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9 Abstract

10 Polarized political debates can lead to infrastructure megaprojects in advanced stages of 11 construction being left unfinished. Although this scenario is uncommon, there are relevant 12 examples that negatively impact the economy and society. Despite their relevance, 13 unfinished megaprojects are scarcely discussed in project studies. However, political events 14 such as a referendum or government transitions jeopardize the continuation of the 15 megaproject, leading to its termination. This paper focuses on unfinished infrastructure 16 megaprojects and employs the escalation of commitment as a theoretical perspective. It 17 addresses the following research question: How political polarization fosters escalation of 18 commitment leading to unfinished infrastructure megaprojects? The paper employs a 19 longitudinal case study, the USD 13 billion Mexico City New International Airport, recently 20 terminated during the construction phase due to a political decision. The paper describes the 21 interplay between the development of infrastructure megaprojects and political polarization. 22 It shows how political narratives can portray a misleading escalation of commitment to justify 23 project termination, even when it is not rational.

24

Keywords: Infrastructure, Megaprojects, Governance, Escalation of Commitment, Sunk
Cost

28 1 Introduction

29 Infrastructure Megaprojects (IMs), as large ventures requiring enormous investments, are 30 portrayed as to be too big to fail and too costly to stop (Denicol et al.; 2020). IMs are often 31 controversial due to their magnitude, complexity, and transformational capacity (Flyvbjerg, 32 2014; Locatelli et al. 2014; Brookes & Locatelli, 2015; Garemo, et al., 2015; Flyvbjerg, 33 2018). IMs have the capacity to alter the context on many levels: structurally, socially, 34 politically, and ecologically. Often, IMs are controversial and continuously strive to acquire 35 legitimacy and support from their wider institutional context to become viable and locally 36 embedded (Aaltonen, 2013). Their contested nature and long duration transform them into a 37 symbol of resistance and socio-political unrest (Dewey & Davis, 2013).

38

39 Often, IMs strive for acceptance during their early stages (and several are terminated during 40 the design or feasibility study), but once their construction started, they are normally 41 completed. However, when IMs become the centre of political polarization, that might result 42 in their termination during the construction phase. There has been limited research on how 43 political polarization affects IMs and their organizing during planning and construction 44 (Söderlund & Sydow, 2019; Van den Ende & Van Marrewijk, 2019; (Matinheikki et al., 45 2019). Hence, this paper focuses on describing how political polarization can lead to 46 termination of IMs.

47

In project studies, there is limited research on unfinished-IMs, which is the phenomenon considered by this paper. This paper considers unfinished-IMs as: "IMs that have been terminated during advanced stages of construction". Specifically, this paper addresses the following research question: How political polarization fosters escalation of commitment leading to unfinished infrastructure megaprojects? To answer the question, the paper investigates a single case study with a longitudinal perspective: the Mexico City New International Airport (NAIM) that was terminated in 2018.

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56 The paper shows how political polarization is a key reason for IMs being left unfinished. This is consistent with the literature on the topic (Carse & Kneas, 2019; Harris and Wynne, 57 58 1989; Hébert, 2016). The main original contribution of the paper is the sense-making of this 59 phenomenon, i.e., the introduction and explanation of the reverse escalation of commitment 60 that is the antithesis of the escalation of commitment (EoC). The single case study presented 61 in this paper highlights the behaviour of key politicians using the theoretical lenses offered by the EoC. This theoretical perspective permitted us to compare and contrast the behaviour 62 63 of President Enrique Peña Nieto (EPN) and PRI (Institutional Revolutionary Party), his 64 political party, supporting the NAIM project, and President Andres Manuel López Obrador 65 (AMLO) and MORENA (National Regeneration Movement), his political party, in favour of 66 terminating it. This polarised view enabled us to derive the phenomenon of reverse escalation 67 of commitment that provides a meaningful explanation of why IMs can be terminated and let 68 unfinished.

Following the introduction, the paper is structured as follows. First, the political dimension of megaprojects, unfinished-IMs, and EoC literature is critically reviewed. Later, the research methods used in this research are explained, which is based on a single case study with a longitudinal perspective. The following section includes the findings of the research and finally, the last section includes the discussion and conclusions, the implications for project management literature, limitations, and further areas of research.

75 2 Literature Review

76 2.1 The political dimension of Megaprojects

77 Infrastructure Megaprojects (IMs) are multi-million-dollar ventures, often controversial, 78 transformational, and with a high level of innovation (Flyvbjerg, 2014; Locatelli et al., 2014; 79 Brookes & Locatelli, 2015; Garemo, et al., 2015; Flyvbjerg, 2018). IMs have long durations 80 and repayment periods, often spanning over multiple Government mandates, a complicated 81 decision-making process involving polarized political debates (Flyvbjerg, 1998; Garemo et 82 al., 2015), vastly and long-lasting impact on society, economy, and environment (Flyvbjerg, 83 2014; Brookes & Locatelli, 2015). IMs are also identified for their organizational complexity 84 (Denicol et al.; 2020) since several stakeholders are involved, including public institutions 85 and private companies (Priemus et al., 2008; Remington & Pollack, 2011; Morer et al., 2017; 86 Alberti & Pereyra, 2018).

87

88 There is a growing body of literature concerning IMs performance below the expectations 89 and their struggle to meet the initial performance targets (Gil and Pinto, 2018), with 90 explanatory narrative ranging from optimism bias and strategic misinterpretation (McCray et 91 al; 2002; Flyvbjerg, 2008), corruption (Locatelli et al., 2017), optimistic forecast due to 92 technical reasons (Flyvbjerg, 2008), selection bias and winner course phenomenon 93 (Flyvbjerg, 2010; 2014), Nobbe (2014); scope change and reworks (E.D. Love & Lavagnon, 94 2021; E.D. Love, et al., 2019), Gemünden (2015) and Anand et al. (2018), their interaction 95 with complex and fragmented institutional environments and varied interests, norms, rules 96 and practices (Van den Ende & Van Marrewijk, 2019).

97 Due to their economic, social, and environmental relevance, IMs polarize the social and 98 political debate playing an important symbolic role in electoral campaigns (Flyvbjerg, 2014). 99 In addition, IMs attract the media's attention, providing visibility for those who either support 100 or oppose them. Flyvbjerg (2014) describes IMs for their ability to entice the interest of 101 politicians, and their electorate, in the quality of four "sublimes": (i) political, (ii) 102 technological, (iii) economic, and (iv) aesthetic.

103

104 The symbolic nature of IMs, and its relevance for their approval, is discussed on a stream of 105 literature focused on escalating non-rational decision-making, which is critical in project 106 studies (Flyvbjerg, 1998; Flyvbjerg, 2005; He & Mittal, 2007; Annema, 2013; Anand, et al., 107 2018; Alberti & Pereyra, 2018). Given the emotional and cognitively biased dimension 108 characterizing decision-makers, politicians (and communication experts in general) have 109 developed and improved effective communication strategies and propaganda focused on 110 either support or opposition to IMs for electoral purposes (Anand, et al.; 2018). An example 111 is the so-called "rationalization" or "rationality in the context of power" that can play an 112 important role in the IMs debate and approval (Flyvbjerg, 1998; Flyvbjerg, 2003 Shenhar 113 and Holzmann, 2017; Anand, et al., 2018; Davies et al., 2019; Qiu et al., 2019).

114

Governments seek to balance control and flexibility for political manoeuvre and electoral reasons, where risk perceptions are amplified and politicised (Gil, 2017; Denicol et al., 2020), which can result in irrational public spending (Morer et al., 2017). It has been highly questioned how politicians and decision-makers are often surrounded on suspicion of having *"technical and managerial incompetence...megaproject leaders are either incompetent,*

suffer from chronic optimism bias, or are victims of the sunk cost fallacy" (Gil and
Lundrigan, 2012:6).

122

Gil and Pinto (2018) argue that the perception of an IM failing is rooted in institutionalized norms, mainly focusing on the idea that successful projects are the ones where the project organizations avoid scope creep and achieve the goals on time and within budget. According to Qiu et al. (2019), conflicting institutional logics arise because IMs are (a) highly embedded in the socio-political environments and (b) closely associated with multiple actors within one single IM organization (Biesenthal et al.; 2018).

129

130 2.2 Unfinished-IMs

The literature concerning unfinished projects is scarce, even more so if the project is an IM. Spirer (1984) categorized project termination into two streams: (i) Natural (the project completes as it achieved the original objectives), and (ii) unnatural (the project is stopped for a problem and does not achieve the original objectives). Unnatural termination is mostly studied for IT projects (Keil et al.; 2000), and it is under-explored in the context of IMs during advanced stages of construction (Jessen, 2010).

137

According to Meredith and Mantel (2000), projects can be terminated "unnaturally" in fourmain ways:

140 (i) termination by extinction: project terminating because of an outcome, whether it has been

141 successful or not, has been delivered.

(ii) termination by addition: project being external, but full-fledged addition to the parentorganization.

(iii) termination by integration: integration of the project/product into the daily operations ofthe parent company or client, usually associated with successful projects.

(iv) termination by starvation: resource constraint until the project is dead or terminatedwithout warning.

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This paper focuses on unfinished-IMs as " IMs that have been terminated during advanced stages of construction." Consistently, this paper considers the process of "termination" of IMs. It focuses on unfinished-IMs (unless specified otherwise) rather than stopped during early stages of development, such as feasibility study or generic design.

153

Unfinished-IMs are an under-researched topic in project studies. There are limited yet relevant examples of IMs that have been terminated during advanced phases of construction, such as the NAIM airport in Mexico (BBC, 2019), the Multi-Product Pipeline (MPP), the Trans-Sabah gas pipeline (TSGP) projects both in Malaysia (The Malaysian Reserve, 2018), and the Montalto di Castro Nuclear Power Station in Italy (Sciubba, 1989).
There are examples of IMs that have been completed, but perhaps it was better to terminate them to avoid continued escalation (Brockner, 1992; Keil et al., 2000), such as the Shoreham

162 Airport and Stuttgart 21 in Germany (Novy and Peters, 2012; Geraldi and Stinger, 2016). All

Nuclear Power Plant in the United States (Ross & Staw, 1993) or the Berlin Brandenburg

163 these IMs led to a severe economic burden and highlighted the exacerbating political

164 discussion in democracies.

165

166 Usually, IMs face changing political environments, especially in democratic countries 167 (Giezen, 2012). Novy and Peters (2012) argue that project failure can be rooted in the lack 168 of management in the project embeddedness in relation to more permanent structures. IMs 169 multi-years (or decades) planning and executions expose them to multiple electoral 170 campaigns, both at a national and local level, and when this transition between governments 171 occurs, incoming Governments could pursue the objective of terminating the IM that is 172 already under construction (Allport, 2010; Nobbe, 2014; Alberti & Pereyra, 2018). Usually, 173 IMs are "democratically legitimized and too advanced to be stopped" (Novy and Peters, 174 2012: 129), thus typically continue to move forward. For instance, when political parties 175 alternate with a period of indicatively 4-6 years, the IMs stand along with multiple executives 176 as their duration is usually longer than six years. Hence, IMs can be subjected to a contrasting 177 political environment, e.g., politicians can alternate in either supporting or opposing the 178 completion of IMs. A relevant theoretical perspective to assess this evolving commitment in 179 IMs is the EoC that is introduced in the following section.

180

181 **2.3** Theoretical perspective – Escalation of Commitment

This paper employs a single case study examined under the escalation of commitment (EoC) theoretical lens. Brockner (1992) defines EoC as the tendency for decision-makers to persist with failing courses of action. Staw et al. (1977) argue that an individual is more likely to reinvest in a failing situation if such individual made the original decision to invest in it, as a matter of self-justification, arguing that investment decision contexts are one instance where an actor can go beyond the distortion of negative consequences to rationalise a behavioural error to take new and concrete actions to justify their behaviour. Akes and Blumer (1985) 189 argue that the psychological justification for this behaviour is predicated on the desire not to 190 appear wasteful. EoC can be defined as the behaviour of persistently investing additional 191 resources in the project. EoC often occurs even if the extra cost required to complete the 192 project is higher than the project's benefits.

193

194 EoC is a concept associated with organisational path dependence and lock-in. Organisational 195 path dependence is a broader concept indicating "all kinds of imprinting effects of the past 196 on organisational behaviour" (Sydow, Schreyögg & Koch; 2009:689). The organisational 197 path dependence literature emphasises the extent to which current and future course of 198 actions depends on past decisions (Sydow, Schreyögg & Koch; 2009). Organisational path 199 dependence can lead to lock-in situations, which are considered negative scenarios in which 200 organisations can no longer reverse the course of actions determined by previous decisions 201 (Cantarelli and Flyvbjerg; 2013). Lock-in leads to irreversible scenarios such as project 202 failure and bankruptcy of implementing organisations, so existing management remedies aim 203 at identifying and avoiding the risk of lock-ins before it takes place (Cantarelli and Flyvbjerg; 204 2013). EoC is one of the possible organisational path dependence phenomena that can lead 205 to lock-in in projects.

206

Another critical concept associable with both EoC and lock-in is sunk cost, i.e., "irrecoverable investments that should not influence decisions, because decisions should be made on the basis of expected future consequences" (Sweis et al., 2018:1). In particular, the "sunk cost" fallacy explains the situation in which loss-adverse individuals prefer to continue with the project (or decision in general) to avoid underwriting of sunk costs (Kahneman and Lovallo 1993). This phenomenon is considered a cognitive bias because, in rational decision-

makers, sunk cost should not be considered in future decisions such as whether to continuewith the project or not (Brockner, 1992; Jani, 2011).

215

Sweis et al. (2018) argue that humans tend to factor sunk costs into prospective decisions, even when faced with better alternatives. Gao and Liu (2020) argue that to maintain the reputation and retrieve losses, decision-makers or investors choose to continue by escalating commitments in response to sunk costs in social-economic activities (Hafenbrädl & Woike, 2018; Staats et al., 2018). This continuous escalation can lead to an enormous waste of resources and substantial losses for project stakeholders and the public, "trapping" the investors in the project (Gao and Liu, 2020; Winch, 2013).

223

224 In project studies, EoC is discussed prevalently for IT projects (Keil et al.; 2000). EoC is 225 often considered indirectly in IMs. For example, Denicol et al. (2020) mention that the 226 leading cause that is related or connected to the EoC is the overall perception, "which mostly 227 works as a norm, that, once started, a megaproject is too big to fail and too costly to stop" 228 Denicol et al. (2020:5). Liu et al. (2019) argue that decision-makers are willing to engage 229 differently in EoC depending on the stage of the project. Ren and Wang (2006) found that 230 both the sunk cost and the degree of completion have a significant effect on EoC. The greater 231 the cost and the degree of completion, the greater the willingness to invest will be, and the 232 more serious the EoC (Garland, 1990).

233

This paper employs the EoC as the main theoretical perspective. In project management, EoC has been operationalised and assessed in different ways. For example, Dummond (2017) assessed EoC by looking at phycological, social, economic, and organisational drivers. This
paper considers the framework introduced by (Ross & Staw, 1993) that consider:

238 (1) project determinants such as closing costs, salvage value, the causes of setbacks to its 239 completion, and the economic merits of pursuing or dropping it; (2) psychological 240 determinants, among which difficulties in withdrawing, need for self-justification, trying to 241 recoup sunk costs, (3) social determinants, such as desires to justify losing projects to a 242 potentially hostile audience, or cultural norms of not giving up, and (4) organisational 243 determinants, including the level of political support that is central for the research question, 244 and the findings of this investigation. These determinants are used as the level of analysis in 245 the case study, as shown in Section 4: The Mexico City New International Airport.

246 **3** Research Method

247 3.1 Research Design

248 The research leverages a single case study with a longitudinal perspective, the Mexico City 249 New International Airport (NAIM), an IM that started on 10 September 2014 and terminated 250 on 27 December 2018 due to political reasons. Yin (2015) mentions that case studies are 251 justifiable under conditions in which the case can represent a critical test of existing theory, 252 extreme or unusual circumstances, or where the case serves a revelatory or longitudinal 253 purpose. Eisenhardt and Graebner (2007) argue that case studies allow elaborating on the 254 rich, real-world context in which phenomena occur and facilitate theory building as unique 255 analyses emerge from identifying patterns in the dataset.

256

The decision to leave the IM unfinished has been widely debated in the media and public discussion due to its significance, the investments already made, the cost of terminating the project, and the decision to proceed with an alternative project. The NAIM case has been selected as one of the authors was employed in the Project Management Office (PMO) of the project during the construction phase. The author gained a deep knowledge about the most appropriate sources of information, the history of the project, and an understanding of the internal and external environment of the project.

264

265 **3.2** Data Collection

The research employs secondary data, which include: (i) articles, publications, and press releases related to the NAIM; (ii) official communications issued Federal Government of 268 Mexico; (iii) statements made by politicians that involved the project and (iv) publications, 269 statements, communications, or any public pronunciation made by contractors, consultants, 270 financial institutions, rating agencies, collegiate institutions, or external stakeholders in 271 general related to NAIM. The total coverage of information corresponds to the periods 272 between 2012-2020. Further details on the publicly available data used for the research are 273 in Appendix 1, which provides the name of the sources, several entries per source, and a 274 description of the source consulted. All the quotes included in the results section have been 275 translated from Spanish into English by the lead author, a Mexican citizen. 276 Table 1 summarizes the documents used for the data collection. In addition, the authors

277 defined a set of acceptance or rejection criteria (See Appendix 2) for the data collected to

ensure the consistency of analysis.

Sources	Number of entries
Online newspapers	85
Institutional webpages	44
Books	9
Reports	8
TOTAL	146

280

Table 1: Secondary sources considered for data collection

281

Online resources include Mexican and international newspapers, political and infrastructure magazines, and blog sites. Institutional web pages contain information extracted from financial institutions, collegiate institutions, consulting companies, political parties' websites, official Government websites, Mexican and international organizations, and multilateral entities that have been grouped in this section. Data triangulation was applied for all findings in the case study, particularly concerning the identification of the EoCdeterminants and their dynamic evolution.

289 **3.3** Data Analysis

The written material collected was first classified by the source to facilitate data management and analysis. This classification distinguished between Online newspapers, Institutional webpages, Books, and Reports. Data was organised in two main categories: (i) the technical aspects of the NAIM and (ii) the political narratives available in public media at a decisionmaking level. Finally, the authors defined a set of acceptance or rejection criteria (See Appendix 2) for the information collected to ensure the consistency of analysis.

296

297 The information was also organised chronologically consistently with Langley (1999), and 298 the period considered was from 2012 until 2018. This allowed us to examine the dynamic 299 evolution of EoC, and its determinants, particularly the narrative of governments (i.e., 300 ministers) and electoral candidates, which was particularly important for assessing the 301 political polarisation. Once the information was organised, the data was examined by 302 focusing on the most relevant events from Mexican politics that had mentioned the NAIM 303 project and the most relevant actors, which allowed the construction of Figure 1: Project and 304 Political Intra-action Timeline in section 4.3 below.

305

306 For the elaboration of the timeline, as mentioned by Langley (1999), a temporal bracketing 307 strategy was followed, in which data was decomposed into a series of periods, ranging from 308 pre-2012 until 2018. This allowed us to visualise and examine the information from different periods and how the actions of certain actors in specific periods led to changes in the context 309 310 of the project, which influenced subsequent periods. Conversely, this allowed us to show the 311 information in 3 temporal stages: (i) the original commitment of the project, (ii) the EoC 312 stage of the project and subsequently, (iii) the reverse-EoC. All of this is in the context of the 313 NAIM project development and Mexican Politics.

314

315 The level of analysis considered the following EoC-determinants (Ross & Staw, 1993):

316

317 1. Project Determinants:

318 1.1. Ambiguity of economic data, which refers to the uncertainty in the estimation of
 319 many simultaneous exogenous variables through the IM development.

320		1.2. Sequencing of projects costs and benefits, which refers to the balance of the costs
321		compared to the end-benefits that the IM will provide once constructed.
322		1.3. Categorisation as a long-term investment, which refers to the acceptance of initial
323		losses in pursuit of potential higher rewards in a longer period.
324		1.4. Salvage Value, which refers to the expectations of future expectations to be received
325		for a specific asset at the end of IM useful life (or, in this case once it is terminated).
326		1.5. Closing costs, which refers to the additional expenses incurred to close the IM.
327		
328	2.	Psychological determinants:
329		2.1. Optimism and illusion of control, which refers to the uncanny ability to bias facts in
330		the direction of previously accepted beliefs and preferences.
331		2.2. Self-justification, which refers to the persistent behaviour of justifying actions and
332		decisions from the unpleasant feelings it generates.
333		2.3. Sunk-costs effects, which refers to the tendency to continue an endeavour once
334		considerable resources have been invested into it.
335		
336	3.	Social determinants:
337		3.1. External Justification, which refers to the need of decision-makers to rationalise their
338		actions to other parties.
339		3.2. Social binding, which refers to the actions of informing or integrating the population
340		surrounding the IM environment.
341		
342	4.	Organisational determinants:

343	4.1. Technical side-bets, which refers to the overall action of proceeding with a decision
344	that requires various technical expertise in a specific matter.
345	4.2. Political support, which refers to the endorsement and/or acceptance from official
346	Government representatives to proceed with a specific endeavour, policy, or
347	strategy.
348	4.3. Institutionalisation, which refers to the action of establishing something as a
349	convention or norm in an organisation or culture.
350	
351	5. Contextual:
352	5.1. Government support (External) refers to the endorsement and acceptance from the
353	president or maximum representative of any political system to proceed with a
354	specific endeavour, policy, or strategy.

355 4 The Mexico City New International Airport

356 **4.1** *Project context and background*

357 Mexico is a federal state comprising of a Federal District (Mexico City) and 31 individual 358 states. For over 80 years, from 1917 until the elections of 2000, Mexico was a one-party state. 359 Presidential periods last six years, and presidents can only assume one presidential mandate 360 through their lives, as the 1917 Constitution forbids re-election. In 2000, the Institutional 361 Revolutionary Party (PRI) lost the presidential election to Vicente Fox (VFQ) from the 362 opposition National Action Party (PAN). In the presidential elections of 2006, Felipe 363 Calderón (FCH) (35.89%) from PAN became elected against the leftist politician Andrés 364 Manuel López Obrador (AMLO) (35.31%) of the Democratic Revolution Party (PRD). After 365 twelve years in power, PAN lost the elections in 2012, and PRI won the presidency again 366 with Enrique Peña Nieto (EPN), who was the governor of the State of Mexico from 2005 to 367 2011. However, he won with a plurality of about 38% and did not have a legislative majority 368 (El País, 2018; Forbes, 2018).

369

The need to have a new airport in Mexico City has been discussed for several years, for which MITRE developed a detailed analysis of potential locations for the construction of a new airport, in coordination with the Federal Government of Mexico since 1997 (MITRE, 2000). The decision to begin with its construction was supported by the economic growth that the country had. The airport activity grew faster than the economy. Between 2009-2013, the GDP increased by 3.5%, while the annual passenger average increased by 5.4% in the same period (OECD, 2015: 20). Considering that the design capacity of the existing airport, the Mexico 377 City International Airport (AICM), is 33 million annual passengers per year, in 2017, it had 378 41.5 million passengers, approximately 25% over its design capacity (GACM, 2018). 379 AICM has been operating over its maximum capacity for the last decade. Therefore, the 380 Federal Government of Mexico explored several alternatives, which then narrowed down to 381 three: (1) build a New Airport (NAIM), approximately 25 km away from the city centre and 382 5 km apart from the existing airport (this site owned mainly by the Federal Government of 383 Mexico and represented the biggest possible site closest to the city centre and the existing 384 airport); (2) create a Metropolitan Airport System with the existing AICM plus the Toluca 385 Airport, approximately 69 km apart from each other and (3) build a new airport in Tizayuca, 386 Hidalgo, and integrate its operations with the existing airport, approximately 80 km apart 387 from each other.

388

389 The first attempt to build a new airport was on October 22, 2001, when the Federal 390 Government of Mexico announced the construction of a new airport in Texcoco, under the 391 presidential period of Vicente Fox (VFQ) from PAN, who was elected for the 2000-2006 392 presidential period. The site of the project was Texcoco, where the NAIM was later 393 announced by EPN. The Government announced that land from 3 municipalities was to be 394 expropriated by paying less than 1 USD per square metre. This generated several protests 395 and a sense of rejection towards the project, where the landowners of Atenco challenged the 396 expropriation of the lands against the Supreme Court (Dominguez, 2011), but "Less than 10 397 months later, ongoing protest that included several weeks of violent confrontation with those 398 who were to be displaced ultimately brought the project to a halt by executive order" (Dewey 399 and Davis, 2013:531).

400

401 On September 2, 2014, President Enrique Peña Nieto (EPN) announced the construction of 402 the NAIM (OECD, 2015; GACM, 2018), and was expected to be operational by 2020. The 403 budget was USD 13 billion, funded by both public and private resources, where 404 approximately USD 7.6 billion will be absorbed by federal budget (OECD, 2015), including 405 USD \$6 billion in bonds to finance the project and USD 1.6 billion in an initial public offering 406 of trusts promoted by the Federal Government of Mexico. The NAIM was expected to be the 407 biggest airport infrastructure project in Latin America and one of the most significant airport 408 projects in the world in terms of size and annual passenger's operations.

409

410 The NAIM project was divided into two phases. The first phase (which is the object of study 411 of this paper and within the USD 13 billion budget) was expected to be finalized in 2020. 412 The second phase was estimated to be completed by 2065 when it would reach its maximum 413 development and capacity. The construction of the NAIM was managed by Grupo 414 Aeroportuario de la Ciudad de México (Mexico City Airport Group) (GACM, 2019), which 415 is a state-owned company wholly owned by the Mexican Ministry of Transportation (SCT). 416 GACM holds a fifty-year concession to build, develop, operate, and manage the NAIM, and 417 it is also the parent company of the current Mexico City International Airport (AICM). Table 418 2 includes information comparing AICM with NAIM Phase 1 and 2, presenting the main 419 difference between the existing airport and the future airport.

- 420
- 421
- 422

Characteristics	AICM (current)	NAIM (Phase 1)	NAIM (Phase 2)
Number of passengers (per year, in millions)	41.5	66	125
Number of runways	2 parallel runways, with no simultaneous operations	3 parallel runways, with simultaneous operations	6 parallel runways, 3 with simultaneous operations
Number of gates (including remote gates)	97	164	250
Surface (in hectares)	770	5,000	5,000

423

Table 2: Technical Comparison (GACM, 2018)

424 **4.2** *Political polarization*

425 In the second year of his mandate, President EPN announced the construction of the NAIM 426 (Proceso, 2014). However, due to the construction time required for the NAIM, it was 427 announced that it would not be finalized in EPN's presidential period, which terminated, as 428 expected in the legislation, on November 30, 2018. This meant that the NAIM required the 429 commitment of the incoming Governments (Proceso, 2014; Infrastructure Mexico, 2016). As 430 the conclusion of the mandate of President Peña Nieto was approaching, political parties 431 were campaigning for the presidency. Federal elections are usually held on July 1, every six 432 years, overseen by the Mexican Electoral Institute (INE). After the elections, the elected 433 president assumes power on December 1 of every six years, and the last day of power for the 434 previous president is November 30. For the 2018-2024 period, AMLO from MORENA (a far-left party), after running up for two other presidential elections, won the elections against 435 436 the former and most traditional political parties with 53% of the total votes.

Along with the electoral campaigns, the NAIM became a symbol, and its continuation or termination became one of the central aspects of the candidates' campaigns. Most of the presidential candidates supported the continuation of the NAIM project, in contrast with AMLO, who strongly opposed the project during his campaign. AMLO manifested that he would terminate the project in case of winning, reversing the original commitments made by the previous Government, as he believed that the project was "Pharaonic, full of corruption and a bottomless barrel" (El Sol de Mexico, 2019).

445

After the official results of the elections became public, AMLO was elected president on July
1, 2018. Then after the election, AMLO criticized the NAIM as a corrupt and inefficient
project wasting taxpayer's money (OECD, 2015; Bloomberg, 2018; Forbes, 2018, Proceso,
2018; Univision, 2018). AMLO promoted a public consultation (non-legally binding
referendum) to decide the future of the NAIM that took place the 26-29 October, soon after
his election.

452

453 The public consultation involved roughly 1% of the Mexican population as not all electorate 454 could vote, rather specific constituencies selected by the newly formed Government. The opposition also criticized this consultation as it excluded the Mexican Electorate Institute 455 456 (Proceso, 2018; Forbes, 2018; BBC, 2018). These constituencies voted 70% in favour of 457 terminating the NAIM project. By the beginning of December 2018, when AMLO formally 458 initiated his presidential mandate, a new board of directors of GACM was appointed. Finally, 459 on December 27, 2018, GACM formally announced the termination of the NAIM project 460 (BBC, 2018; Obras Web, 2018).

After declaring the termination of the NAIM, AMLO proposed to build a new commercial
airport, which will be in the existing military base of Santa Lucia. This alternative is one of
the three flagship IMs of his presidential period, along with the Mayan Train (USD 7 billion)
and the Dos Bocas Refinery (USD 8 billion).

465

466 Figure 1 summarizes the longitudinal representation of the NAIM, comparing the most
467 significant project events with political events, including the change of governments. Figure
468 1 highlights the initial government support during the presidential period of EPN and the
469 termination of NAIM shortly after the election of AMLO.

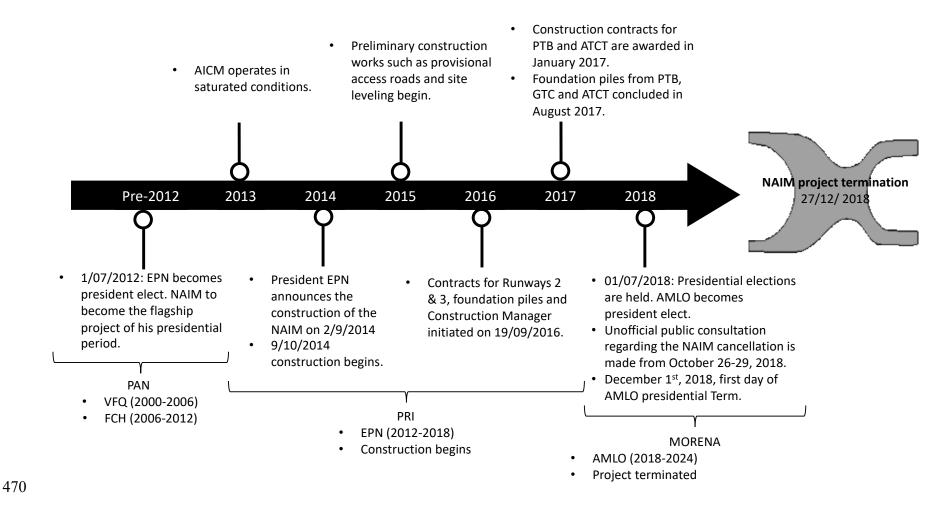


Figure 1: Project and Political Intra-action Timeline

472 4.3 Main Findings

473 **4.3.1** Project level

The authors developed the NAIM case study using the theoretical lens of EoC, investigating its determinants, as in Ross & Staw (1993). Table 3 summarizes the evidence with each EoCdeterminants in specific periods, as in the column "project phase". Most of the determinants are relatively constant throughout the project lifecycle. The main exception is the Government support, where an evident change occurred from the elections of 2018, which opposed the completion of NAIM.

480

481 The following determinants suggest the presence of the EoC: 1.1 Ambiguity of economic data; 1.2 Sequencing of projects costs and benefits; 1.3 Categorization as a long-term 482 483 investment; 2.1 Optimism and illusion of control; 2.2 Self-justification; 2.3 Sunk-costs 484 effects; 3.1 External Justification; 3.2 Social binding; 4.1 Technical side-bets; and 4.2 485 Institutionalization. However, the project was terminated. Some determinates are typical 486 features of IMs, but they don't prove the existence of EoC; rather are enabling conditions. 487 For example, by its nature, IMs are long-term investments (Brookes & Locatelli, 2015), 488 whose benefits are projected over long periods; so, it is common to have ambiguity in the 489 economic data (Majoor, 2018) that rely extensively on long term forecasts. Other 490 determinates do not confirm the EoC, in particular: 1.4 Salvage value; 1.5 Closing costs; 4.2 491 Political support; and 5.1 Government support (External).

The definition of EoC, together with the analysis of the determinants, allowed the authors to conclude that the EoC was not present. According to Brockner (1992), two main conditions define EoC, (1) the tendency for decision-makers to persist with the project and (2) a failing course of action, meaning that it would be more rational to terminate the project. The NAIM project was terminated, so the first condition is not satisfied.

498

The authors assessed the second conditions using the EoC-determinants, in particular the savage value and closing costs. In the NAIM project, the closing cost has been higher than the savage value. The Mexican Federation Audit estimated that the closing cost of the NAIM is at least USD 5 billion (ASF, 2020). In addition, it is estimated that USD 4 billion have been already invested in the project, which does not seem like an accurate decision as the original budget of the project was estimated to be USD 13 billion with an operating airport.

505

The decision to terminate the NAIM does not substitute the need of building a new airport. Therefore, the sole cost of termination (without an operational asset) does not include the cost of Santa Lucia Airport, which is estimated to be at least, USD 3.5 billion. Furthermore, as described in section 4.1, the need for building the NAIM was justified by the economic growth of Mexico, as well as the necessity to reduce the saturation in the existing airport.

511

From the social point of view, it has been estimated that the NAIM had generated more than 45,000 permanent and temporal employments until the termination of the project. According to estimations of the Mexican Federal Government of Mexico, through their temporal employment program (PET), they have benefitted over 17,000 people from the surrounding region of the State of Mexico, historically characterized for low employment rates. Finally,

the NAIM would have provided up to 160,000 employments during construction and up to
450,000 employments on the maximum stage of operation (Gobierno de Mexico, 2017; El
Financiero, 2018).

520

In the document titled "Closure Report of the NAIM" produced on 26 April 2019 (Gobierno de Mexico, 2019), the Government of AMLO manifested that the project was terminated because the promoters of the project omitted the negative impacts it had on the country. This decision was supported by the non-legally binding referendum held by the Government to justify such a decision. Therefore, it would have been rational to complete the NAIM, which means that also the second condition of EoC is not satisfied.

527

528 Finally, the decision to terminate de project already had significant impacts, in terms of safety 529 purposes, as the Federal Aviation Administration (FAA, 2021) announced that Mexico's air 530 safety rating had been designated as "category 2", which means that in the current conditions, 531 it does not meet ICAO's safety standards, meaning that "While the new rating allows 532 Mexican air carriers to continue existing service to the United States, it prohibits any new 533 service and routes". Only a few countries are rated as category 2 worldwide: Bangladesh, 534 Curacao, Ghana, Malaysia, Pakistan, Thailand, Venezuela, and the Organization of Eastern 535 Caribbean States (Antigua & Barbuda, Dominica, Grenada, St. Lucia, St. Vincent and the 536 Grenadines, and St. Kitts and Nevis).

537

540 The NAIM case study suggests three findings generalizable to IMs.

541

542 Firstly, the availability of certain EoC-determinants alone does not ascertain the presence of 543 EoC. Some determinants, for instance, the ambiguity of the economic data concerning the 544 investment, applies to virtually all IMs, therefore, should not be considered indicators of 545 EoC. Other determinants, such as the psychological determinants (2.1, 2.2 and 2.3), as seen 546 in Table 3: EoC-determinants in the NAIM Project, are based on the author's interpretation 547 due to the availability of public information. AMLO declared that "We do not have any 548 conscience problem due to the NAIM termination" (Animal Politico, 2020). This reinforces 549 the interpretation that since there was no attachment to the project on behalf of AMLO, there 550 was no inconvenience to terminate the project under any thought of rationality. In addition, 551 Table 6 in Appendix 3 includes three of the most important references to secondary data to 552 maintain traceability between the empirical data and the synthesis made by the authors. 553 Ultimately, the test on the presence of EoC is based on the (1) the tendency for decision-554 makers to persist with the project despite contradicting evidence, and (2) a failing course of 555 action that can be assessed comparing closing costs with savage value.

556

557 Secondly, Government support is essential for IMs, and the lack of it can lead to their 558 termination. Given that some of the determinants can be easily confused with evidence of 559 EoC, politicians can oppose IMs claiming that there is EoC, even whether there is not. In the 560 NAIM project, politicians opposing the project did not use the scientific expression of "EoC", 561 but they refer to this in their narrative. Table 7 in Appendix 4 includes a sample of direct quotes from key politicians in relation to the main EoC-determinants. Politicians opposing IMs can leverage information that might be factually correct but presented in a misleading narrative if neither contextualized nor compared with the counterargument. For example, emphasizing that the NAIM was very expensive is true, but this information alone can induce people in believing that it was not worth doing it. Comparing the cost and value of NAIM against the alternative (i.e., Santa Lucia or "doing nothing") is a more appropriate analysis.

568

Lastly, the authors identified a phenomenon that is the opposite of EoC, which has been named reverse escalation of commitment (reverse-EoC). The reverse-EoC indicates the opposite behaviour compared by EoC and is herein defined as "the tendency for decisionmakers to abandon a meritorious course of action". This phenomenon is more than the lack of EoC; it is the opposite scenario. A simplifying analogy considers EoC as the situation in which decision-makers "love" the failing project; in the reverse-EoC, they "hate" a meritorious project.

576

577 Differently from the political polarization, the reverse-EoC focuses on the personal 578 perspective of decision-makers rather than the interplay between alternative political parties. 579 The reverse-EoC explains the lack of sense of personal commitment and responsibility vested 580 on newcomer decision-makers who perceive the IM as "someone else's / the rival's project". 581 Hence, this sense of detachment or aversions can lead to unfinished-IMs. For example, after 582 the political election, the new government dropped the support abruptly to the project in the 583 NAIM project. President AMLO had no attachment to the project (personally, 584 psychologically, or economically). Therefore, there is no sense of responsibility or 585 accountability towards the project, hence no personal motivation to complete the project.

587	Moreover, this was the project of his political rival. Similar to the EoC, biases lead decision-
588	makers to irrational decisions. However, while EoC explains why the biases lead to escalating
589	a commitment on an IM, reverse-EoC explains the opposite decision, de-escalating the
590	commitment.

EoC-Determinants		Project Phase	Findings in the NAIM project	Is it like the EoC? (Y/N)
1. Project	1.1 Ambiguity of economic data	Construction	Uncertainty with regards to the actual project cost, estimated cost at completion and existing cost and time overruns. The actual cost of termination is ambiguous, composed of at least national and international litigations, repayment of creditors, contract liquidations, site remediation, costs associated to building new alternatives and the sunk costs already invested in the project, as well as the cost of coping with external pressure groups.	Y
	1.2 Sequencing of projects costs and benefits	Construction	The cost estimates for the NAIM increased. However, since the budget was established in USD dollars, the budget in local currency allowed to compensate some of these differences. In addition, some of the main variations took place when the airport was 32 percent completed and value engineering alternatives were already being studied. It is most likely that GACM would not be willing to allow their initial estimates to keep rising.	Y
	1.3 Categorizatio n as long- term investment	Front-end	The NAIM was visualized as a long-term investment with a viability of up to 40 years, with initial estimates for beginning operations in 2018, shortly deferring it until 2020 at least. This probably affected how feedback on the project was interpreted. In the case of the NAIM, the financing structure considered the flow of the current and future airport through the Airport User Fee (TUA). This strategy was designed to provide flexibility to the investment schedule of the project, and adaptation to the conditions of the capital market.	Y
	1.4 Salvage Value	Construction	The NAIM project had an original budget of USD 13.3 billion. With the termination of the project, it is estimated that approximately USD 2 billion could be salvaged by selling existing remaining assets such as steel, concrete, and other materials on the remaining site.	N
	1.5 Closing costs	Construction	Originally, the Government estimated that termination costs would be approximately USD 5 billion. A report issued by the Mexican Federation Audit (ASF) estimated that the original number of the Government did not considered costs incurred by the financial scheme defined at the beginning of the project or the legal costs involved in the process. Latest reports estimate that the actual cost of termination could rise to USD 16.5 billion (at least 230% over initial forecasts).	N
	2.1 Optimism and illusion of control	Front-end	Since early planning stages, the project was visualized as a transformation for Mexico. President EPN visualized the NAIM as a motor for increasing competitiveness of the country. With greater competitiveness there would be a greater economic growth and wellbeing, due to the great number of employments this would provide.	Y*
2 Psychological*	2.2 Self- justification	Construction	The NAIM project has been proposed for many years, and it was until 2014 when construction officially began. When the rumours of termination began by the beginning of 2018, even with the rumours of termination, President EPN manifested that during his administration the project would continue and that there would be no modifications to the execution period of the project and, if the incoming President wanted to terminate the project, it would be the responsibility of the incoming Government to do so.	Y*
	2.3 Sunk- costs effects	Construction	There is ambiguous information on what is the exact number of the sunk costs of the project. Some estimates are as high as USD 5 billion (over 32% of the initial estimates), and the most conservatives estimated in at least USD 3 billion (approximately 20% of the initial estimates).	Y*
3 Social	3.1 External Justification	Front-end	As a way of justifying or rationalizing their actions to other parties (the population, investors, and shareholders), GACM continuously faced the need to assure external constituencies that the investment was wise. Backed up by the Federal Government of Mexico, the NAIM was included in the National Infrastructure Plan. The NAIM was planned to become an international hub and a global logistics platform which would foster economic and social development. GACM constantly faced external pressure which constantly challenged them to deliver results. Therefore, every constant challenge was further strengthening the commitment towards the project.	Y
	3.2 Social binding		The NAIM project was estimated to foster social development to the local communities, particularly to the Metropolitan Area of the Valley of Mexico (ZMVM), which is a zone characterized by social disparity. An estimated of 160,000 employments would have been generated once the project was concluded, and an estimated 450,000 at the peak of the project s operation. However, with the termination of the project during the construction phase, there are not news on whether the expropriated land would be returned to their owners (which has not occurred) and which caused social unrest in previous years (Dewey and Davis, 2013). In addition, the alleged promised for employment in the region disappeared entirely.	Y
4 Organizationa 1	4.1 Technical side-bets	Front-end	The development of the NAIM required great expertise. GACM hired world-renown companies to supervise and develop the technical aspects of the project, as well as making alliances with the national engineering associations. In general, there are agreements that the project was technically complex and challenging, but it was reasonable and within the capacities of engineering.	Y
	4.2 Institutionali zation	Front-end	When the project began, there were several questionings on whether the Governance and institutional strength of the GACM would be sufficient to sustain a project such as the GACM. This derived in an agreement signed by GACM-OECD in terms of strengthening these weaknesses. The OECD published several reports in which they assessed and verified the compliance that GACM made in this matter, with their support.	Y
5 Contextual	5.1 Government support (External)	Construction	Once AMLO became President-elect, there was no longer support from the incoming Government towards the project. During the months prior to the first day of AMLO's presidential period, a public non-official consultation was made to justify the decision for termination.	N

Table 3: EoC-determinants in the NAIM project

594 5 Discussion & Conclusion

595 This paper deals with the question, "How political polarization fosters escalation of 596 commitment leading to unfinished infrastructure megaprojects?" To answer this question, the 597 NAIM case was studied to highlight how politicians can portray EoC, leveraging on specific 598 determinants that alone are not sufficient to ascertain the presence of this phenomenon. In 599 the NAIM, politicians opposing the project portrayed an EoC when effectively this 600 phenomenon is not present. The investigation highlights that in a genuine EoC, two 601 conditions must be satisfied (1) the tendency for decision-makers to persist with the project 602 and (2) a failing course of action, meaning that it would be more rational to terminate the 603 project. Both these conditions are not satisfied in the NAIM case study.

604

605 5.1 Contributions to EoC

606 Furthermore, the authors identified an alternative phenomenon herein called reverse-EoC. 607 This phenomenon shares many similarities with EoC but is its antithesis. Reverse-EoC is an 608 individual and psychological phenomenon that can contribute to political polarization as a 609 standalone concept. EoC was derived primarily from the psychological biases of decision-610 makers (e.g., project managers and sponsor representatives), who remain committed to the 611 project completion even if it is not rational to do so (Brockner, 1992). This sense of 612 commitment is also explained by several factors, including personal accountability, 613 reputation, self-esteem, and esteem from colleagues, leading decision-makers to do 614 "whatever it takes" to complete the project and reject the possibility of terminating the project 615 because it is perceived as a personal failure (Arkes and Blumer, 1985). Often, this vested

616 personal interest of key decision-makers takes the form of a "sense of responsibility for the 617 project", which can also be used as self-justification for the irrational decision of continuing 618 with the project. Similarly, reverse-EoC relies on the psychological root and is an equally 619 negative phenomenon, as it leads to adverse effects on the economy and society.

620

621 **5.2** Contributions to Political Polarization

622 This paper confirms that political polarization can lead to unfinished-IMs. This contribution 623 is consistent with a broad branch of literature on IMs. The exacerbated political debate along 624 the NAIM project highlights the contrasting radical views from incoming Governments and 625 outgoing Governments. This constant interplay between the project, Government, and the 626 population highlights the tensions involved across the different levels (Söderlund and Sydow, 627 2019) and how, in the long run, the population is affected by the short-term political planning. 628 The lack of long-term socio-political vision in which the population manifests their 629 requirements, and the Government executes such infrastructure, which usually develops or 630 reinforces mistrust of the institutions and how taxpayer resources are utilized without 631 satisfying the population's needs. We found that public IMs can be pushed to fail, even if this 632 represents a significant cost for taxpayers (Zhai et al., 2017; 2019, Qiu et al., 2019.

633

According to Flyvbjerg et al. (2003), IMs are political and physical animals, as they are not only attractive for politicians due to their magnitude but their symbolism during their political periods. Both the NAIM project and the Santa Lucia alternative are significantly relatable to the political sublime of Flyvbjerg (2014). Both projects are a practical representation of how relevant the Government support determinant is. The authors consider that the interplay between Governments acts as contrasting forces. Van Marrewijk (2017) mentions that
projects must balance these opposing forces, which usually are present in IMs, to bring the
project to fruition, which in this case, the NAIM project could not do and got terminated.

643 **5.3** *Limitations and further areas of research*

While phenomena such as "EoC" and "sunk cost fallacy" have been vastly researched in project studies, unfinished-IMs received far less attention. This paper paves the way further to a stream of research dedicated to unfinished-IMs. This paper provides a practical example of how EoC can be reversed, leading to the termination of IMs. This paper presented the NAIM case study, which provides two main explanations concerning why IMs can be terminated during advanced stages of construction.

650

We found that IMs can be pushed to fail during a government transition, even if this represents a major cost for taxpayers. The institutional framework characterizing democratic countries can expose IMs to two main problems (i) political polarization and (ii) reverse-EoC. These problems combined can result in unfinished-IMs. While the former is widely discussed in project studies, the latter is not. This explanation for unfinished-IMs was received inductively, and it contributes to the theory of EoC.

657

The contribution to practice is twofold. First, it lies in the identification of a critical challenge for IMs: political polarisation. For policymakers, this paper emphasizes how dangerous it is to polarize a political debate around the support of IMs during their construction. The results of this paper suggest politicians support IMs during their construction and eventually polarize the political debate before the decision to proceed. For other IMs stakeholders, this paper
 describes latent and underestimated risks: the project termination due to an exacerbated
 political discussion.

665

Second, this paper provides a practical explanation on how the changes of the key decisionmakers should be minimized or avoided during project execution; otherwise, there is the risk of reverse-EoC which can lead to the unfinished-IM. This risk is higher when the decisionmaker has full power (e.g., Mexican president) and the IM is involved in an exacerbated political debate.

671

672 Finally, the research presents 2 main limitations:

673

Firstly, methodological. The research did not include primary data such as interviews with relevant stakeholders. As the termination process is still ongoing, the sensitivity of the issue limits the participation of public officials involved in the project. However, the information relies on publicly available information. None of the information used for the research is confidential, therefore is open for consultation to the public in the links provided by the authors.

680

Secondly, the generalizability of the results. While the paper advances on the generalization of theory, it does not establish evidence for all IMs. It analyses a project under a democratic political system, which can't be generalized and replicated into other political systems, although it contributes to the explanation of how it works under projects and their environment under certain circumstances.

Furthermore, the authors envisage potential research questions that remain unanswered inproject studies:

688

• Under which conditions should IMs be unfinished? Further research regarding the
influence of temporal imperfections at the political, institutional, and project level can be
analysed under this research question.
• How to make IMs more resilient against radical political debate? Further research

regarding the mechanisms under which political action and agency influences the project

694 organization and stakeholders and how this can prevent projects from being unfinished.

• How is the relation between the institutional context and an IM gets affected under

696 termination, or unfinished infrastructure scenarios?

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Name of sources	Number of entries	Description of source	
Aviación 21	3	Aeronautical and aerospace industry online platform that generates, shares, publishes and disseminates content, supported by journalists' analysts and professionals in the sector. Considered a neutral source.	
Animal Político	2	Mexican online platform that generates, shares, and publishes content, in politics, corruption, insecurity, and inequality. Considered a neutral source.	
Aristegui Noticias	1	A recognized journalist in Mexico. considered to be leftist	
BBC	7	International news broadcaster considered to be impartial.	
Bloomberg	1	International news media considered to be impartial.	
Contra Réplica	1	Mexican journal considered to be impartial.	
Crónica	1	Mexican journal considered to be impartial.	
Diario de Yucatán	1	Mexican journals considered to have a centre-right ideology.	
El Economista	6	Mexican journal specialized in politics, economics, and finance. Considered to be impartial.	
El Financiero	Mexican journal specialized in politics, economics, and finance. Consider		
El País	3	International journal considered to be impartial.	
El Sol de México	3	Mexican journal considered to have a centre-left ideology.	
El Universal 4 Mexican journal considered to have a centre-left ideology.		Mexican journal considered to have a centre-left ideology.	
Excelsior	5	Mexican journal considered to have a leftist ideology.	
Expansión	10	Mexican magazine specialized in economics, finance, business, and politics. Considered to be impartial.	
Forbes	4	International news media considered to be impartial.	
Diario Imagen			
Infrastructure		Mexican publisher in infrastructure topics. Considered to be impartial.	
La Jornada	4	Mexican journal considered to have a leftist ideology.	
Milenio 6		Mexican journal considered to be impartial.	
		Mexican online journal considered to be impartial.	
Obras Web	4	Mexican magazine focused on infrastructure, considered to be impartial.	
		Mexican politics online journal considered being impartial.	
Proceso	4	Mexican political and social analysis of leftist ideology.	
SDP Noticias			
TeleSur	1	International news broadcaster considered to be impartial.	
Univisión	2	International news broadcaster considered to be leftist.	
Vanguardia	2	International news broadcaster considered to be impartial.	
TOTAL	85		

Name of sources	Number of entries	Description of source	
Academia de Ingeniería México	1	Mexican Academy of Engineering. Considered to be impartial.	
AICM	2	Current Airport of Mexico City Official Website. Considered to be impartial.	
TRB	5	Transportation Research Board, in charge of the Airport Cooperative Research Programme. Considered to be impartial.	
GACM	1	Entity responsible for NAIM Project.	
IADB	2	Inter-American Development. Multilateral agency considered to be impartial.	
ASF	4	Mexican Federation Audit. Considered to be impartial.	
CELAG	1	Strategic Latin America Geopolitics Centre. Considered to be impartial.	
CICM	1	Mexican College of Civil Engineers. Considered to be impartial.	
Citi Banamex	1	Financial Institution. Considered to be impartial.	
Credit Suisse	1	Financial Institution. Considered to be impartial.	
DOF	2	Official Journal of the Federation. Considered to be impartial.	
GACM - Parsons	2	Project Manager of the Project working together with GACM. Reference obtained from collegiate and official webpages.	
McKinsey & Company	2	Global Strategic Consulting Company. Considered to be impartial.	
IATA	1	International Air Transport Association Official Website. Considered to be impartial.	
ICAO	1	International Civil Aviation Organization Official Website. Considered to be impartial.	
Integralia	1	Mexican consulting company specialized in political risk, governance, and democracy. Considered to be impartial.	
MIT	1	Massachusetts Institute of Technology Official Website. Considered to be impartial.	
MITRE	2	Organization with in-depth knowledge in air traffic management and airspace user operations. Considered to be impartial.	
MORENA	1	Official Website of political party currently in the Government.	
CUNY	1	City University of New York. Considered to be impartial.	
OECD	6	Organization for Economic Co-operation and Development official Website. Multilateral agency considered to be impartial.	
SCT	1	Mexican Secretariat for Transportation and Communications. Considered to be impartial.	
SFP	1	Mexican Public Function Secretariat. Considered to be impartial.	
Transparency International	1	Official Website. Considered to be impartial.	
World Bank	1	Multinational Organization. Considered to be impartial.	
World Trade Organization	1	International Organization official website. Considered to be impartial.	
TOTAL	44		

- 1557 To select the most appropriate information for the Case Study, the following rejection criteria
- and filters for data sources was employed:
- 1559 1. Dates prior to 2014 in terms of construction of the NAIM were not considered. When 1560 referring to construction, valid information is considered after September 2014, which
- is the official date of the project initiation.
- 1562 2. Official information that manifested the need for airport infrastructure was extracted1563 from government official sites, not from newspapers.
- 1564 3. Cross fact reference between multiple journals was critical for elaborating the Project1565 and Political Intra-action.
- 4. Any fact that appoints an official institution has been corroborated in their official
 websites, and no information that is not publicly available on their website has been
 included in the document.
- 1569 5. Information related to Mexican Politics has been considered only for relevant actors,
 1570 such as the president, former president, and president-elect, as well as the Secretary of
 1571 State.
- 1572 6. For political statements/promises related to the NAIM project, only those mentioned
 1573 by candidates, former presidents, current president, and president-elect have been
 1574 included.
- 1575 7. In terms of opinions surrounding the project, those issued by official institutions and
 1576 collegiate associations have been including with the purpose of comparing different
 1577 points of view from politicians, technical entities, and non-technical entities.

EoC-Determinants		ninants	References		
	1	Ambiguity of economic data	 https://imco.org.mx/ti-cuanto-te-cuesta-la-cancelacion-del-naim/ https://obras.expansion.mx/construccion/2018/03/26/cuanto-costaria-cancelar-el-naim-directivo-dice- que-esta-suma https://vanguardia.com.mx/articulo/cuanto-costara-cada-mexicano-la-cancelacion-del-naim 		
	2	Sequencing of projects costs and benefits	 https://www.gob.mx/sct/articulos/el-naim-un-proyecto-de-mexico-para-los-mexicanos-156732?idiom=es https://www.unotv.com/noticias/portal/nacional/detalle/naim-lleva-32-por-ciento-de-avance-grupo- aeroportuario-277475/ https://heraldodemexico.com.mx/opinion/2018/10/5/los-costos-del-naim-59592.html 		
Project	3	Categorization as long-term investment	 http://gacm.gob.mx/doc/mog_270918.pdfhttps://grupoenconcreto.com/cancelacion-naim-implica-no- invertir-a-largo-plazo-scotiabank/ https://www.forbes.com.mx/el-financiamiento-del-naim-podria-ser-inviable-advierte-ong/ https://www.eleconomista.com.mx/opinion/El-NAICM-tiene-un-modelo-de-financiamiento-reconocido- mundialmente-20171119-0077.html 		
	4	Salvage Value	 https://www.eleconomista.com.mx/empresas/Costo-de-cancelar-el-NAIM-queda-en-71000-millones-de- pesos-SCT-20190828-0057.html https://www.milenio.com/politica/cancelacion-naim-costo-113-mil-327-7-mdp-revela-auditoria https://www.proceso.com.mx/nacional/2021/2/21/cancelacion-del-naim-costara-331-mil-mdp-casi-tres-veces-mas-que-lo-prometido-258727.html 		
	5	Closing costs	 https://www.televisa.com/noticias/cuanto-le-costo-al-gobierno-de-amlo-cancelar-el-naim/ https://www.milenio.com/politica/cancelacion-naim-costo-113-mil-327-7-mdp-revela-auditoria https://www.proceso.com.mx/nacional/2021/2/1/cancelacion-del-naim-costara-331-mil-mdp-casi-tres-veces-mas-que-lo-prometido-258727.html 		
	1	Optimism and illusion of control	https://www.gob.mx/sct/prensa/el-naim-motor-economico-y-generador-de-empleos https://www.telediario.mx/nacional/mexico-merece-un-aeropuerto-moderno-epn https://lopezdoriga.com/nacional/mexico-merece-un-aeropuerto-moderno-y-con-vision-a-largo-plazo- pena-nieto/		
Psychological	2	Self-justification	 https://www.forbes.com.mx/pena-nieto-dice-respetara-las-decisiones-del-nuevo-gobierno/ http://diariotiempo.mx/economia/pena-asegura-que-trabajos-del-naim-seguiran-hasta-ultimo-dia-de-su-gestion/ https://www.bbc.com/mundo/noticias-america-latina-46024519 		
	3	Sunk-costs effects	 https://www.eleconomista.com.mx/empresas/Costo-de-cancelar-el-NAIM-queda-en-71000-millones-de- pesos-SCT-20190828-0057.html https://www.bbc.com/mundo/noticias-america-latina-46026759 https://www.publimetro.com.mx/mx/noticias/2018/10/29/naim-cuanto-se-gasto-en-el-nuevo-aeropuerto- internacional-de-mexico-y-que-pasara-en-texcoco-cuando-amlo-lo-cancele.html 		
	1	External Justification	 https://mexicobusiness.news/aerospace/news/what-impact-will-naicm-have-country https://www.gob.mx/cms/uploads/attachment/file/442739/06pe_nacional_infraestructuraAyR2018.pdf http://dof.gob.mx/nota_detalle.php?codigo=5342547&fecha=29/04/2014 		
Social	2	Social binding	 <u>https://www.jornada.com.mx/2018/09/24/economia/025n2eco</u> <u>https://www.eleconomista.com.mx/opinion/El-NAIM-el-empleador-numero-uno-a-nivel-nacional-20170730-0010.html</u> <u>https://www.elfinanciero.com.mx/opinion/gerardo-ruiz-esparza1/el-naim-motor-economico-y-generador-de-empleos/</u> 		
	1	Technical side- bets	 http://cicm.org.mx/wp-content/files_mf/presentaci%C3%B3ngerenciadelproyecto10102016.pdf https://www.fosterandpartners.com/projects/new-international-airport-mexico-city/ https://parsons.com/project/naicm-english/ 		
Organizational	2	Political support	 https://www.milenio.com/politica/osorio-apoya-consulta-naim-gente-suficiente-informacion https://www.milenio.com/politica/quien-es-gerardo-ferrando-bravo https://www.razon.com.mx/mexico/director-del-gacm-esfuerzo-naim-epn-amlo-lopez-obrador-nuevo- aeropuerto-internacional-de-mexico-grupo-aeroportuario-de-la-ciudad-de-mexico-obra-trabajadores/ 		
	3	Institutionalization	 https://www.oecd.org/centrodemexico/medios/el-proyecto-del-naicm-ha-registrado-avances-importantes- en-materia-de-gobernanza-y-comunicacion-pero-aun-enfrenta-desafios-y-riesgos-importantes-afimo-la- ocde.htm http://gacm.gob.mx/informeOCDE.php http://www.gacm.gob.mx/doc/pdf/NAICM_IA_pages.pdf 		
Contextual 1 Government support (External)			 https://cadenanoticias.com/politica/2018/03/un-absoluto-disparate-dar-marcha-atras-al-naicm-dice-anaya https://politica.expansion.mx/mexico/2018/10/25/los-puntos-clave-de-la-consulta-sobre-el-futuro-del-naim https://www.forbes.com.mx/asi-fueron-las-reacciones-a-la-cancelacion-del-naim-en-texcoco/ 		

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Table 6: References from EoC-determinants in NAIM Project (Table 3)

	Quote	Context	Actor involved
political class, country at larg been invested for months ada existing airpor	x's decision to cancel the project shocked many within the as well as in the international business community and the ge. A massive amount of money, time, and political capital had in project; and even in the face of protest, federal authorities had amantly argued that a new airport was indispensable. The rt, Aeropuerto Internacional de la Ciudad de Mexico (AICM), saturated" (Dewey and Davis, 2013: 531).	Quotes on the first time the the construction of a new airport was attempted and interrupted by the Government due to social unrest in 2002.	VFQ
 government to "Transcendent of the World to according to the 	hat our country deserves, and it is the firm intention of the o execute the project" (Proceso, 2014) tal and emblematic of the New Mexico becoming the Gateway o Mexico the works will be done with transparency and he law, respecting the rights of the population" (Proceso, 2014).	Statements from the incoming government promoting the construction of the NAIM IN 2012.	EPN
 2019). "there is a polican prove that organizations for a second sec	Ill of corruption and a bottomless barrel" (El Sol de Mexico, itical interest and also an economic one, more than anything I a political interest because those who present the Amparos are that are against us" (Milenio, 2019). ple) decided it. It was terminated due to technical, economic and deficiencies, as well as transparency issues" (Expansion, 2019).		AMLO
 parliament vot long-overdue of remains and condisappointingle building of a me becoming a conditional of "An eminently be submitted to robust democrification of development and assumed by of responsibility 	contrasting political decisions stood out in this respect. The UK ted for a national airports strategy that paves the way for the expansion of Heathrow Airport, although significant opposition ost concerns have not been resolved. But in Mexico, y, the newly installed government decided to terminate the new hub airport in Mexico City. This will prevent Mexico from ompetitive regional and international gateway." (IATA, 2019) y technical decision, such as the location of an airport, should no o citizen consultation. Citizen Participation is fundamental for a ratic development; however, decisions regarding economic and infrastructure, with a high degree of complexity, must be fficials and authorized public institutions, who have the to process the technical information, economic consequences neerns, to conclude with the best option." (CCE, 2018)	Reactions from the results of the public non-official t consultation and	IATA Business Coordinator Council
• "I was in favor that the projec it. Although it part of the pre-	ur of continuing with the construction of the NAIM. I believe at was very advanced and there were a lot of resources invested in is true that some of the land in the surrounding of the site were vious administration, a solid government could have hem in favour of the state" (Bruera, 2019).	Opinion of the outgoing Minister of Finance and Public n Credit due to several differences with President AMLO, refering to his view on the NAIM termination.	Former Minister of Finance and Public Credit Carlos Urzúa

Table 7: Quotes from relevant actors