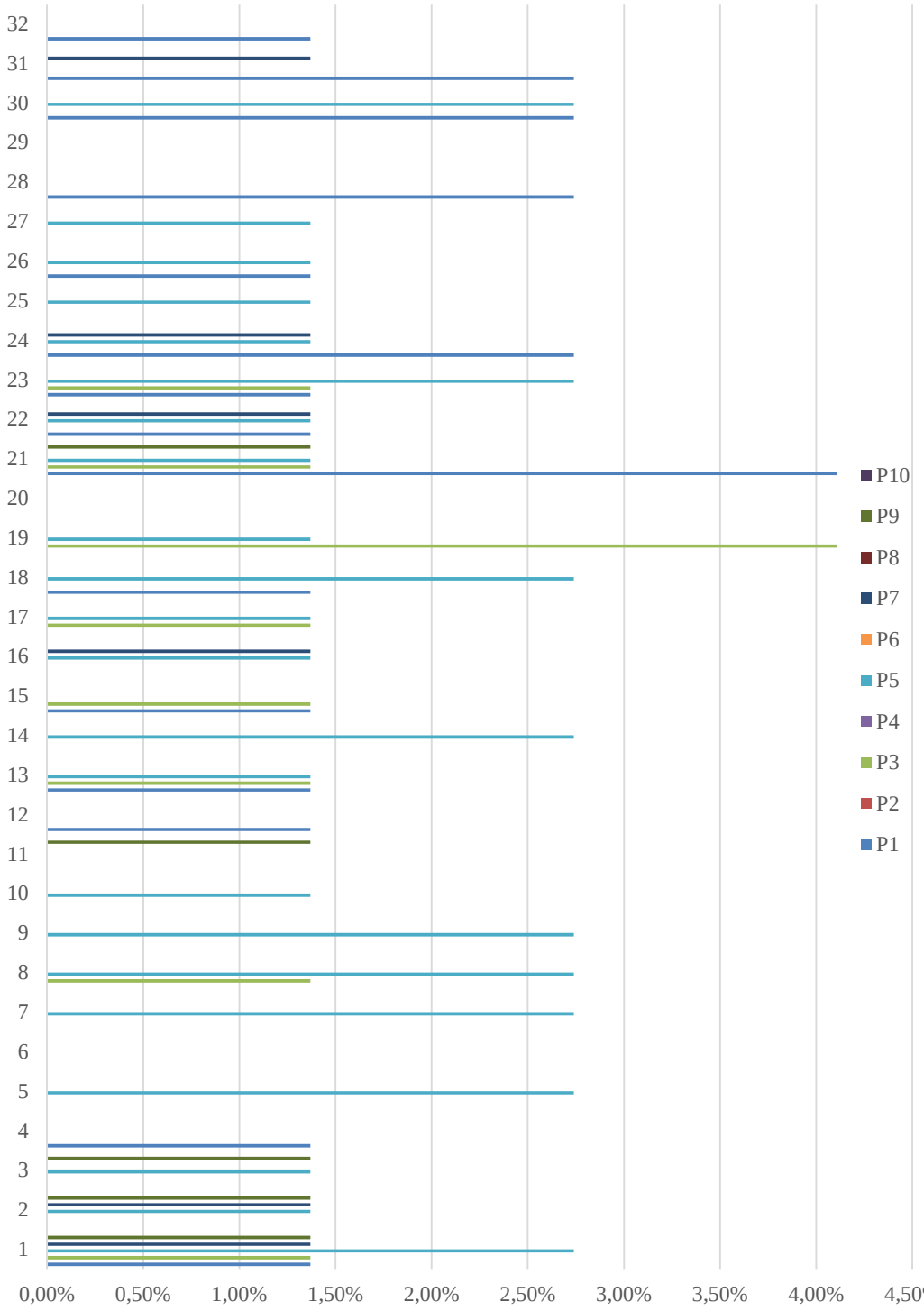


Figure 4.61. Sub-criteria of Pragmatic Legitimacy within "affirmative jury report for the 2nd awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the affirmative jury reports for the 2nd awarded project.

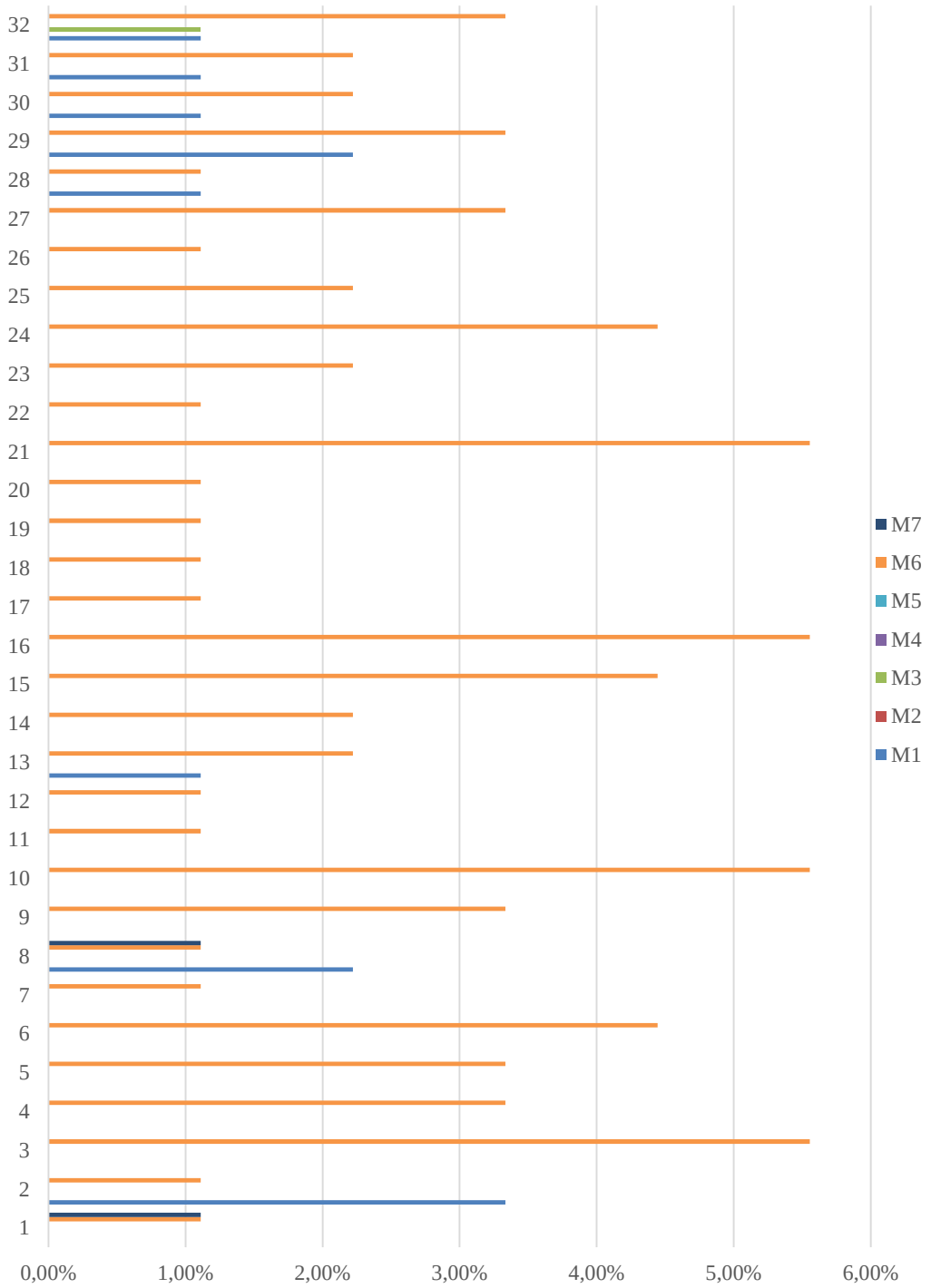


Figure 4.62. Sub-criteria of Moral Legitimacy within "affirmative jury report for the 2nd awarded project".

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the affirmative jury reports for the 2nd awarded project.

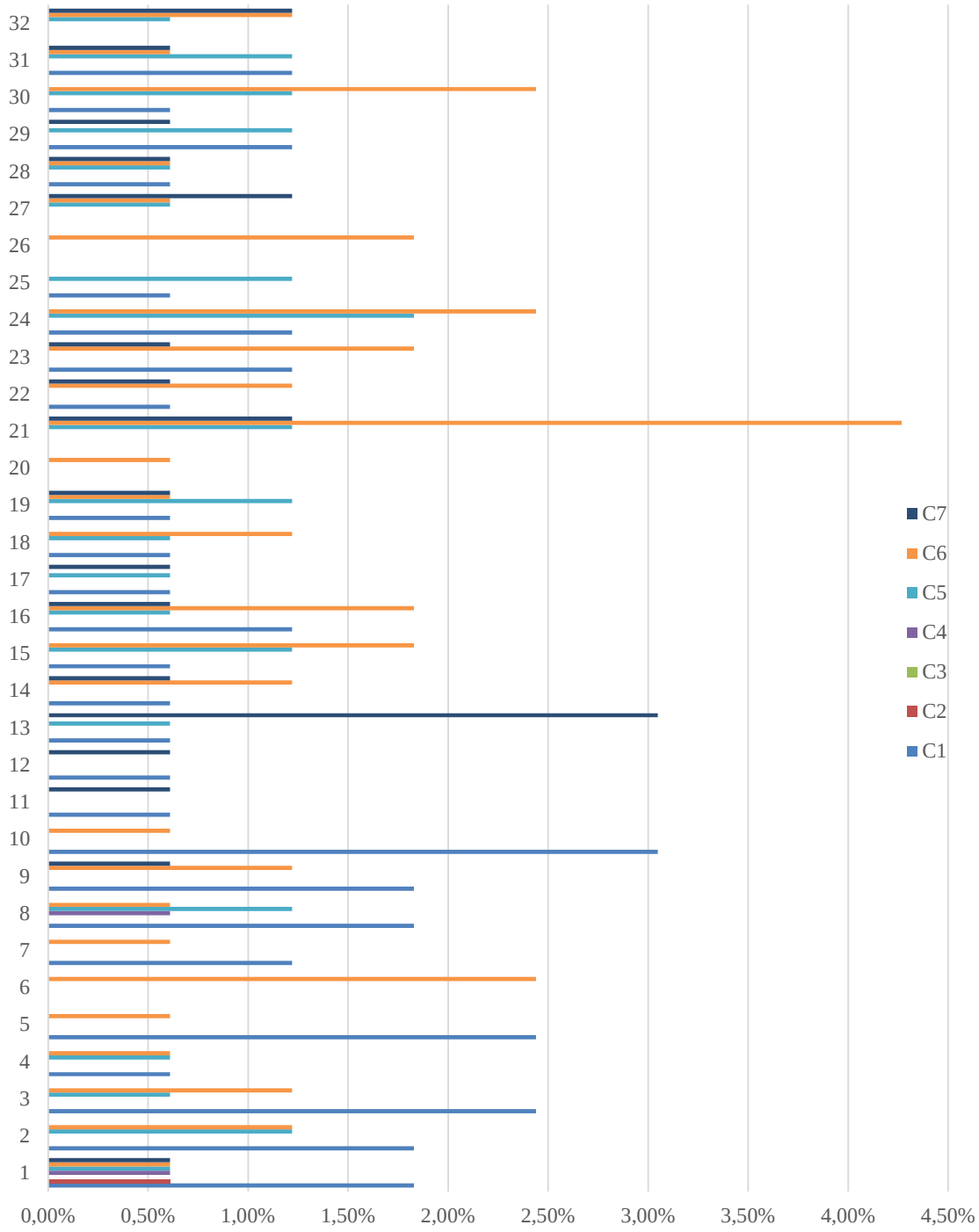


Figure 4.63. Sub-criteria of Cognitive Legitimacy within "affirmative jury report for the 2nd awarded project".

- *Communication capability, understandability (C6)* followed by *Best possible manner to solve problems* (C1) are the most coded cognitive legitimacy sub-criteria in the affirmative jury reports for the 2nd awarded project.

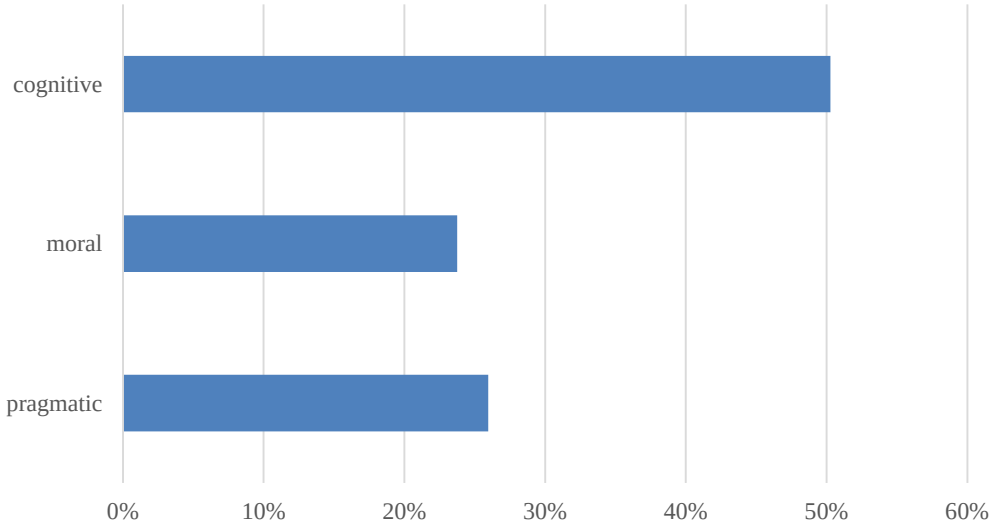


Figure 4.64. Main Legitimacy Criteria within “negative jury report for the 2nd awarded project”.

- In the negative jury reports for the 2nd awarded project, pragmatic legitimacy and moral legitimacy criteria are almost equally matched with cognitive legitimacy criteria.

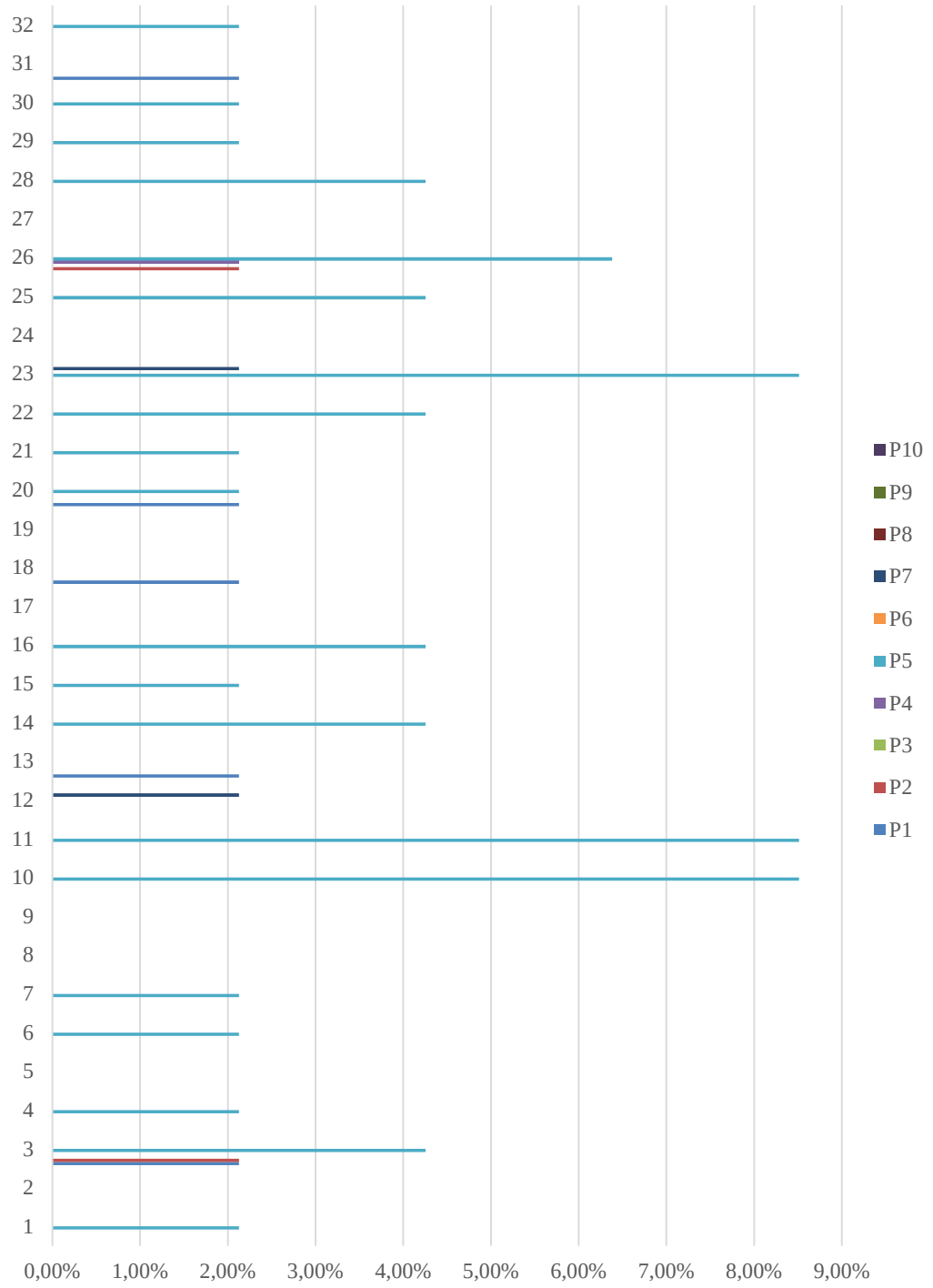


Figure 4.65. Sub-criteria of Pragmatic Legitimacy within "negative jury report for the 2nd awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the negative jury reports for the 2nd awarded project.

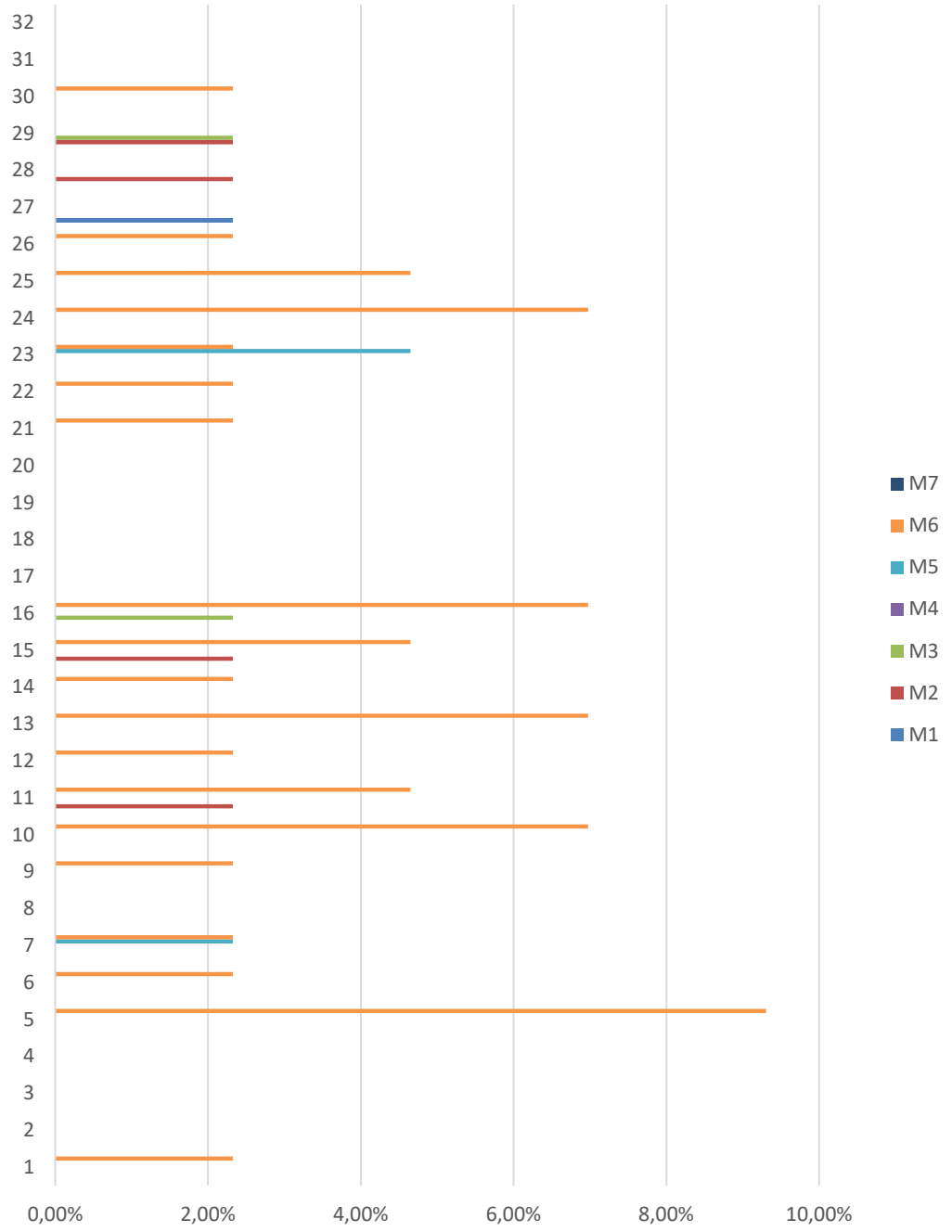


Figure 4.66. Sub-criteria of Moral Legitimacy within "negative jury report for the 2nd awarded project".

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the negative jury reports for the 2nd awarded project.

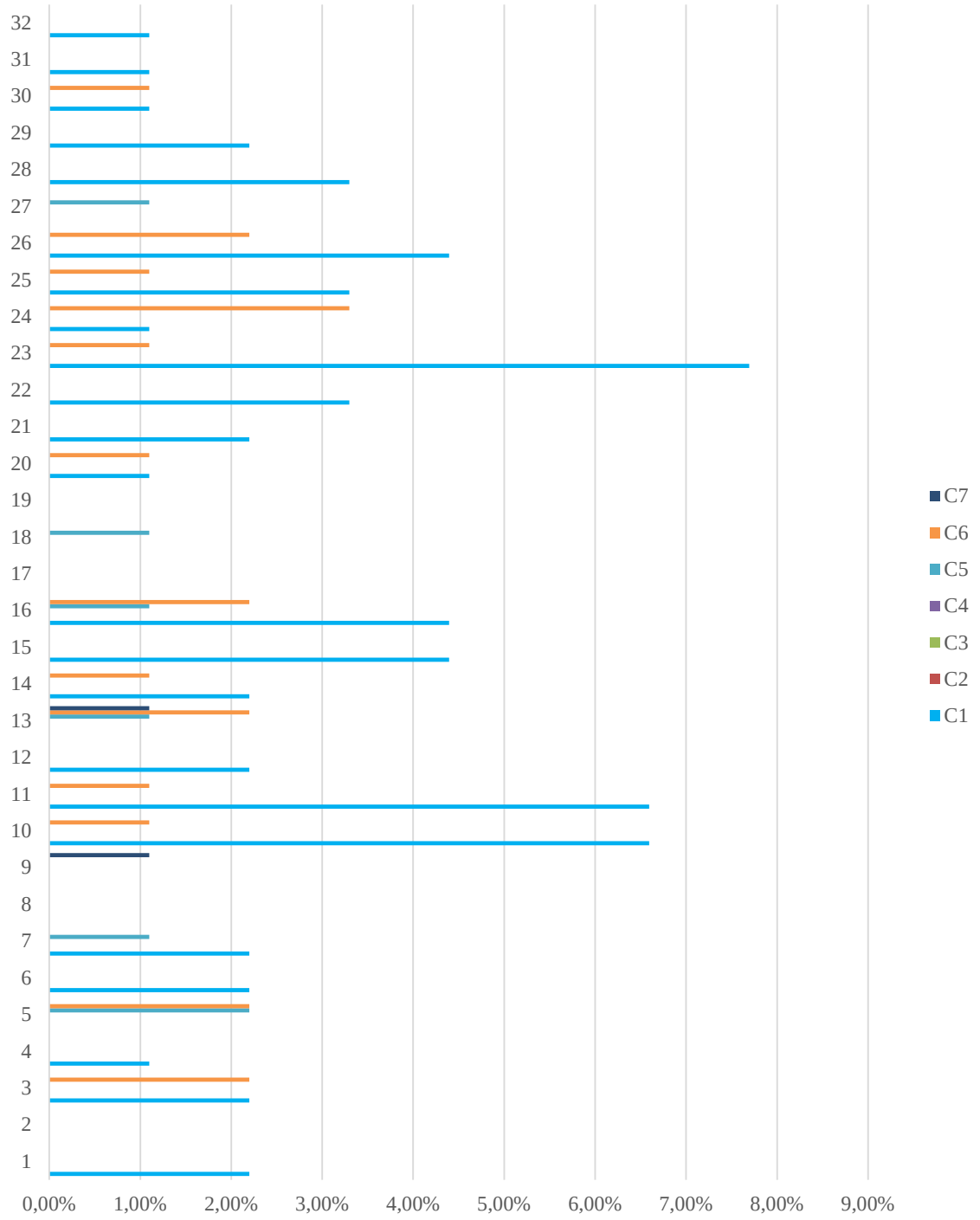


Figure 4.67. Sub-criteria of Cognitive within "negative jury report for the 2nd awarded project".

- *Best possible manner to solve problems* (C1) is the most coded cognitive legitimacy sub-criteria in the negative jury reports for the 2nd awarded project.

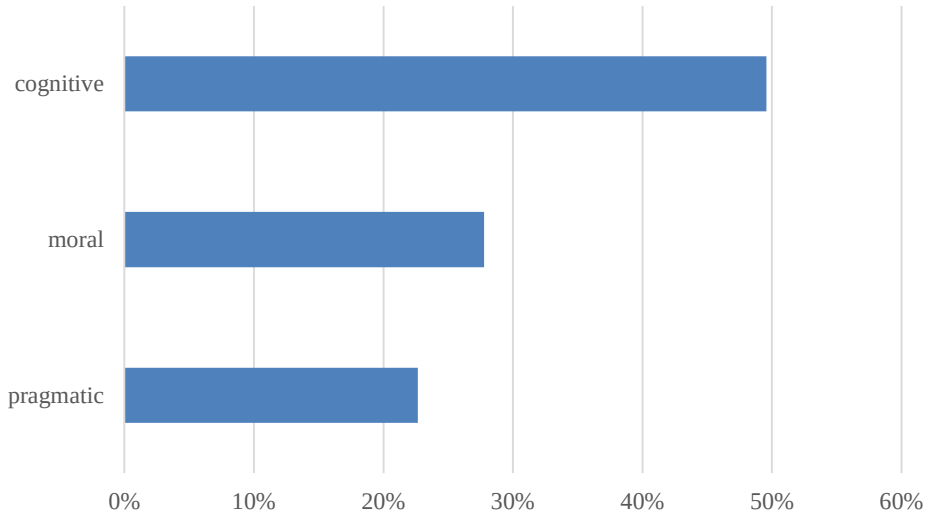


Figure 4.68. Main Legitimacy Criteria within “affirmative jury report for the 3rd awarded project”.

- In the affirmative jury reports for the 3rd awarded project, moral legitimacy criteria are more matched with cognitive legitimacy criteria than pragmatic legitimacy criteria.

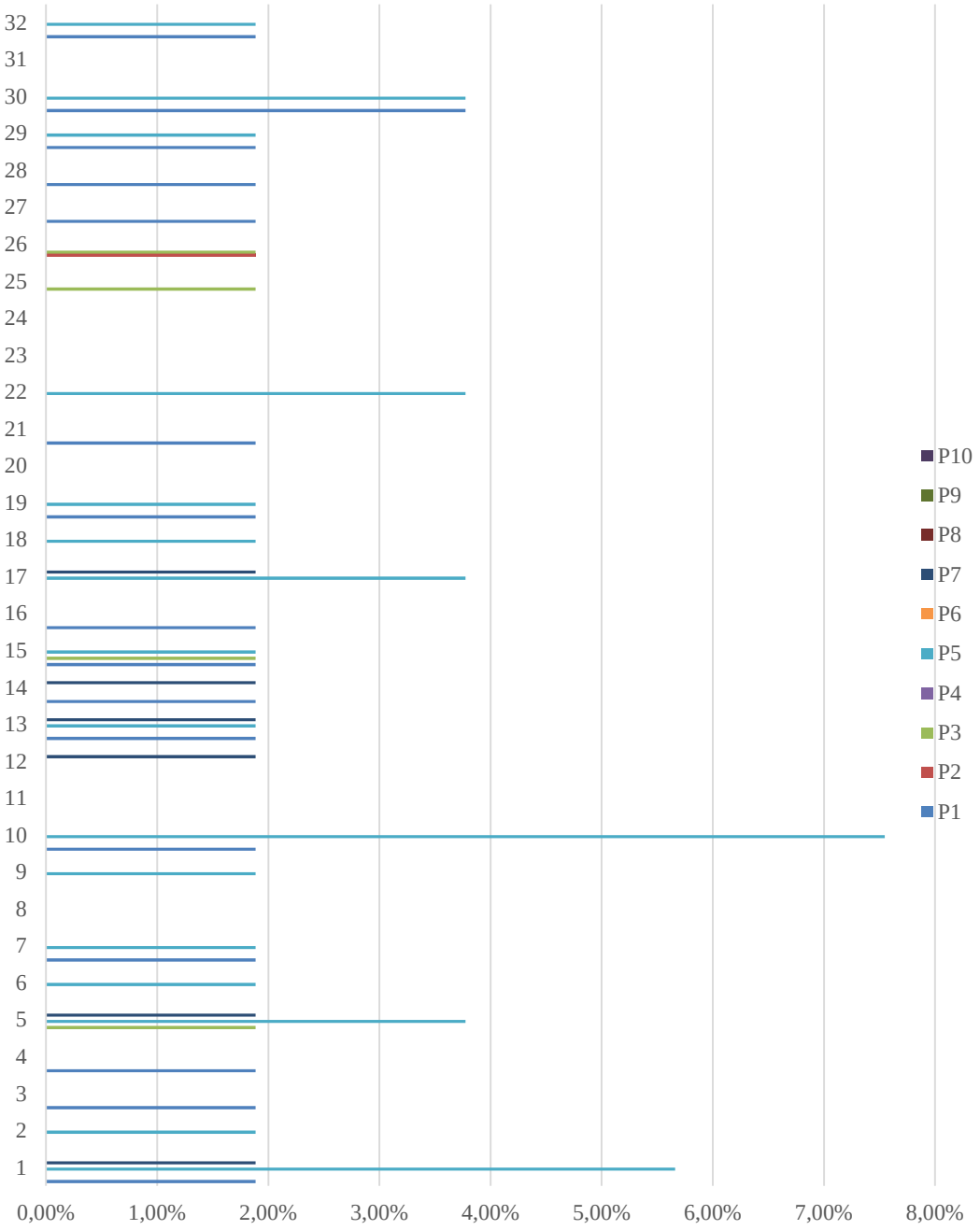


Figure 4.69. Sub-criteria of Pragmatic Legitimacy within "affirmative jury report for the 3rd awarded project".

- *Work in harmony with project stakeholders; get and/or provide the necessary support from and/or to the relevant environment* (P1) and *Better managed and operated actions* (P5) are the most coded pragmatic legitimacy sub-criteria in the affirmative jury reports for the 3rd awarded project.

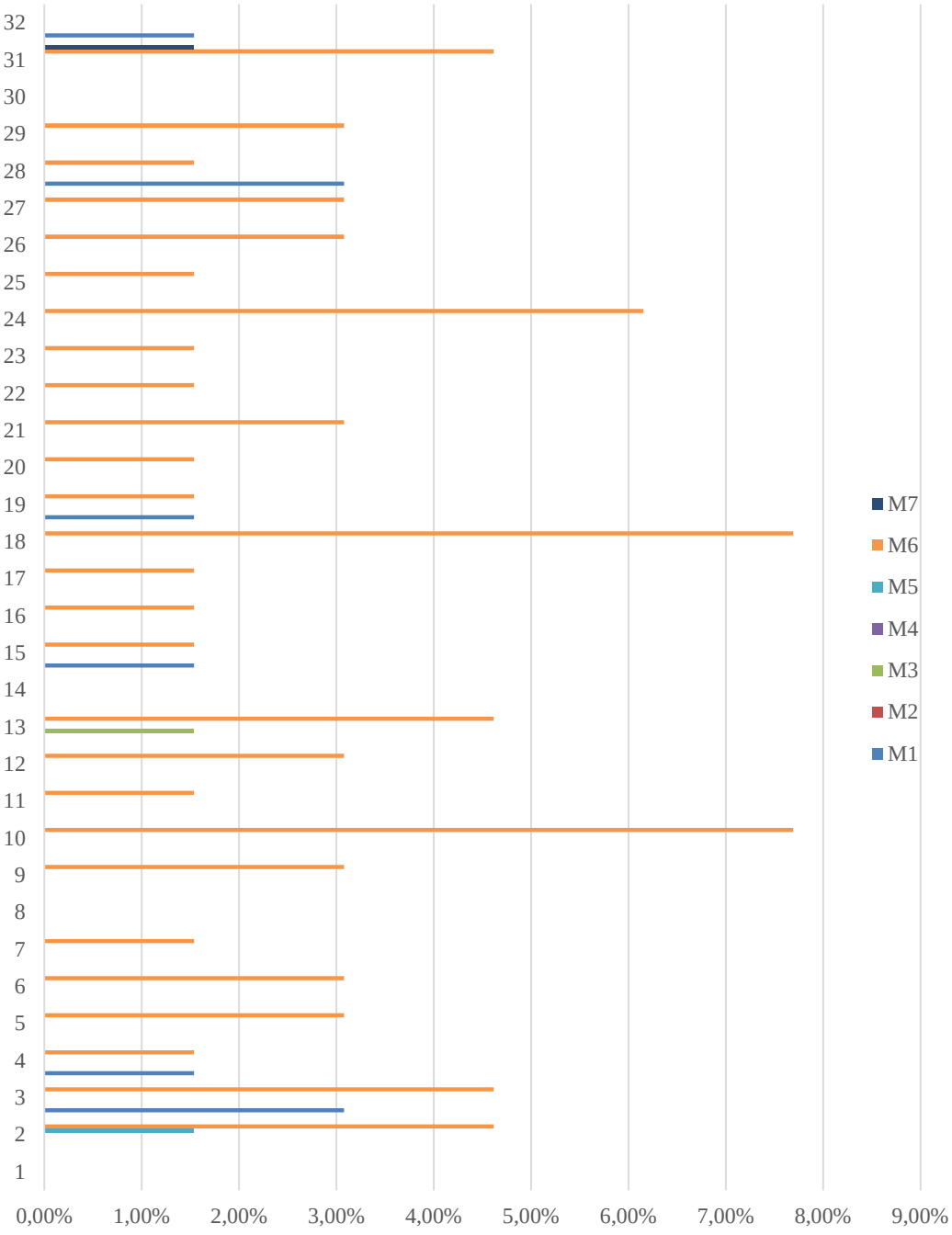


Figure 4.70. Sub-criteria of Moral Legitimacy within "affirmative jury report for the 3rd awarded project".

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the affirmative jury reports for the 3rd awarded project.

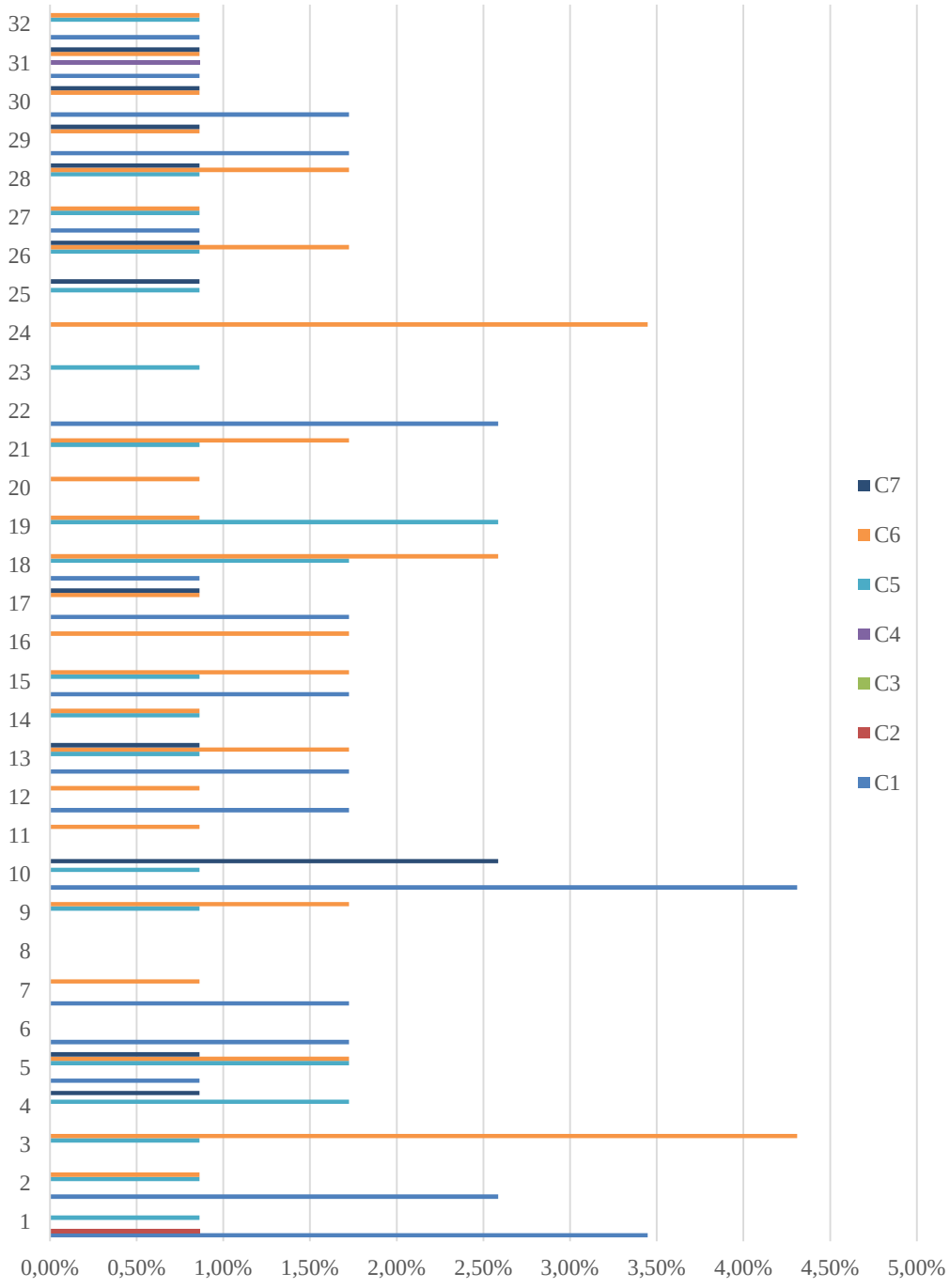


Figure 4.71. Sub-criteria of Cognitive Legitimacy within "affirmative jury report for the 3rd awarded project".

- *Communication capability, understandability* (C6) followed by *Best possible manner to solve problems* (C1) are the most coded cognitive legitimacy sub-criteria in the affirmative jury reports for the 3rd awarded project.

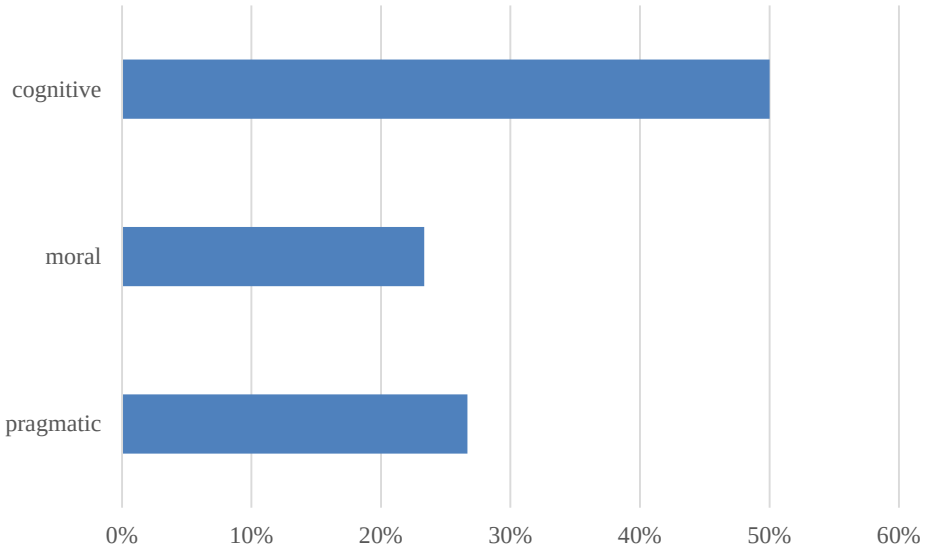


Figure 4.72. Main Legitimacy Criteria within “negative jury report for the 3rd awarded project”.

- In the negative jury reports for the 3rd awarded project, pragmatic legitimacy and moral legitimacy criteria are almost equally matched with cognitive legitimacy criteria.

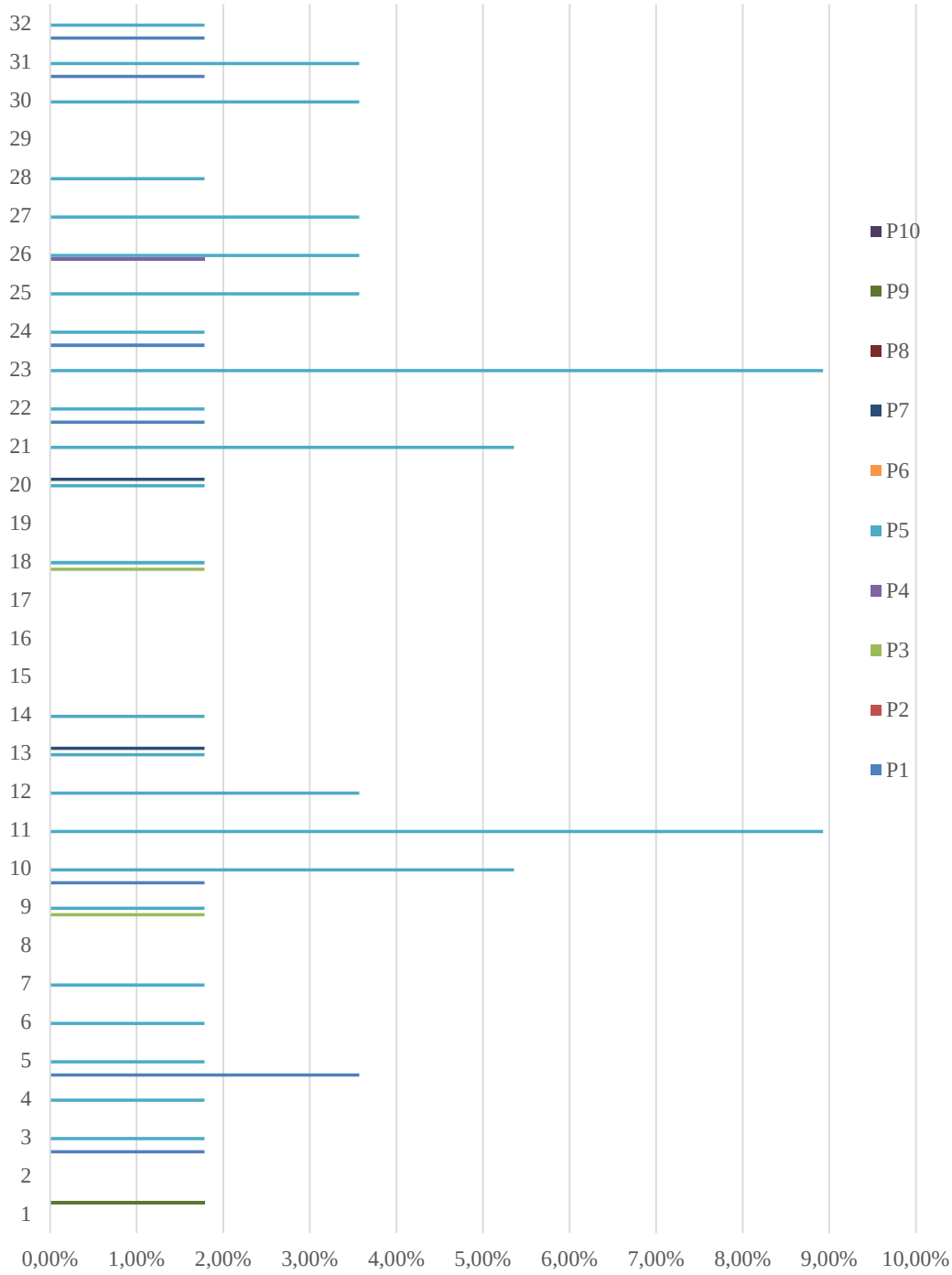


Figure 4.73. Sub-criteria of Pragmatic Legitimacy within "negative jury report for the 3rd awarded project".

- *Better managed and operated actions* (P5) is the most coded pragmatic legitimacy sub-criteria in the negative jury reports for the 3rd awarded project.

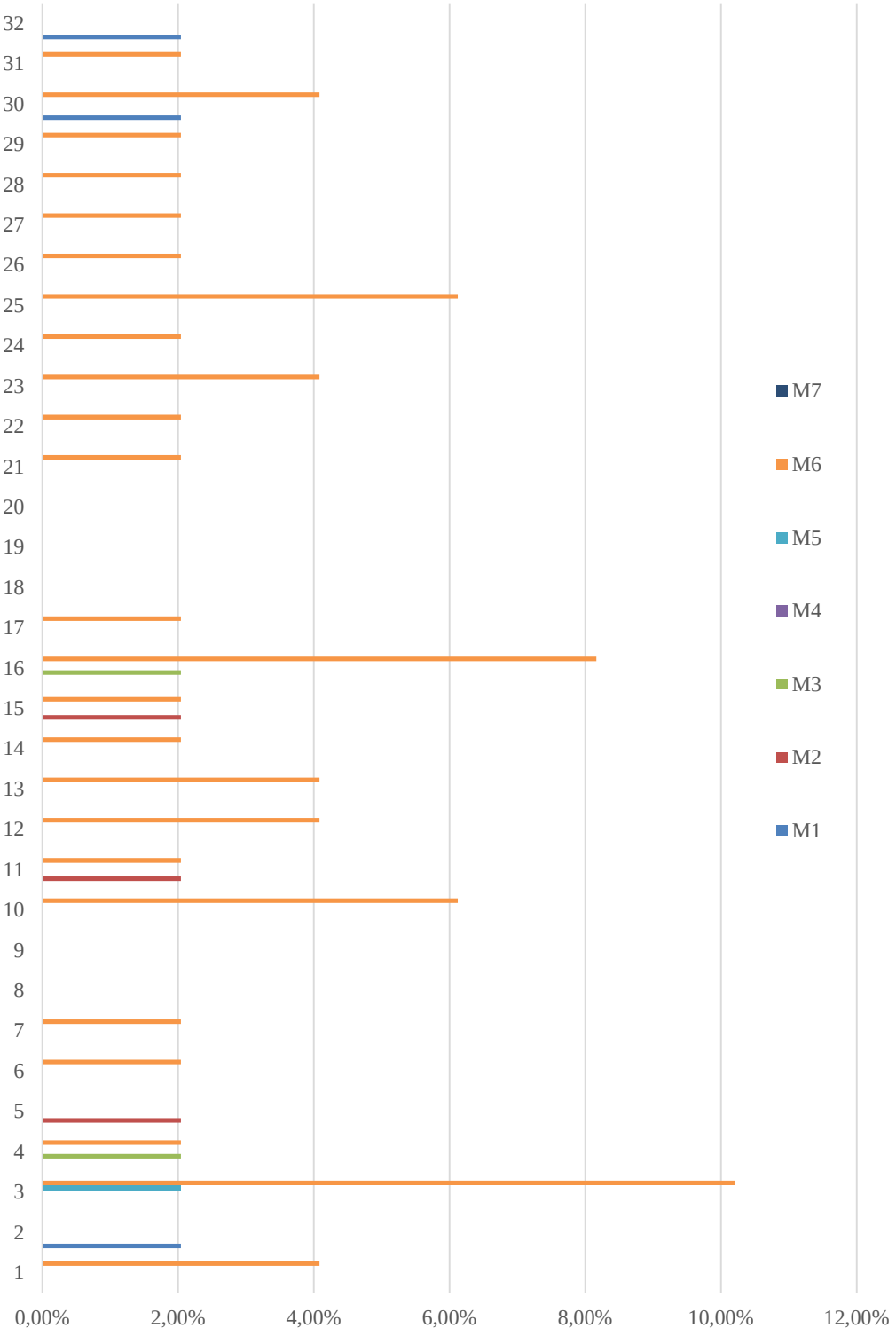


Figure 4.74. Sub-criteria of Moral Legitimacy within "negative jury report for the 3rd awarded project".

- *Design aspect of spaces* (M6) is the most coded moral legitimacy sub-criteria in the negative jury reports for the 3rd awarded project.

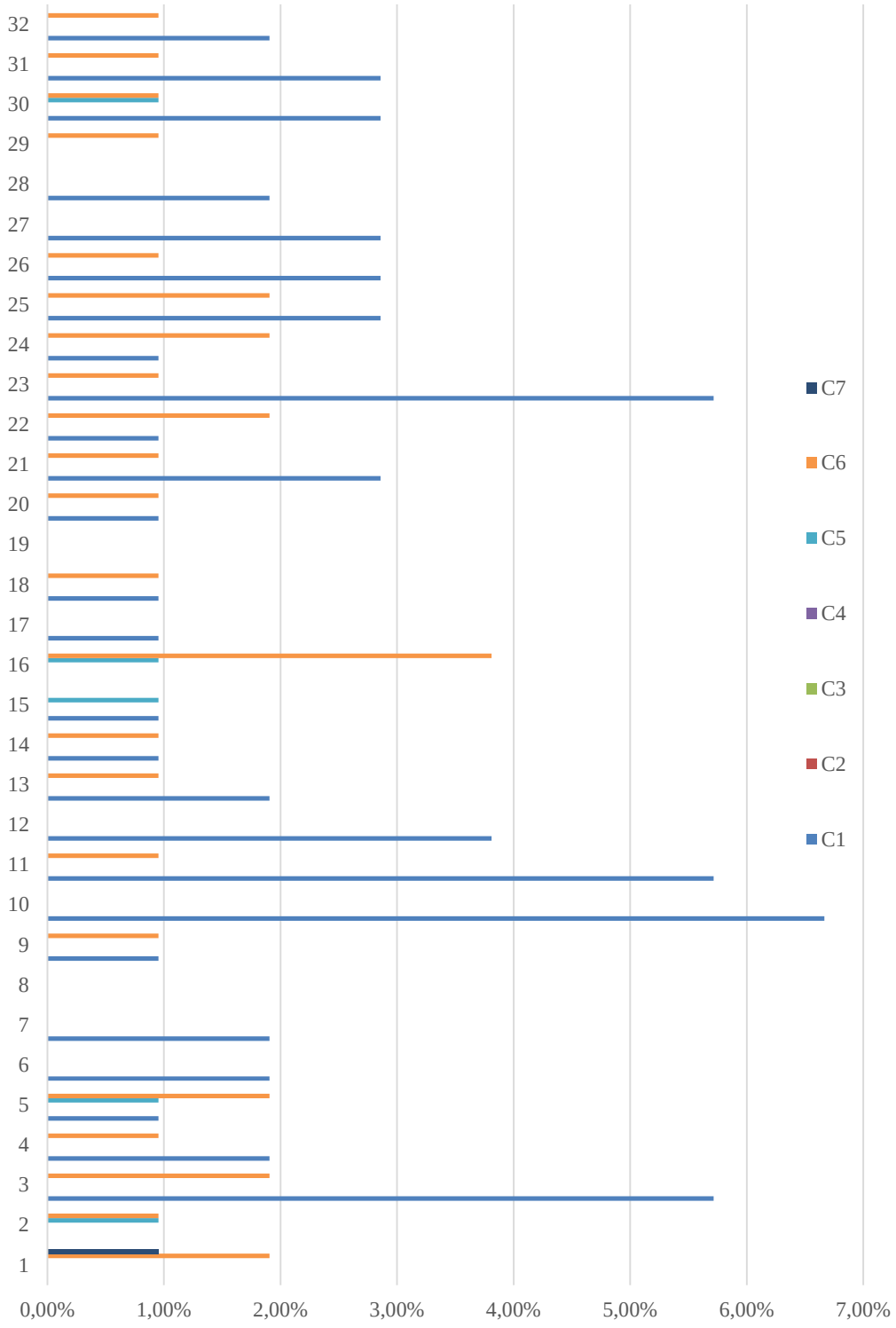


Figure 4.75. Sub-criteria of Cognitive Legitimacy within "negative jury report for the 3rd awarded project".

- *Best possible manner to solve problems* (C1) is the most coded cognitive legitimacy sub-criteria in the negative jury reports for the 3rd awarded project.

Table 4.6. The most (m) and least (l) used sub-legitimacy criteria within sub-phases.

code	G	Q	PR1	PR2	PR3	J+1	J-1	J+2	J-2	J+3	J-3
Pm	P3	P6, P5	P5	P5	P5	P5	P5	P5	P5	P5, P1	P5
Pl	P4 P2 (not-coded)	P3 and P10 P4, P8, P9 (not-coded)	P8, P2, P4, P6 (not-coded)	P2, P4, P8 (not-coded)	P2, P4 (not-coded)	P2, P10 (not-coded)	P4, P9 P10 (not-coded)	P2, P4, P6, P8 P10 (not coded)	P3, P8, P9, P10 (not coded)	P4, P6, P8, P9, P10 (not coded)	P2, P6, P8, P10, (not-coded)
Mm	M4	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
Ml	M2 M3	M1, M7 M3, M4 (not coded)	M4, M7 (not-coded)	M4	M7	M4 (not-coded)	M2, M4, M7 (not-coded)	M2, M4, M5 (not coded)	M4, M7 (not coded)	M2, M4 (not coded)	M4 M7 (not coded
Cm	-	-	-	-	-	C1	C1	C6	C1	C6	C1
Cl	-	-	-	-	-	C2, C3 (not-coded)	C4 (not-coded)	C3 (not coded)	C2, C3, C4 (not-coded)	C3 (not coded)	C2, C3, C4 (not-coded)

- *Better managed and operated actions* (P5), *Design aspects of spaces* (M6) and *Best possible manner to solve problems* (C1) followed by *Communication capability, understandability* (C6) are the most coded sub-criteria for overall ADCs.

- *Quick and effective design solutions* (P4), *Consideration of other organizations' activities and contemporary methods* (P8), *Supporting reward policies* (M4), *Personal characteristics of jury and participants* (M7), *Effective management of participant groups* (C2), *Attending architectural industry practices* (C3) and *Characteristics of participants (design management success, experience, education)* (C4) are the least coded sub-criteria for overall ADCs.

4.4.1.4. Analysis of Cognitive Legitimacy criteria matched with Pragmatic and Moral Legitimacy Criteria

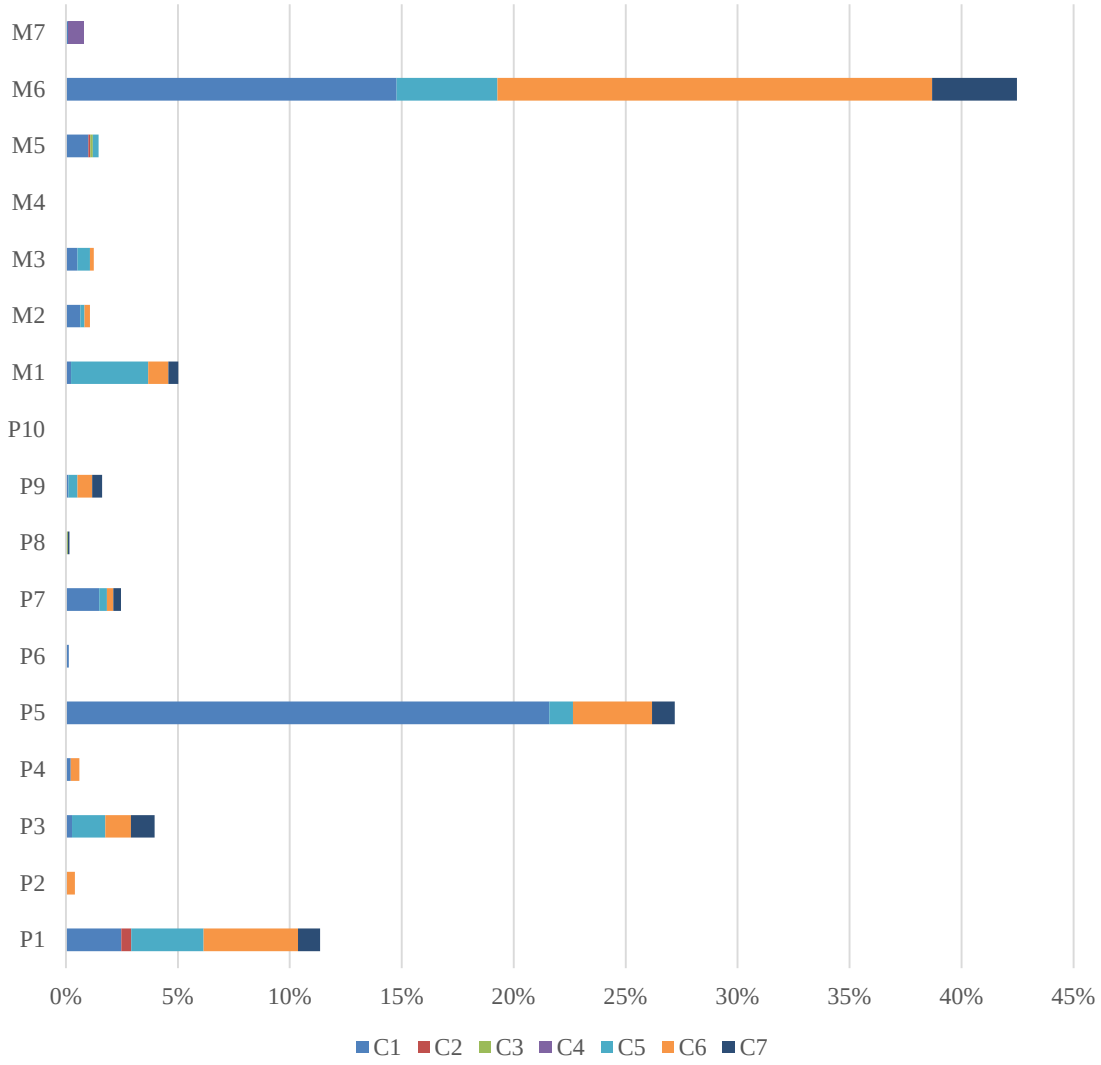


Figure 4.76. Cognitive Legitimacy Sub-Criteria matched with Pragmatic and Moral Legitimacy Sub-Criteria.

- *Better managed and operated actions* (P5) is matched the most with *Best possible manner to solve problems* (C1).
- *Design aspects of spaces* (M6) is matched the most with *Communication capability, understandability* (C6) and *Best possible manner to solve problems* (C1).

For thirty-two competition projects, *questions* are the most coded and *jury reports* are the least coded sub-phases.

While *pragmatic legitimacy* criteria are the most coded in the question phase followed by project reports, *moral legitimacy* criteria are the most coded in the project reports. Furthermore, *cognitive legitimacy* criteria are the most coded in the jury reports of the 1st awarded projects and followed by affirmative jury reports.

Moral legitimacy criteria are more coded than pragmatic legitimacy criteria in project reports. While moral legitimacy criteria are more matched with cognitive legitimacy criteria in affirmative jury reports; pragmatic legitimacy criteria are more matched with cognitive legitimacy in negative jury reports.

It can be deduced from the results of histograms that competitors are more sensitive to learn pragmatic legitimacy criteria related issues due to not missing any information required in pragmatic aspects about design in the questions phase. Moreover, competitors use more moral legitimacy suggestions in project reports to add value to their projects and make a difference.

Jury reports are the least coded text. It can be the reason that the jury explains target-driven suggestions without going into details and mainly appreciates moral explanations and criticizes pragmatic explanations of competitors.

When the pragmatic and moral legitimacy criteria in guidelines are compared within the same criteria in the jury reports, many sub-legitimacy criteria are not mentioned in the jury reports. The reason for mentioning pragmatic and moral legitimacy sub-criteria in guidelines but not evaluating them in the jury reports can be due to the necessity to mention them in guidelines as an ADC procedure.

4.4.2. K-Means Cluster Analyses and Discussion

In the second section of the analysis, K-means clustering results are presented and discussed. In the cluster analysis, Maslow's Hierarchy of Needs model becomes a source of motivation to discuss the results.

The first model Maslow's Hierarchy of Needs (Maslow 1954) consists of five hierarchical motivational needs that can be grouped into three from down to up as basic, psychological and self-fulfillment (McLeod 2020). According to the pyramid, people aim to achieve the upper needs for achieving self-fulfillment level. This approach is

interpreted to discuss K-means cluster to analyze the legitimacy motivation of architectural design competitions (Figure 4.77).

According to the hierarchy of legitimacy motivation, three motivation levels are for interpreting the groups from down to up as *enough to be legitimate (must), effectual to be legitimate (valid)* and *appreciated to be legitimate (appreciated).* This representation provides to discuss cluster groups' legitimacy motivation. Throughout the K-means cluster analysis in this thesis, three clusters are formed to obtain arguable results.

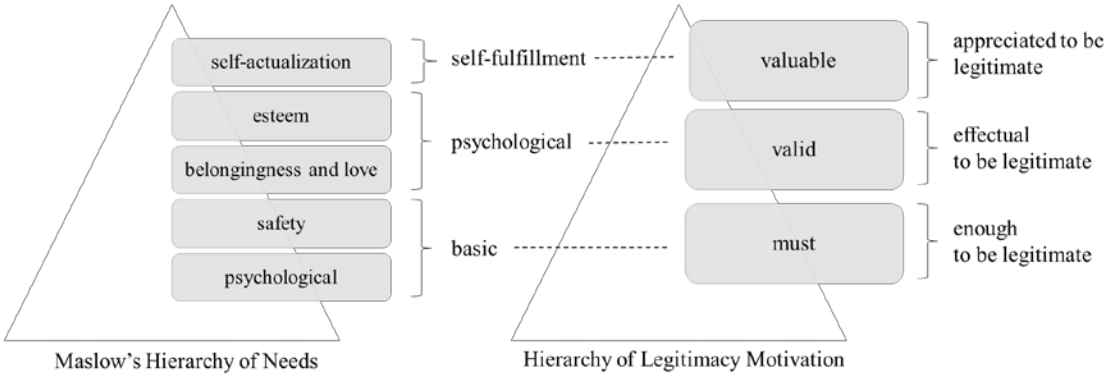


Figure 4.77. Representation of Hierarchy of Legitimacy Motivation.

Before presenting K-means cluster results, categorical data about ADCs are figured out to be able to discuss the effects of these on the constitution of clusters. Categorical data of ADCs consist of year, organizer, scope, method, regulation, type, number and code of the same jury members (Table 4.7).

Table 4.7. Categorical data for ADCs.

Code of compe-tition	Year	Organizer	Scope	Method	Regulation	Type	Number and Code of Same Jury Members
1	2012	municipality	National	single-stage	Public Procurement Law	Administrative structure	2 c v
2	2011	chamber of architects	National	single-stage	Public Procurement Law	Congress Center	0
3	2016	municipality	National	single-stage	Public Procurement Law	Service building	3 j l p
4	2015	municipality	National	two-stage	Public Procurement Law	Service building	4 g n o s
5	2016	municipality	National	single-stage	Public Procurement Law	Service building	0
6	2016	municipality	National	single-stage	Public Procurement Law	Urban Design, Museum	1 o
7	2016	municipality	National	two-stage	Public Procurement Law	Sports Structure	3 g r t
8	2016	municipality	National	single-stage	Public Procurement Law	Service building	1 o
9	2016	municipality	Regional	single-stage	Public Procurement Law	Sports Structure	4 f j l u
10	2015	municipality	National	single-stage	Public Procurement Law	Art Center	3 d g h
11	2015	municipality	National	single-stage	Public Procurement Law	Cultural Center	2 f i
12	2015	chamber of commerce	Regional	single-stage	Chamber of Architects Competition Regulation	Service building	1 k
13	2015	municipality	National	two-stage	Public Procurement Law	Service building	2 l m
14	2015	municipality	National	single-stage	Public Procurement Law	Service Building, Cultural Center	2 a b
15	2015	municipality	National	single-stage	Public Procurement Law	Religious building	1 n
16	2015	municipality	National	single-stage	Public Procurement Law	Academy	3 d h u

(cont. on next page)

Table 4.7 (cont.)

17	2015	association	National	single-stage	Building Bylaws	Religious building	1 c
18	2013	municipality	National	single-stage	Public Procurement Law	Transportation	3 d e f
19	2013	municipality	National	single-stage	Public Procurement Law	Bridge	1 j
20	2011	municipality	National	single-stage	Public Procurement Law	Transportation	1 b
21	2018	municipality	National	single-stage	Public Procurement Law	Bazaar, Parking Lot, Life Center	1 u
22	2016	municipality	National	single-stage	Public Procurement Law	Science Center	1 g
23	2016	municipality	National	single-stage	Public Procurement Law	Transportation	3 f r s
24	2017	special provincial administration	National	single-stage	Public Procurement Law	Dorm	4 l i j t
25	2017	municipality	National	single-stage	Public Procurement Law	Business and Life Center	1 u
26	2017	municipality	National	single-stage	Public Procurement Law	Landscape architecture	0
27	2017	municipality	National	single-stage	Public Procurement Law	Cultural Center	3 m o s
28	2015	municipality	National	single-stage	Public Procurement Law	Service Building, Urban Design	3 j k o
29	2016	department of public works and engineering	National	single-stage	Public Procurement Law	Cultural Center	2 o p
30	2017	housing development administration	National	single-stage	Public Procurement Law	Landscape architecture	7 e w
31	2017	housing development administration	National	single-stage	Public Procurement Law	Landscape architecture	7 e w
32	2017	housing development administration	National	single-stage	Public Procurement Law	Landscape architecture	7 e w

The main approach of this analysis is to understand the effect of main and sub-legitimacy criteria on constituting clusters. The below tables (Table 4.8 to Table 4.28) represent the results of the K-mean clustering analysis.

Information on *final cluster centers* emphasizes the effect of legitimacy criteria on constituting characteristics of clusters by indicating the mean for each legitimacy criteria in their final cluster. When the mean value of criteria increases, the effect of these legitimacy criteria to constitute the related cluster also increases.

Number of cases in each cluster and *cluster membership* of ADCs or phases of competitions are also represented in the below tables.

Tables are also supported by histograms to better discuss the results (Figure 4.78 to Figure 4.98).

Table 4.8. Clusters based on Pragmatic Legitimacy Sub-criteria.

Final Cluster Centers			
	Cluster		
	1	2	3
P1	**0.75**	**1.09**	**0.72**
P2	0.18	0.55	0.18
P3	**0.64**	**0.70**	**0.47**
P4	0.02	0.02	0.01
P5	**3.07**	**2.95**	**1.70**
P6	0.55	2.98	0.81
P7	0.56	0.45	0.32
P8	0.05	-	0.02
P9	0.35	0.25	0.25
P10	0.09	0.05	0.09
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	5	1 5 11 23 **32**
	2	4	9 20 21 28
	3	23	**2** 3 4 6 7 8 10 **12** 13 14 15 16 **17** 18 19 22 **24** 25 26 27 **29 30 31**
Valid		32	
Missing		0	

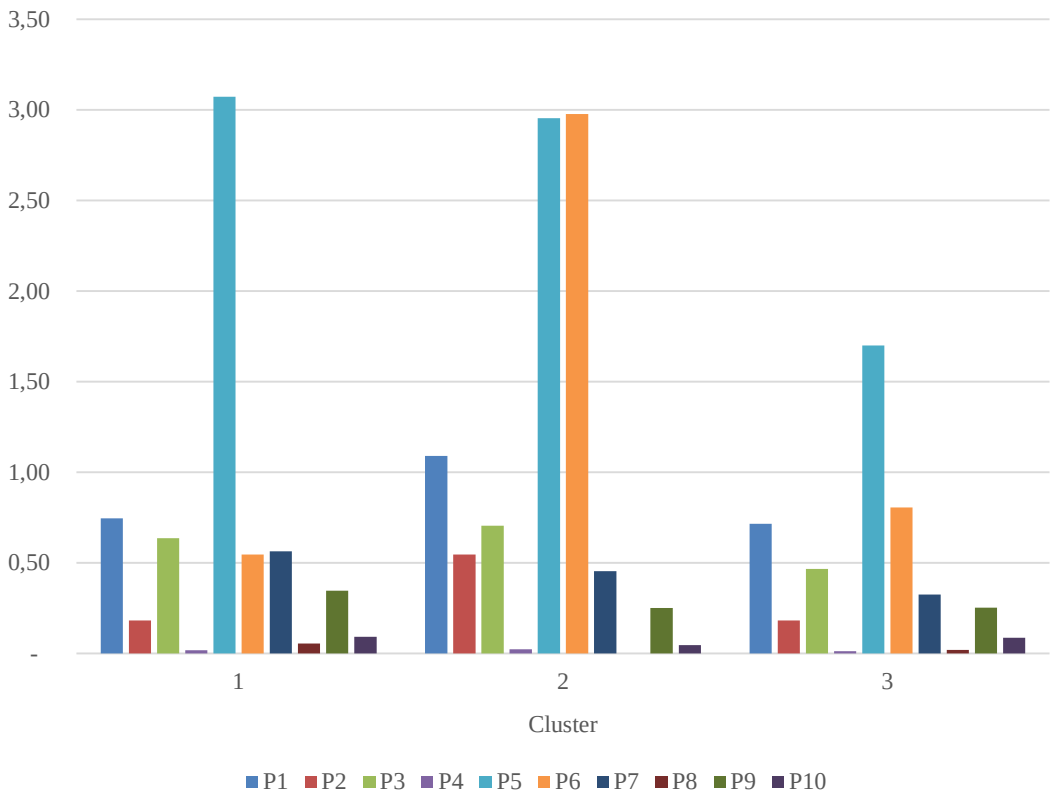


Figure 4.78. Histogram of Clusters based on Pragmatic Legitimacy Sub-criteria.

When the decision clusters are analyzed with respect to pragmatic legitimacy sub-criteria, the decision-making process is predominantly justified by using *Better managed and operated actions* (P5), Need *and concerns of stakeholders* (P6) and *Work in harmony with project stakeholders; get and/or provide the necessary support from and/or to the relevant environment* (P1) sub-criteria. Concerning the type of organizations, organizations other than municipality are mostly populated in the third cluster followed by the first cluster.

Table 4.9. Clusters based on Moral Legitimacy Sub-criteria.

Final Cluster Centers			
	Cluster		
	1	2	3
M1	0.66	0.74	0.66
M2	0.29	0.39	0.41
M3	0.16	0.30	0.23
M4	0.17	0.20	0.18
M5	0.17	0.23	0.25
M6	**3.28**	**4.94**	**7.34**
M7	0.13	0.13	0.11
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	12	1 **2** 6 **12** 15 18 19 22 26 27 **29 30**
	2	16	4 5 7 8 9 10 11 13 16 **17** 20 23 **24** 28 **31 32**
	3	4	3 14 21 25
Valid		32	
Missing		0	

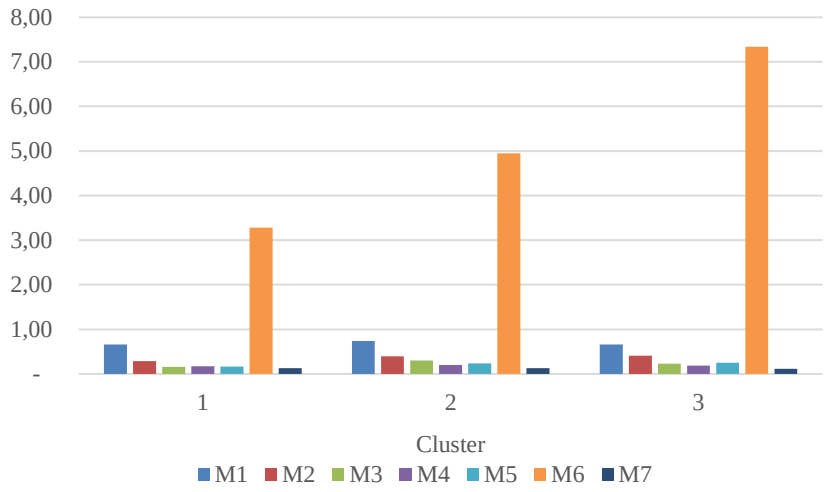


Figure 4.79. Histogram of Clusters based on Moral Legitimacy Sub-criteria.

When the decision clusters are analyzed with respect to moral legitimacy sub-criteria, the decision-making process is predominantly justified by using *Designing spaces* (M6) and *Contributing meeting goals* (M1) sub-criteria. Concerning types of organizations, organizations other than municipality are mostly populated in the first and second clusters.

Table 4.10. Clusters based on Cognitive Legitimacy Sub-criteria.

Final Cluster Centers			
	Cluster		
	1	2	3
C1	**1.17**	**0.78**	**2.58**
C2	0.02	0.01	-
C3	0.01	-	0.03
C4	0.04	0.01	-
C5	0.33	0.37	0.27
C6	**0.52**	**0.84**	**0.79**
C7	0.16	0.19	0.24
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	12	1 **2** 3 7 8 **12** **17** 22 25 26 28 **31**
	2	17	4 5 6 9 13 14 15 16 18 19 20 21 **24** 27 **29** **30** **32**
	3	3	10 11 23
Valid		32	
Missing		0	

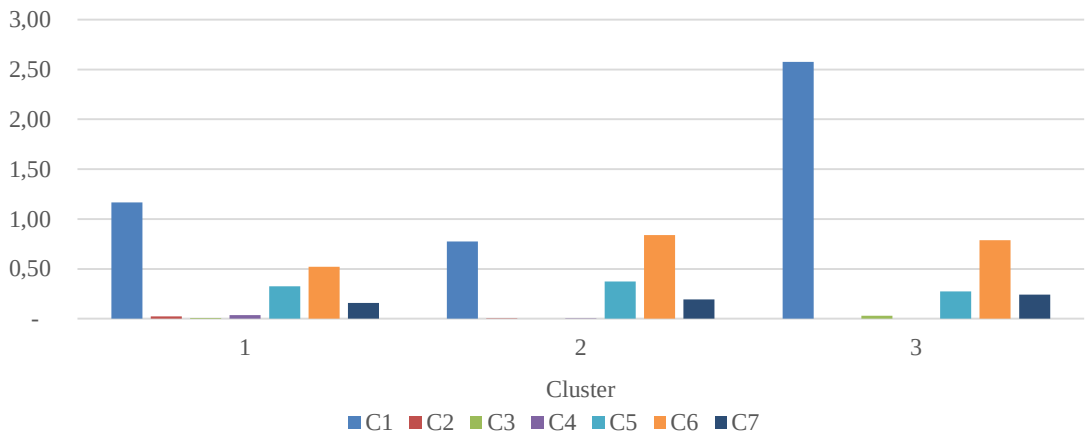


Figure 4.80. Histogram of Clusters based on Cognitive Legitimacy Sub-criteria.

When the decision clusters are analyzed with respect to cognitive legitimacy sub-criteria, the decision-making process is predominantly justified by using *Best possible manner to solve problems (C1)* and *Communication capability, understandability (C6)* sub-criteria. Concerning types of organizations, organizations other than municipality are mostly populated in the second cluster followed by the third cluster.

Table 4.11. Clusters based on Three Main Legitimacy Strategies.

Final Cluster Centers			
	Cluster		
	1	2	3
PSAV	4.73	4.80	**9.73**
MSAV	**4.86**	**7.07**	**9.18**
CSAV	1.92	2.65	**2.91**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	13	1 6 **12** 15 17 18 19 20 22 26 27 **29 30**
	2	15	**2** 3 4 7 8 10 11 13 14 16 23 **24** 25 **31 32**
	3	4	5 9 21 28
Valid		32	*S: Sum
Missing		0	*AV: average

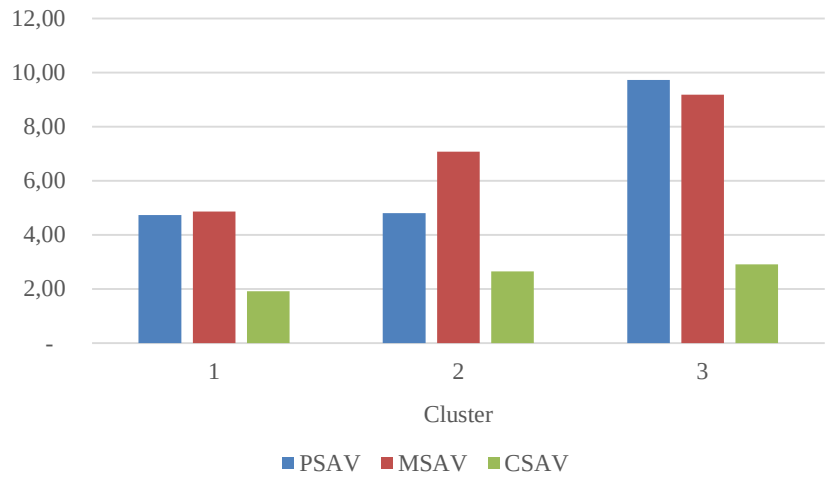


Figure 4.81. Histogram of Clusters based on Three Main Legitimacy Strategies.

When the decision clusters are analyzed with respect to three main legitimacy strategies, the decision-making process is predominantly justified by using pragmatic and moral legitimacy strategies in all clusters. In the first cluster consisting of thirteen competitions, moral legitimacy strategies are predominantly underused in decisions compared to the other two clusters. In the third cluster, pragmatic legitimacy strategies are predominantly overused compared with other clusters. Concerning the type of

organizations, organizations other than municipality equally populated in the first and the second clusters.

Table 4.12. Clusters based on Three Main Legitimacy Strategies and Phases of ADCs.

Final Cluster Centers			
	Cluster		
	1	2	3
PSSubAV	2.11	23.16	5.87
MSSubAV	2.29	18.00	9.77
CSSubAV	4.38	-	-
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	6	JR1P JR1N JR2P JR2N JR3P JR3N
	2	1	Q
	3	4	G PR1 PR2 PR3
Valid		11	*SSub: Sum (S) of Sub-criteria
Missing		0	*AV: average

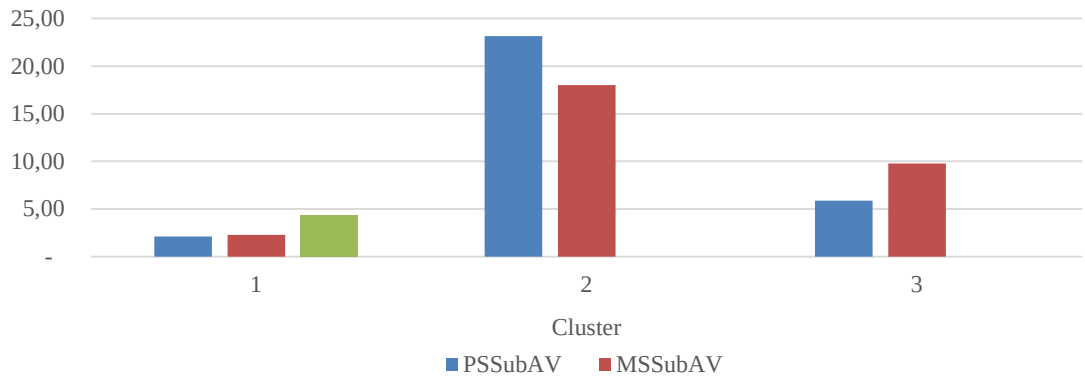


Figure 4.82. Histogram of Clusters based on Three Main Legitimacy Strategies and Phases of ADCs.

When the decision clusters are analyzed with respect to three main legitimacy strategies based on phases of competitions, the decision-making process is predominantly justified by using pragmatic legitimacy strategies in the phase of Questions. In the phases of Guidelines and Project Reports, moral legitimacy strategies are predominantly overused in decisions than the pragmatic legitimacy strategies. Moral and pragmatic

legitimacy strategies are almost equally associated with cognitive legitimacy strategies in Jury Reports.

Table 4.13. Clusters based on Legitimacy Sub-criteria.

Final Cluster Centers			
	Cluster		
	1	2	3
P1AV	0.77	0.96	0.73
P2AV	0.05	0.49	0.19
P3AV	0.68	0.60	0.49
P4AV	0.05	-	0.01
P5AV	**3.00**	**3.00**	**1.81**
P6AV	0.59	2.42	0.80
P7AV	0.95	0.51	0.31
P8AV	-	-	0.03
P9AV	0.18	0.25	0.28
P10AV	0.09	0.05	0.09
M1AV	0.50	0.71	0.71
M2AV	0.05	0.78	0.29
M3AV	0.09	0.20	0.26
M4AV	0.18	0.15	0.20
M5AV	0.23	0.35	0.18
M6AV	**2.36**	**6.78**	**4.37**
M7AV	0.18	0.09	0.13
C1AV	1.32	1.00	1.09
C2AV	0.09	-	0.01
C3AV	-	-	0.01
C4AV	0.05	-	0.02
C5AV	0.14	0.35	0.36
C6AV	0.68	0.87	0.69
C7AV	0.23	0.20	0.18
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	2	1 **22**
	2	5	9 14 21 25 28
	3	25	**2** 3 4 5 6 7 8 10 11 12 13 15 16 **17** 18 19 20 23 **24** 26 27 **29 30 31 32**
Valid		32	*AV: average
Missing		0	

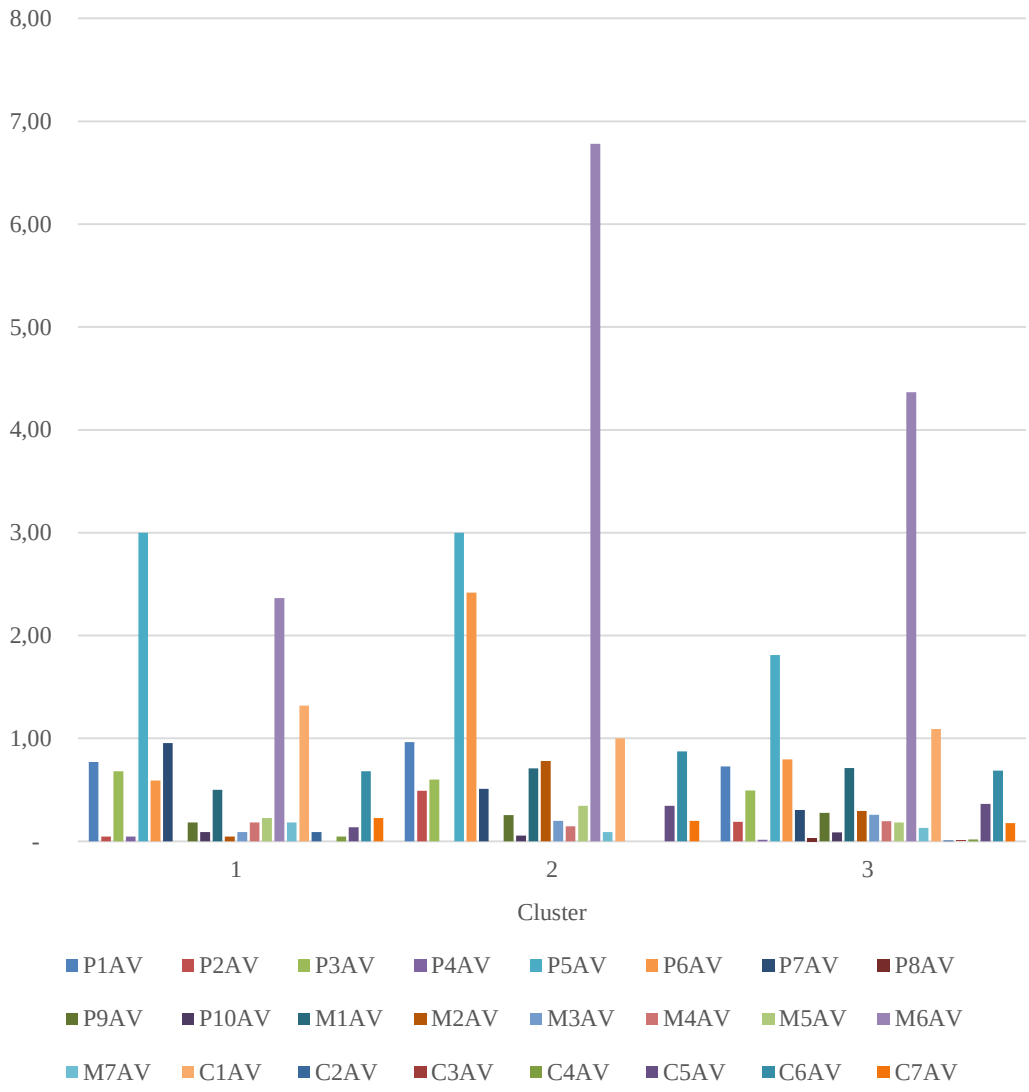


Figure 4.83. Histogram of Clusters based on Legitimacy Sub-criteria.

When the decision clusters are analyzed with respect to sub-criteria of three legitimacy strategies, the decision-making process is predominantly justified by using *Better managed and operated actions* (P5), *Designing spaces* (M6) and *Best possible manner to solve problems* (C1) sub-criteria in the all cluster. In the second cluster consisting of five competitions, almost all legitimacy sub-criteria are predominantly overused in decisions compared to the other two clusters. Concerning the type of organizations, organizations other than municipality are mostly populated in the third cluster followed by the first cluster.

Table 4.14. Clusters based on Legitimacy Sub-criteria and Phases.

Final Cluster Centers			
	Cluster		
	1	2	3
P1SubAv	0.52	1.03	1.25
P2SubAv	0.02	2.38	-
P3SubAv	0.31	0.09	1.17
P4SubAv	0.02	-	-
P5SubAv	**1.21**	**8.13**	**2.07**
P6SubAv	0.02	11.09	0.06
P7SubAv	0.21	0.25	0.80
P8SubAv	0.02	0.03	0.03
P9SubAv	0.15	0.03	0.63
P10SubAv	0.08	0.13	0.07
M1SubAv	0.38	0.06	1.67
M2SubAv	0.12	2.28	0.27
M3SubAv	0.11	-	0.63
M4SubAv	0.27	-	0.06
M5SubAv	0.17	0.59	0.19
M6SubAv	**1.70**	**15.00**	**7.98**
M7SubAv	0.18	0.06	0.03
C1SubAv	1.71	-	-
C2SubAv	0.02	-	-
C3SubAv	0.01	-	-
C4SubAv	0.02	-	-
C5SubAv	0.54	-	-
C6SubAv	1.13	-	-
C7SubAv	0.29	-	-

Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	7	G JR1P JR1N JR2P JR2N JR3P JR3N
	2	1	Q
	3	3	PR1 PR2 PR3
Valid		11	*Sub: Sum of Sub-criteria
Missing		0	*AV: average

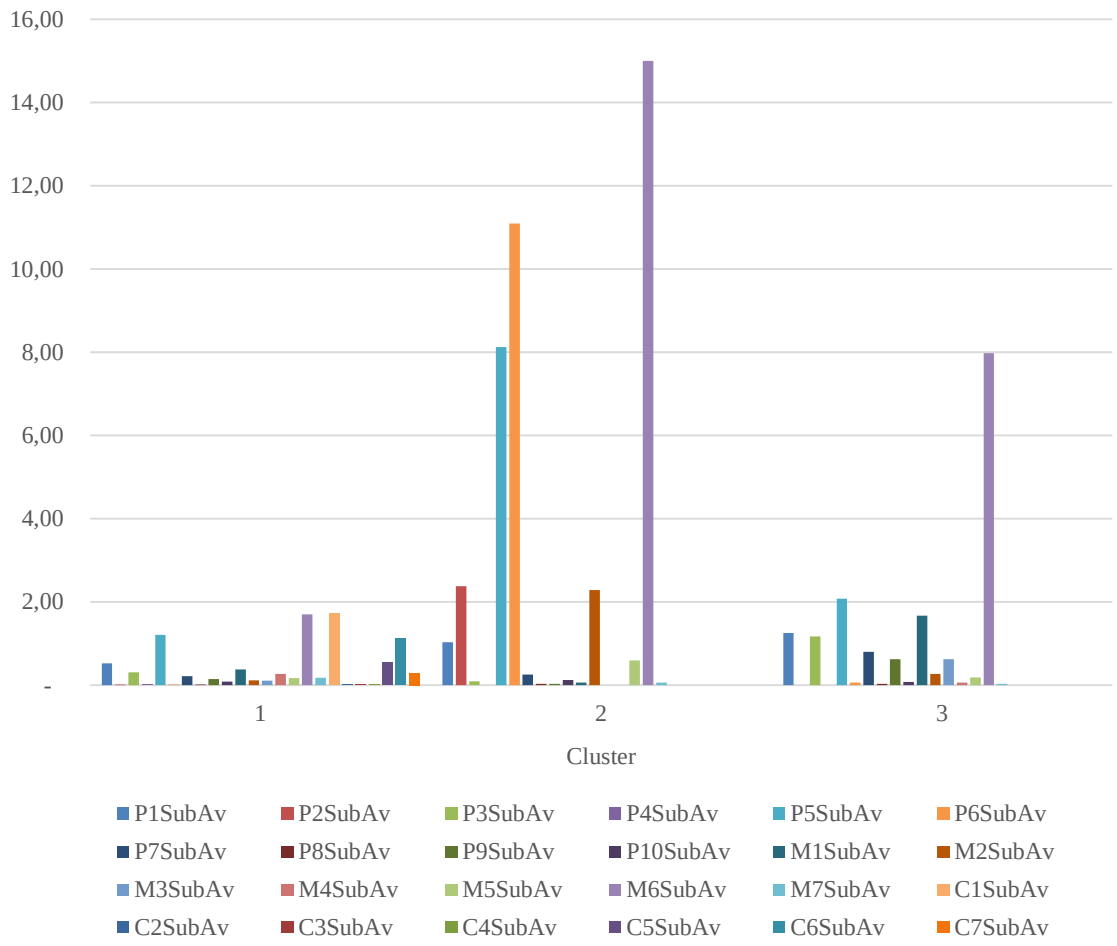


Figure 4.84. Histogram of Clusters based on Legitimacy Sub-criteria and Phases.

When the decision clusters are analyzed with respect to sub-criteria of three legitimacy strategies based on phases of competitions, the decision-making process is predominantly justified by *Better managed and operated actions* (P5) and *Designing spaces* (M6) sub-criteria in the phase of Guidelines. In the phase of Jury Reports, the decision-making process is predominantly justified by *Best possible manner to solve problems* (C1) as well as *Better managed and operated actions* (P5) and *Designing spaces* (M6) sub-criteria. In the phase of Questions, the decision-making process is predominantly justified by *Need and concerns of stakeholders* (P6) and *Designing spaces* (M6) sub-criteria. In the phase of Project Reports, the decision-making process is predominantly justified by *Better managed and operated actions* (P5) and *Designing spaces* (M6) sub-criteria.

Table 4.15. Clusters based on Three Main Legitimacy Criteria and Guidelines.

Final Cluster Centers			
	Cluster		
	1	2	3
PG	0.32	0.70	**1.05**
MG	**0.72**	**1.09**	**1.93**
CG	-	-	-
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	17	10 11 14 16 **17** 18 20 22 23 **24** 25 26 27 28 **29 30 31 32**
	2	13	1 **2** 3 4 6 7 8 9 **12** 13 15 21
	3	2	5 19
Valid		32	*G: guidelines
Missing		0	

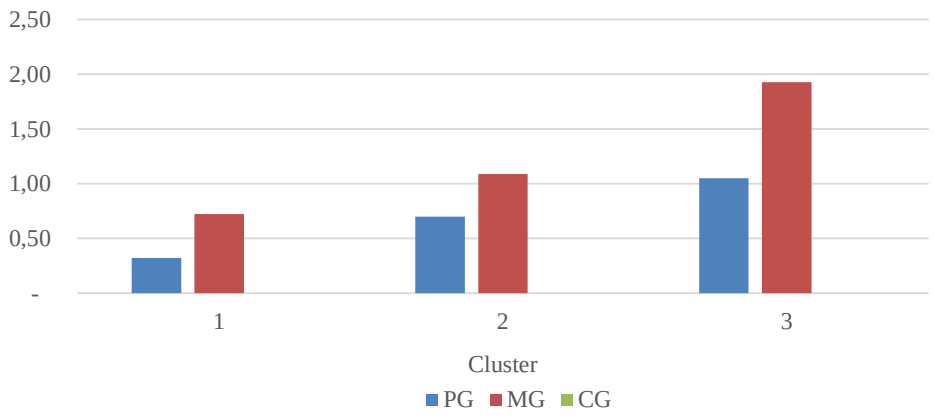


Figure 4.85. Histogram of Clusters based on Three Main Legitimacy Criteria and Guidelines.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the guidelines, the decision-making process is predominantly justified by using moral legitimacy strategies in all clusters. In the first cluster, pragmatic and moral legitimacy strategies are predominantly underused in decisions compared to the other two clusters. In the third cluster, moral and pragmatic legitimacy strategies are predominantly overused compared with other clusters. Concerning the type of organizations, organizations other than municipality are mostly populated in the first cluster followed by the second cluster.

Table 4.16. Clusters based on Three Main Legitimacy Criteria and Questions.

Final Cluster Centers			
	Cluster		
	1	2	3
PQ	1.66	4.87	**3.50**
MQ	1.66	**5.38**	**8.43**
CQ	-	-	-
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	25	1 **2** 3 4 5 6 8 10 11 **12** 13 15 16 **17** 18 19 22 23 **24** 26 27 29 **30 31 32**
	2	6	7 9 14 20 21 28
	3	1	25
Valid		32	Q: questions
Missing		0	

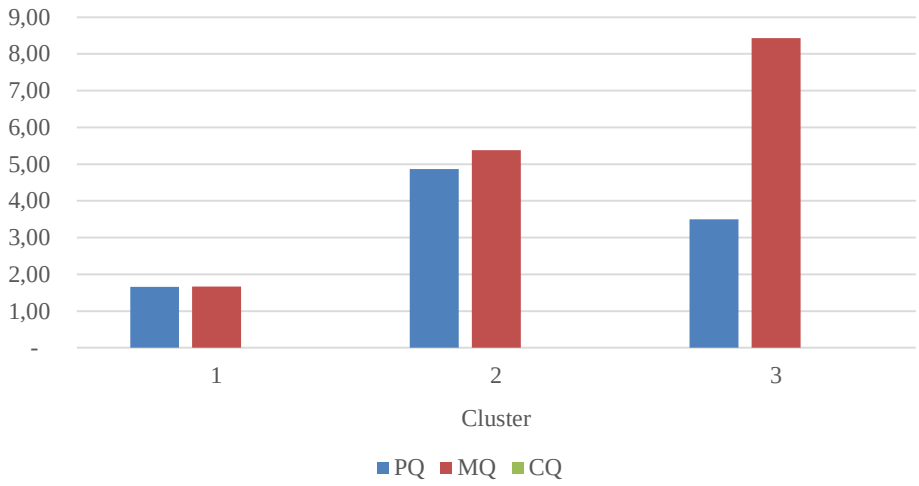


Figure 4.86. Histogram of Clusters based on Three Main Legitimacy Criteria and Questions.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the questions, the decision-making process is predominantly justified by using moral legitimacy strategies in all clusters. In the second and third clusters, moral legitimacy strategies are predominantly more overused in decisions than pragmatic legitimacy strategies. Concerning the type of organizations, organizations other than municipality are populated in the first cluster.

Table 4.17. Clusters based on Three Main Legitimacy Criteria and the 1st Awarded Project Reports.

Final Cluster Centers			
	Cluster		
	1	2	3
PPR1	0.42	**1.85**	0.92
MPR1	**1.03**	**3.93**	**2.25**
CPR1	-	-	-
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	17	1 4 6 7 9 11 **12** 13 16 **17** 18 21 **24** 25 26 27 **29**
	2	2	14 28
	3	13	**2** 3 5 8 10 15 19 20 22 23 **30 31 32**
Valid		32	*PR: project report
Missing		0	

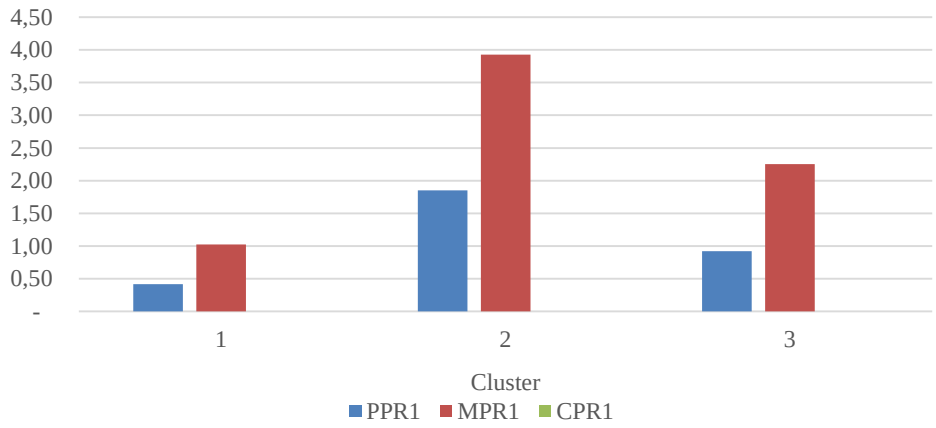


Figure 4.87. Histogram of Clusters based on Three Main Legitimacy Criteria and the 1st Awarded Project Reports.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the first awarded project reports, the decision-making process is predominantly justified by using moral legitimacy strategies in all clusters. In the first cluster, moral and pragmatic legitimacy strategies are predominantly more underused in decisions compared with other clusters. In terms of case characteristics, the second cluster competitions were organized in 2015. Yet. concerning the type of organizations, organizations other than municipality are almost equally populated in the first and the second clusters.

Table 4.18. Clusters based on Three Main Legitimacy Criteria and the 2nd Awarded Project Reports.

Final Cluster Centers			
	Cluster		
	1	2	3
PPR2	0.33	0.85	**0.90**
MPR2	**0.84**	**1.97**	**4.71**
CPR2	-	-	-
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	16	1 4 5 7 9 10 11 **12** 18 20 22 23 **24** 25 28 29
	2	15	**2** 3 6 8 14 15 16 **17** 19 21 26 27 **30 31 32**
	3	1	13
Valid		32	*PR: project report
Missing		0	

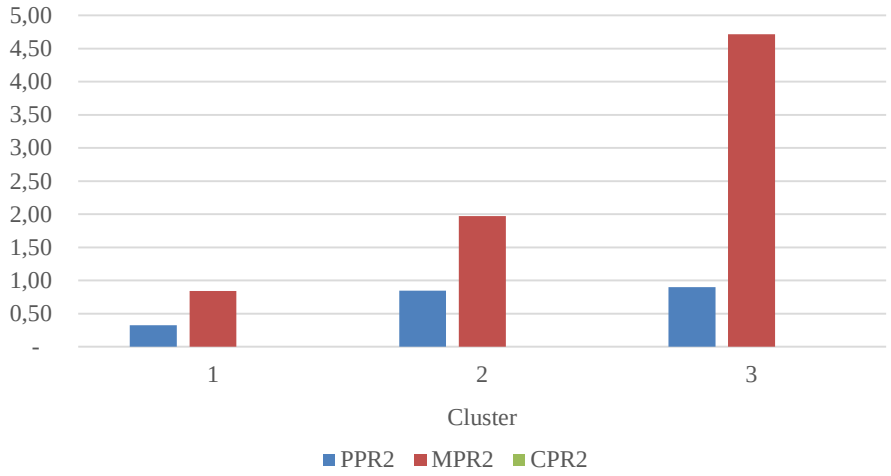


Figure 4.88. Histogram of Clusters based on Three Main Legitimacy Criteria and the 2nd Awarded Project Reports.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the second awarded project reports, the decision-making process is predominantly justified by using moral legitimacy strategies in all clusters. In the first cluster, moral and pragmatic legitimacy strategies are predominantly more underused in decisions compared with other clusters. Concerning the type of organizations, organizations other than municipality are mostly populated in the second cluster followed by the first cluster.

Table 4.19. Clusters based on Three Main Legitimacy Criteria and the 3rd Awarded Project Reports.

Final Cluster Centers			
	Cluster		
	1	2	3
PPR3	2.45	0.35	0.40
MPR3	**3.29**	**3.71**	**1.15**
CPR3	-	-	-
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	2	5 13
	2	2	4 23
	3	28	1 **2** 3 6 7 8 9 10 11 **12** 14 15 16 **17** 18 19 20 22 21 **24** 25 26 27 28 29 **30 31 32**
Valid		32	*PR: project report
Missing		0	

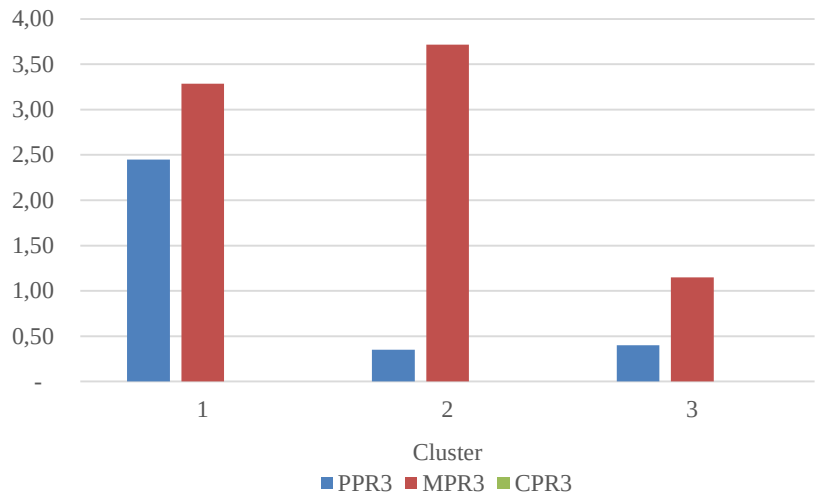


Figure 4.89. Histogram of Clusters based on Three Main Legitimacy Criteria and the 3rd Awarded Project Reports.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the third awarded project reports, the decision-making process is predominantly justified by using moral legitimacy strategies in all clusters. In the first cluster, moral and pragmatic legitimacy strategies are predominantly more overused in decisions compared with other clusters. In the third cluster, moral legitimacy strategies are predominantly more underused in decisions compared with other clusters. Concerning the type of organizations, organizations other than municipality are populated in the third cluster.

Table 4.20. Clusters based on Three Main Legitimacy Criteria and the Affirmative Jury Report for the 1st Awarded Project Reports.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR1P	0.23	**0.60**	0.33
MJR1P	0.23	**0.93**	0.65
CJR1P	**0.59**	**1.69**	**1.09**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	8	6 14 **17** 19 20 2227 **32**
	2	6	5 10 15 21 23 **24**
	3	18	1 **2** 3 4 7 9 8 11 **12** 13 16 18 25 26 28 **29 30 31**
Valid		32	*JR: jury report
Missing		0	*(n)P: (number) affirmative

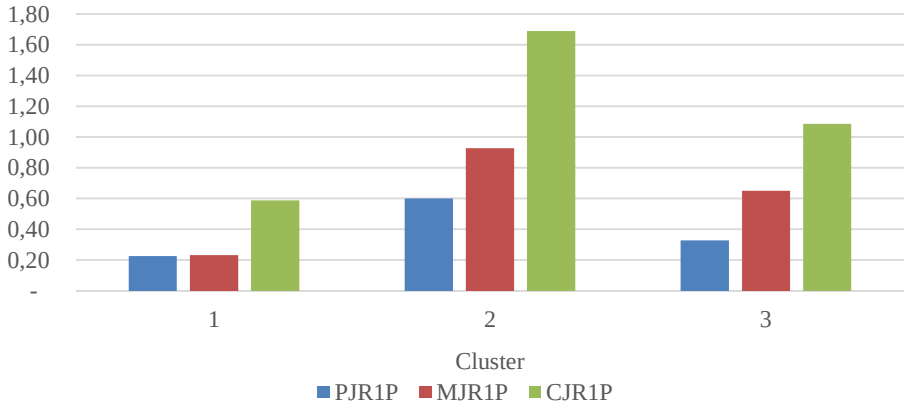


Figure 4.90. Histogram of Clusters based on Three Legitimacy Main Criteria and the Affirmative Jury Report for the 1st Awarded Project Reports.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the affirmative jury reports for the first awarded projects, the decision-making process is predominantly justified by cognitive legitimacy strategies in all clusters. In the first cluster, all legitimacy strategies are predominantly underused in decisions compared to the other two clusters. In all clusters, pragmatic legitimacy strategies are predominantly underused compared with other legitimacy strategies. Concerning the type of organizations, organizations other than municipality are mostly populated all clusters.

Table 4.21. Clusters based on Three Main Legitimacy Criteria and the Negative Jury Report for the 1st Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR1N	0.13	0.09	**0.53**
MJR1N	0.43	0.06	**0.45**
CJR1N	**0.61**	**0.17**	**1.22**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	10	5 7 8 9 13 16 **24** 25 26 27
	2	15	1 **2** 3 4 **12** 14 15 **17** 18 19 20 **29 30 31 32**
	3	7	6 10 11 21 22 23 28
Valid		32	*JR: jury report
Missing		0	*(n)N: (number) negative

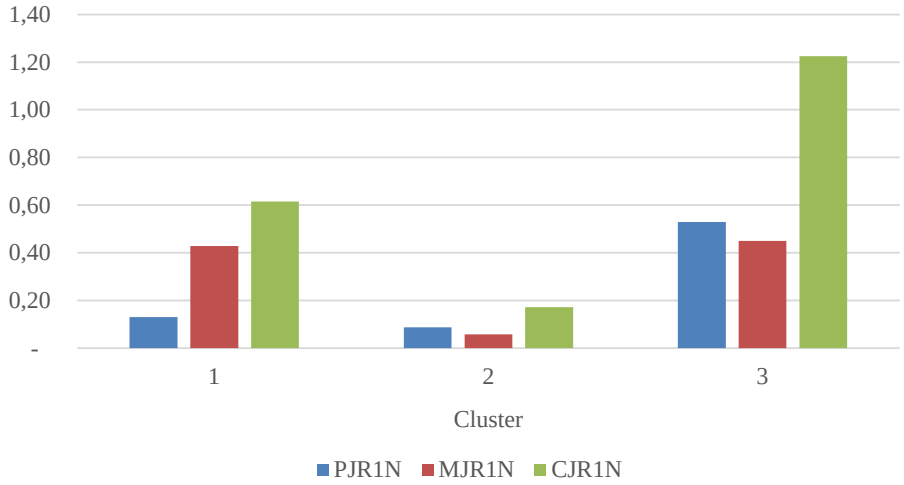


Figure 4.91. Histogram of Clusters based on Three Main Criteria and the Negative Jury Report for the 1st Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the negative jury reports for the first awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies in all clusters. In the second cluster, all legitimacy strategies are predominantly underused in decisions compared to the other two clusters. Concerning the type of organizations, organizations other than municipality are mostly populated in the second cluster followed by the first cluster.

Table 4.22. Clusters based on Three Main Legitimacy Criteria and the Jury Report for the 1st Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR1	**0.98**	0.35	0.54
MJR1	**1.43**	0.48	0.94
CJR1	**2.76**	**0.96**	**1.68**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	6	5 10 11 21 23 **24**
	2	12	**12** 14 **17** 19 20 27 **29 30 31 32**
	3	14	1 3 6 7 8 9 13 15 16 18 22 25 26 28
Valid		32	*JR: jury report
Missing		0	

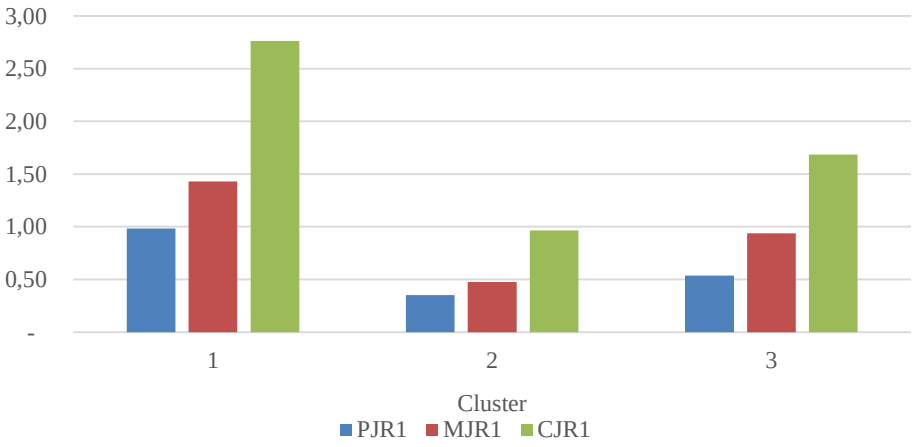


Figure 4.92. Histogram of Clusters based on Three Main Criteria and the Jury Report for the 1st Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the jury reports for the first awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies in all clusters. In the second cluster, all legitimacy strategies are predominantly underused in decisions compared to the other two clusters. In all clusters, pragmatic legitimacy strategies are predominantly underused compared with other legitimacy strategies. Concerning the type of organizations, organizations other than municipality are mostly populated in the second cluster followed by the first cluster.

Table 4.23. Clusters based on Three Main Legitimacy Criteria and the Affirmative Jury Report for the 2nd Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR2P	0.24	0.18	**0.50**
MJR2P	0.54	0.21	**0.64**
CJR2P	**0.88**	**0.47**	**1.43**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	16	1 3 **2** 5 6 8 9 10 13 15 16 19 23 **29 30 31 32**
	2	14	4 7 11 **12** 14 **17** 18 19 20 22 25 26 27 28
	3	2	21 **24**
Valid		32	*JR: jury report
Missing		0	*(n)P: (number) affirmative

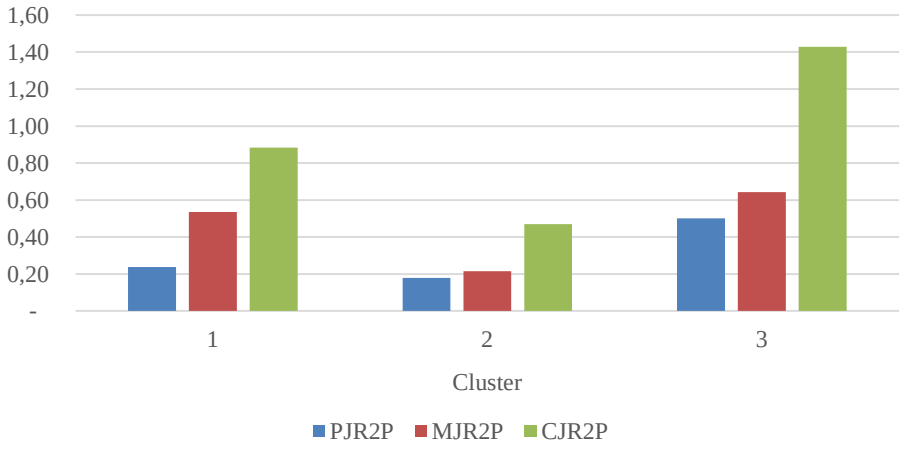


Figure 4.93. Histogram of Clusters based on Three Main Legitimacy Criteria and the Affirmative Jury Report for the 2nd Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the affirmative jury reports for the second awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies followed by using moral legitimacy strategies in all clusters. In the second cluster, all legitimacy strategies are predominantly underused in decisions compared to the other two clusters. Any case characteristics do not affect the cluster results.

Table 4.24. Clusters based on Three Main Legitimacy Criteria and the Negative Jury Report for the 2nd Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR2N	0.21	0.07	**0.26**
MJR2N	**0.46**	0.08	0.16
CJR2N	**0.80**	**0.17**	**0.53**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	8	5 10 11 13 15 16 23 **24**
	2	17	1 **2** 4 6 8 9 **12 17** 18 19 20 21 27 **29 30 31 32**
	3	7	3 13 7 14 22 25 26 28
Valid		32	*JR:jury report
Missing		0	*(n)N: (number) negative

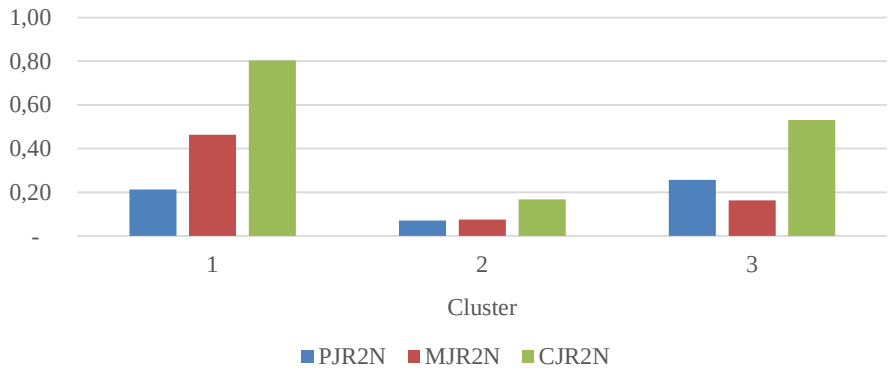


Figure 4.94. Histogram of Clusters based on Three Main Legitimacy Criteria and the Negative Jury Report for the 2nd Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the negative jury reports for the second awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies followed by using pragmatic legitimacy strategies in all clusters. In the first cluster, all legitimacy strategies are predominantly overused. In the second cluster, all legitimacy strategies are predominantly underused in decisions compared to the other two clusters. Concerning the type of organizations, organizations other than municipality are mostly populated in the second clusters.

Table 4.25. Clusters based on Three Main Legitimacy Criteria and the Jury Report for the 2nd Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR2	0.24	0.36	**0.53**
MJR2	0.27	0.56	**0.95**
CJR2	0.59	1.08	**1.77**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	7	4 **12** **17** 18 19 20 27
	2	17	1 **2** 5 6 7 8 9 11 14 22 25 26 28 **29** **30** **31** **32**
	3	8	3 10 13 15 16 21 23 **24**
Valid		32	*JR :jury report
Missing		0	

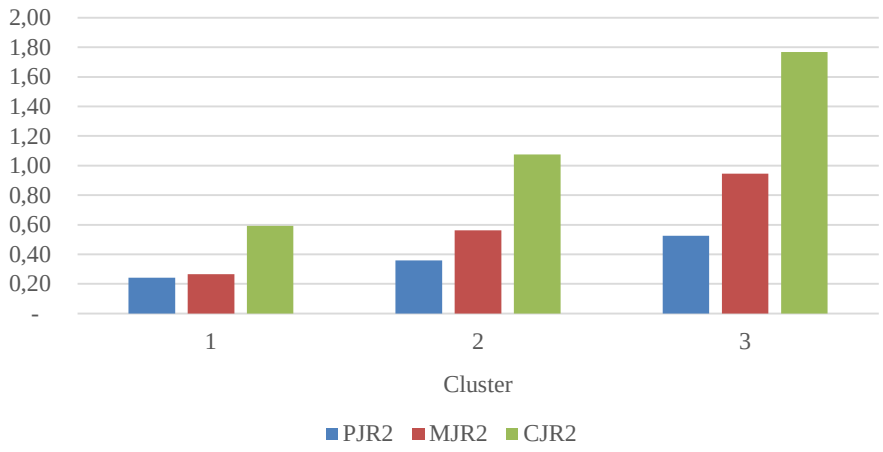


Figure 4.95. Histogram of Clusters based on Three Main Legitimacy Criteria and the Jury Report for the 2nd Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the jury reports for the second awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies in all clusters followed by using moral legitimacy strategies in the all affirmative clusters. In the third cluster, all legitimacy strategies are predominantly overused in decisions compared to the other two clusters. In the first cluster, all legitimacy strategies are predominantly underused compared with other clusters. Concerning the type of organizations, organizations other than municipality are mostly populated in all clusters.

Table 4.26. Clusters based on Three Main Legitimacy Criteria and the Affirmative Jury Report for the 3rd Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR3P	**0.28**	0.09	0.18
MJR3P	0.21	0.21	**0.64**
CJR3P	0.66	0.31	**0.86**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	10	1 5 15 **17** 19 26 28 **29 30 32**
	2	16	4 6 7 8 9 11 **12** 14 16 20 21 22 23 25 27 **31**
	3	6	**2** 3 10 13 18 22 **24**
Valid		32	*JR: jury report
Missing		0	*(n)P: (number) affirmative

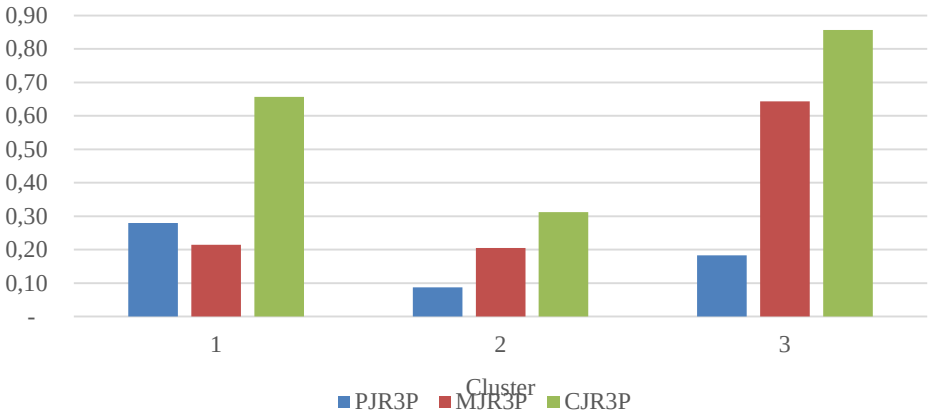


Figure 4.96. Histogram of Clusters based on Three Main Legitimacy Criteria and the Affirmative Jury Report for the 3rd Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the affirmative jury reports for the third awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies in all clusters. In the third cluster, moral legitimacy strategies are predominantly overused compared with other clusters. In the second cluster, pragmatic and cognitive legitimacy strategies are predominantly underused in decisions compared to the other two clusters. In the first cluster, pragmatic legitimacy strategies are predominantly overused than other legitimacy strategies. Concerning the type of organizations, organizations other than municipality are mostly populated in all clusters.

Table 4.27. Clusters based on Three Main Legitimacy Criteria and the Negative Jury Report for the 3rd Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR3N	0.21	0.08	**0.32**
MJR3N	0.22	0.10	**0.51**
CJR3N	**0.52**	**0.22**	**0.97**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	14	1 4 5 **12** 13 21 22 **24** 25 26 27 **30 31 32**
	2	13	2 6 7 8 9 14 15 **17** 18 19 20 28 **29**
	3	5	3 10 11 16 23
Valid		32	*JR: jury report
Missing		0	*(n)N: (number) negative

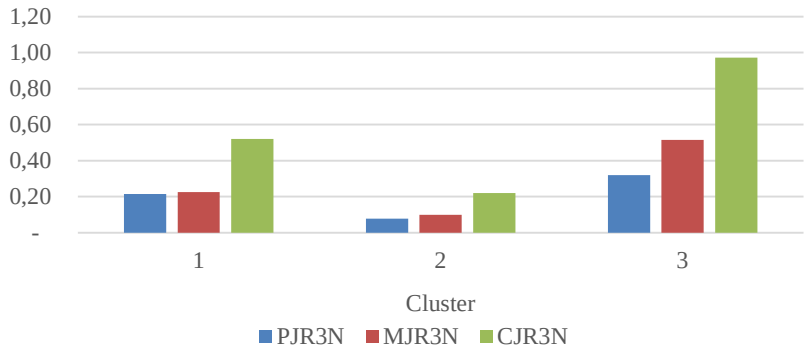


Figure 4.97. Histogram of Clusters based on Three Main Criteria and the Negative Jury Report for the 3rd Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the negative jury reports for the third awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies in all clusters. In the third cluster, all legitimacy strategies are predominantly overused compared with other clusters. In the second cluster, all legitimacy strategies are predominantly underused in decisions compared to the other two clusters. In the first cluster consisting of ten competitions, all legitimacy strategies are predominantly overused compared with the second cluster. Concerning the type of organizations, organizations other than municipality are mostly populated in the first and second clusters.

Table 4.28. Clusters based on Three Main Legitimacy Criteria and the Jury Report for the 3rd Awarded Project.

Final Cluster Centers			
	Cluster		
	1	2	3
PJR3	0.37	0.22	**0.60**
MJR3	0.54	0.25	**1.36**
CJR3	**1.07**	**0.56**	**2.14**
Number of Cases in each Cluster			**Cluster Membership**
Cluster	1	21	1 **2** 4 5 11 **12** 13 15 16 18 21 22 23 **24** 25 26 27 28 **30 31 32**
	2	9	6 7 8 9 14 **17** 19 20 **29**
	3	2	3 10
Valid		32	*JR: jury report
Missing		0	

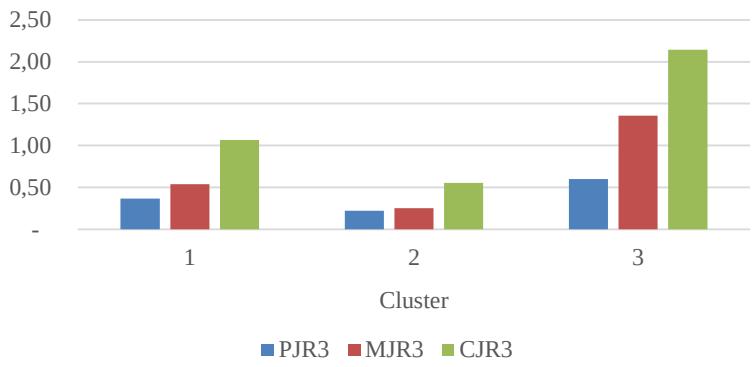


Figure 4.98. Histogram of Clusters based on Three Main Criteria and the Jury Report for the 3rd Awarded Project.

When the decision clusters are analyzed with respect to three main legitimacy strategies in the jury reports for the third awarded projects, the decision-making process is predominantly justified by using cognitive legitimacy strategies in all clusters followed by moral legitimacy strategies in the all clusters. In the third cluster, all legitimacy strategies are predominantly overused in decisions compared to the other two clusters. In all clusters, pragmatic legitimacy strategies are predominantly underused compared with other legitimacy strategies Concerning the type of organizations, organizations other than municipality are mostly populated in the first cluster followed by the second cluster.

Table 4.29. Conclusions derived from K-means Cluster Analysis.

Groups constituted for k-means cluster analysis	**Case or Phase to analyze**	**Results of Analysis (predominantly overused and underused legitimacy criteria)**	**The highest score cluster**	**The lowest score cluster**
Pragmatic Legitimacy Sub-criteria	32 cases	P5, P6, P1 overused, P4, P8 underused	The municipality (M), Public Procurement Law (PPL)	Others (either non-municipality organization or non-PPL or both) as well as M and PPL
Moral Legitimacy Sub-criteria	32 cases	M6 and M1 overused	M-PPL	NM-NPPL and M-PPL
Cognitive Legitimacy Sub-criteria	32 cases	C1 and C6 overused, C3, C4 and C2 underused	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria	32 cases	M > P for two clusters	M-PPL	NM-NPPL and M-PPL
Sub-Legitimacy Criteria	32 cases	P5 and P6 in pragmatic M6 in moral C1 in cognitive are overused	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in Guidelines	32 cases	M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in Questions	32 cases	M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in PR1	32 cases	M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in PR2	32 cases	M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in PR3	32 cases	M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR1P	32 cases	C > M > P	NM-NPPL and M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR1N	32 cases	C > P > M	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR1	32 cases	C > M > P	NM-NPPL and M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR2P	32 cases	C > M > P	NM-NPPL and M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR2N	32 cases	C > M and P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR2	32 cases	C > M > P	NM-NPPL and M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR3P	32 cases	C > M > P	NM-NPPL and M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR3N	32 cases	C > M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in JR3	32 cases	C > M > P	M-PPL	NM-NPPL and M-PPL
Legitimacy Criteria Averages in Sub phases	Q-JR	G and PR- M > P Q- M and P overused (P > M) JR- almost equal used (M > P)		
Sub-Legitimacy Criteria in Sub phases	Q-JR	G – M6 > P5 Q- M6 > P6, P5 PR- M6 > P5 JR- M6 > P5, C1		

Table 4.30. All Histograms for K-means Cluster Analyses.

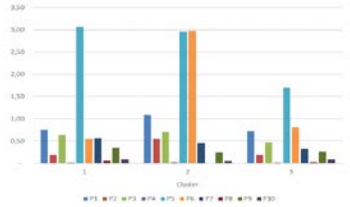
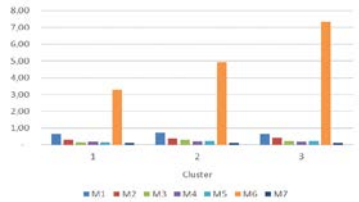
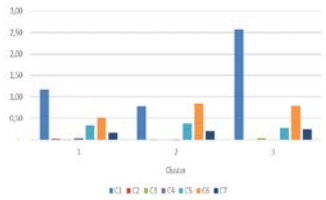
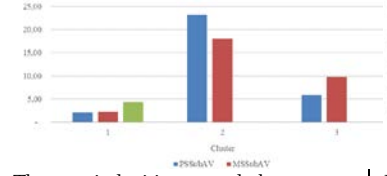
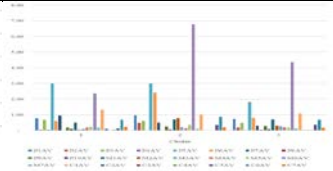
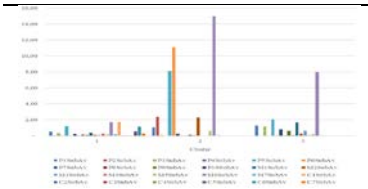
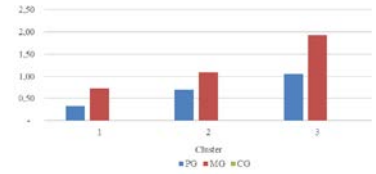
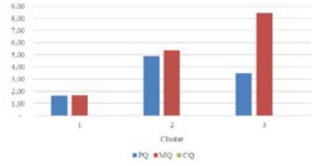
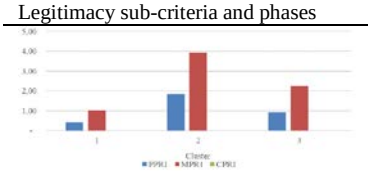
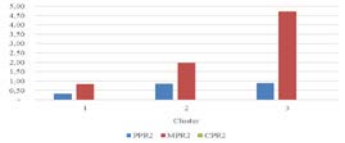
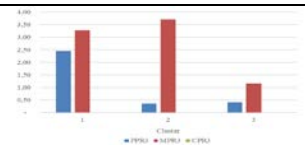
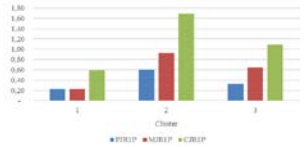
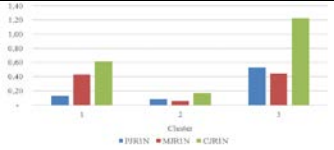
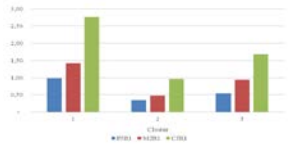
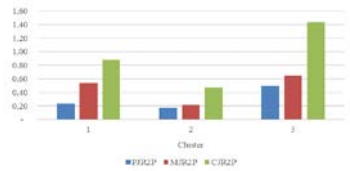
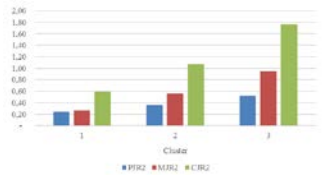
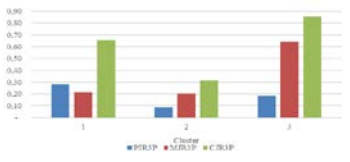
 Pragmatic Legitimacy	 Moral Legitimacy	 Cognitive Legitimacy
 Three main legitimacy criteria	 Three main legitimacy and phases	 Legitimacy sub-criteria
 Legitimacy sub-criteria and phases	 Legitimacy criteria and guidelines	 Legitimacy criteria and questions
 Legitimacy criteria and 1st awarded project report	 Legitimacy criteria and 2nd awarded project report	 Legitimacy criteria and 3rd awarded project report
 Legitimacy criteria and affirmative jury report of the 1st awarded project report	 Legitimacy criteria and negative jury report of the 1st awarded project report	 Legitimacy criteria and jury report of the 1st awarded project report
 Legitimacy criteria and affirmative jury report of the 2nd awarded project report	 Legitimacy criteria and negative jury report of the 2nd awarded project report	 Legitimacy criteria and jury report of the 2nd awarded project report
 Legitimacy criteria and affirmative jury report of the 3rd awarded project report	 Legitimacy criteria and negative jury report of the 3rd awarded project report	 Legitimacy criteria and jury report of the 3rd awarded project report

Table 4.29 and Table 4.30 summarize general conclusions derived from K-means cluster analysis. When the usage of moral and pragmatic legitimacy strategies is analyzed, the decision-making process is predominantly justified by using moral legitimacy criteria in all phases of ADCs except for negative jury reports of the 1st and 2nd awarded projects. The reason for using moral legitimacy more than pragmatic legitimacy can be that while the decisions justified by pragmatic legitimacy criteria are generally related to the requirements of competitions, the decision justified by moral legitimacy criteria are much more related to social concerns about projects, which add more value to projects in the evaluation processes. Using more pragmatic legitimacy justified decisions in the negative jury reports can be explained with the reason that jury emphasizes the lack of pragmatic legitimacy aspects of projects that should be included in projects.

When the number of ADCs distributed to clusters is analyzed, the more ADCs are placed in the clusters, which predominantly underuse all legitimacy criteria, by diminishing the number of ADCs in other clusters, which predominantly overuse all legitimacy criteria in the justification of decisions. This pattern resembles Maslow's Hierarchy of Needs in terms of indicating value given to regulation, design and judgement quality of ADCs. Indeed, a small group of ADCs that predominantly overuse legitimacy criteria in justifying the decisions is more appreciated to be legitimate.

For all ADCs and their sub-phases except for the jury reports of the 1st and 2nd awarded projects, competitions organized by the municipality and regulated by public procurement law are placed in the clusters that predominantly overuse legitimacy criteria in the justification of decisions. Other competitions that are organized by non-municipality organizations and regulated by non-public procurement law are placed mainly in clusters that predominantly underuse legitimacy criteria in the justification of decisions. The reason behind this conclusion can be because ADCs organized by the municipality and regulated by public procurement law are more structured in terms of the design and evaluation concerns in all competition phases.

Mainly, the results of K-means cluster analysis overlap with the results of histogram analysis with respect to specifying predominantly overused legitimacy sub-criteria in the justification of decisions within each main legitimacy criteria.

In detail, while *Work in harmony with project stakeholders - Get and/or provide the necessary support from and/or to the relevant environment* (P1)*, Better managed and operated actions* (P5) and *Need and concerns of stakeholders* (P6) in pragmatic legitimacy, *Contributing meeting goals* (M1) and *Design aspects of spaces* (M6) in moral

legitimacy and *Best possible manner to solve the problem* (C1) and *Communication capability, understandability* (C6) in cognitive legitimacy are indicated as the most coded sub-legitimacy criteria in the histogram analysis. They are also predominantly overused sub-legitimacy criteria to justify decisions in the K-means cluster analysis.

4.4.3. Overall Discussion

How competitors and juries may think in different phases of competitions were discussed at the end of each two sections of analyses. To mention briefly, all legitimacy criteria are generally stated in the guidelines but are not each of them equally evaluated considering given importance by the jury in the jury reports. During the questions phase, competitors mainly focus on pragmatic concerns for not missing the required information before designing their proposal. However, in project reports, moral legitimacy strategies proposed by competitors become more coded and effective in justifying their decisions. In jury reports, moral strategies are more evaluated in general but pragmatic strategies gain importance especially for evaluating negative aspects of the design proposal.

A detailed analysis of the most and least coded legitimacy sub-criteria provides an approach to assess the explanandum of competitors for representing their design ideas and concerns and the judicial attitude of the jury.

For instance, design solutions considering environmental concerns, related stakeholder's knowledge as well as the value given to users are important considerations in both proposal and evaluation phases when the most coded pragmatic legitimacy sub-criteria (P1, P3, P5, P6) are analyzed. Yet, managerial concerns, collaborating with other organizations and following the standards and symbolic concerns for design proposals are not important considerations for competitions when the least coded pragmatic legitimacy sub-criteria (P2, P4, P8, P9 and P10) are analyzed.

From moral legitimacy perspective, design quality, space characteristics and social, cultural, technological concerns for public welfare are important considerations in both proposal and evaluation phases when the most coded moral legitimacy sub-criteria (M1 and M6) are analyzed. Yet, applying the right procedures, the effect of design to related study areas, art and science and personal characteristics of any person related to the design are not important considerations for ADCs when the least coded moral legitimacy sub-criteria (M2, M4 and M7) are analyzed.

Cognitive legitimacy is important to understand how evaluators (juries) think about proposals and analyze their focus to judge projects. From the cognitive legitimacy perspective, appropriateness of design solutions to criteria provided by guidelines, communication capacity of design proposals and their comprehensibility by the jury are important considerations in evaluation phases when the most coded cognitive legitimacy sub-criteria (C1 and C6) are analyzed. Yet, the success of design management, providing necessary information from the architecture industry and other practices, and personal competency of participants are not important considerations for ADCs when the least coded cognitive legitimacy sub-criteria (C2, C3 and C4) are analyzed.

Before concluding the research findings and discussion section, it is important to emphasize that the results of the analyses provide important information to develop ADCs concerning their judgement and design quality aspects. As it is discussed in the section of Architectural Design Competitions (Section 4.1.1), the proposed models and developed conceptual backgrounds for ADCs in the literature are highly related to developing dialogue, considering both human and non-human factors, thinking twice for evaluating and developing the communication in the phases of competitions.

The result of the analysis in the thesis also supports the concepts and considerations discussed in the literature to ameliorate the competitions. When the most and the least coded and effective sub-legitimacy criteria are analyzed, design-related, environmental, personal and cultural concerns that are important or not to evaluate projects are shown.

Considering the design quality of proposals, more importance should also be given to appropriateness to defined standards, symbolic aspects, multi-use considering the development of art and science-related disciplines.

The results also provide to enhance the design quality of the proposal and judgement approaches of the jury. Accordingly, achieving a strong dialogue between stakeholders of competitions and extending the view of evaluation considering competitors' competency and sensitivity of proposal to concerns of architecture discipline and practice should be considered in detail.

CHAPTER 5

CONCLUSION

In this thesis, the legitimacy of strategic decision-making in architectural practice, which is one of the topical research areas in the built environment studies, has been examined. A comprehensive literature review was conducted with a deductive approach to understand the general framework of legitimacy and decision-making concepts in the built environment. This comprehensive review has constituted the conceptual and theoretical backgrounds of this thesis. After a more detailed analysis of methodological approaches to decision-making and legitimacy, a conceptual research methodology has been proposed based on the methods of Active Information Sheet (AIS) and Storytelling. The proposed methodology has been presented as a generic approach to assess the legitimacy relationship between decision-makers and evaluators.

In this context, case studies of this thesis were selected as thirty-two architectural design competitions (ADCs) conducted in Turkey. The reason to analyze ADCs is their controversial place in architectural practice. The reasons behind this "controversial" perspective were discussed through design quality and judgement aspects of competitions. This perspective has been further explored in detail through models and factors proposed in the literature that aims to enhance the quality of ADCs.

After defining case studies, the proposed research methodology was adapted by considering the structure of ADCs. This model consists of five phases that are reading, coding, controlling, transforming and analyzing. This adapted model was applied to selected case studies of thirty-two ADCs to better understand the legitimacy relationships among decisions of competitors, jury and organizations.

For this purpose, three legitimacy criteria; pragmatic, moral and cognitive, are coded to design/project related aspects of ADCs. After transforming the coded phrases into numerical data, results are supported with histograms to better visualize the relationship among legitimacy strategies of decisions concerning different competition phases. K-means clustering analysis was also applied to ADCs to understand how competitions are grouped in terms of their legitimacy motivation by analyzing their decision-making justification patterns on legitimacy criteria. The results provided valuable information to reveal legitimacy strategy relationships among decisions of

competitors, jury and organizations for different in ADCs phases such as guidelines, questions, project and jury reports.

Research findings also contribute to the built environment practices and related academic studies in several ways as follows;

First, built environment practices are conducted in a complex network of relationships, where stakeholders should strategically position themselves to achieve competitive advantage to be successful as well as appropriate to the environmental demands and concerns. In architectural practices, several factors such as uniqueness of design, different approaches of stakeholders, policies, user demands, social norms, etc. cause more inquiries about architectural practices to assess their quality and legitimacy. Here, it is essential to practically assess design-related processes to more transparently evaluate their legitimacy. The proposed model can lead stakeholders to monitor the complex network of relationships to assess legitimacy strategies in their practical actions.

Second, the proposed research methodology included a multi-disciplinary approach by analyzing several research methodologies in different disciplines and integrating them into the built environment theory and practice. Thus, it can strengthen the meaning of related concepts, which are legitimacy and strategic decision-making, within the domain of built environment by broadening the theoretical and methodological backgrounds of these concepts in both practical and academic studies.

Third, the research findings indicate the legitimacy approaches of decision-makers/stakeholders in different phases of projects by analyzing their legitimacy strategies based on criteria set of pragmatic, moral and cognitive legitimacy. Thus, the research findings provide that the legitimacy approaches of decision-makers can be classified to make more detailed evaluations and comparisons. The classification approaches used in the discussion phase can allow to compare the explanandum of different decision-makers to justify their actions to be legitimate by analyzing their choices of sub-legitimacy criteria in different phases.

Fourth, the classification patterns reveal the legitimacy justifications of decision-makers in a more transparent way to understand the overall legitimacy approaches of stakeholders and to provide a general conclusion about legitimacy assessment. Thus, outcomes provide valuable information to decision-makers by considering the potential legitimacy concerns for developing their legitimacy strategies in the built environment practices in a more conscious way.

Fifth, with the proposed model, the legitimacy of strategic decisions in the practice of the built environment can be assessed; and necessary legitimacy improvements can be developed in the relationship among different stakeholders.

Sixth, this thesis provides comprehensive conceptual, methodological and practical backgrounds to analyze the legitimacy concept in the strategic decisions of built environment practices.

Finally, in this thesis, Architectural Design Competitions (ADCs) as a unit of analysis are analyzed with the proposed model due to two reasons that are (1) the existing controversial issues about assessing the legitimacy of ADCs in the practice and (2) achieving transparency and clarity in the data collection process by using the competition manuscripts. Further research studies can analyze different domains of built environment for assessing legitimacy relationships among stakeholders. By this means, a solid foundation both for theory and practice can be provided for better assessing the lack and potential insights about different legitimacy justifications in the level of strategic decision-making.

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