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Understanding Variation in Processes and Outcomes of Operational Implementations: A Case Study from Healthcare

by

Raymond Asamoah-Barnieh

A THESIS

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Abstract

Operational excellence is a dimension of performance conferring competitive advantage to those organizations that sustainably achieve it. However, Operational Implementations (OIs) that are expected to confer such operational excellence to organizations, exhibit variation in their implementation processes and outcomes. Operations Management Practice Contingency Research (OM PCR) has been established in order to understand this. Working within the field of OM PCR, my dissertation focuses on healthcare as an industry and Advanced Access (AA) as an OI for research.

I conduct a multiple case study where ten implementation teams represent AA implementations in 23 clinic sites. From this study, I select five cases as my core analytic sample for rigorous investigation. My dissertation contains the results of compiling research documents, interviews with 52 individuals related to healthcare and AA, and a qualitative analysis of the data. The main factors responsible for the variation of implementation processes and outcomes are:

- a phenomenon I refer to as task ambulation, which stems from complexity and occurs as a result of movement of the task domain,
- lack of appropriate prior technology,
- the culture of the implementing clinic prior to implementation,
- a phenomenon I refer to as institutional managerial apathy, which manifests as a lack of concern and systematization of a healthcare system,
- workload, and related phenomena.

I interpret these factors through Contingency Theory, Institutional Theory, and a new theory I developed - the Effort Satisficing Theory (EST). I also propose and elaborate on Task Ambulation Contingency to enhance outcomes of operational implementations.

Though this research contributes to a deeper understanding of both AA implementations and OIs in general for both academics and practitioners, the most important contribution of this research to new management and economic theory is the Effort Satisficing Theory, and the establishment of the foundations of this theory. Effort Satisficing Theory is a behavioral theory that can be translated into different fields of management and economics, with potential for advancing the performance of organizations and economies, thus establishing this dissertation a valuable contribution to 21st century Economics.

Preface

I undertook the task of understanding variation in processes and outcomes of operational implementations in the context of healthcare organizations, but this work has a broader scope of application than healthcare. The research and analytical contributions herein can be applied to non-healthcare organizations. The contributions can also be applied beyond operational implementations to domains such as fundamental economic activities.

The general Effort Satisficing Theory (EST) which I propound through this dissertation is a fundamental contribution which has broad applications in fields such as management and economics. EST yields insight into an important aspect of human behavior relevant to organizational and economic performance. It is my hope that future research will translate, and advance, this proposed theory into different domains, thus enabling humanity to benefit from EST's problem solving capabilities.

Thank you.

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This work is dedicated to mother Africa, humanity and existence as a whole.

This work is especially dedicated to people of African heritage, people of Scandinavia and people of Canada. Thank you for welcoming me to live among you, and for all the support you have given me.

Thank you for the immense wisdom and knowledge you have imparted to me,

so that I may contribute to the well-being of future generations.

To mother Africa I repeat the words of Boney M:

"Hold up your head

One day you'll be understood

Stand and be proud"

For your wise children within the continent and across the diaspora,

though we may seem passive for a while, we have not forgotten you.

In time the wisdom knot untied.

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List of Symbols, Abbreviations and Nomenclature

Symbol or Abbreviation	Definition
Ω	Internal Effort
γ	Strain
ɳ	Satisficing Threshold Determinants
ϰ	Satisficing Threshold
θ	Strain Rate Determinants
AA	Advanced Access
BP	Best Practice
EMR	Electronic Medical Record
EST	Effort Satisficing Theory
IT	Information Technology
OI	Operational Implementation
OM	Operations Management
OM PCR	Operations Management Practice Contingency Research
PCI	Primary Care Initiative
PCN	Primary Care Network

Epigraph

To understand operational implementations is to understand the heart of organizational and economic performance. The basis of the economy is operational, thus it is imperative that to effectively manage organizations and the economy, operations must be understood in greater depth.

1 Introduction

Operational implementations (OIs) have been made in various manufacturing and services settings including healthcare (de Souza, 2009; Gowen et al., 2006; Triplett, 2011). These operational implementations include the implementations referred to in literature (de-Margerie and Jiang, 2011; Sousa and Voss, 2001) as Operations Management (OM) Best Practices (BPs). Lean, a production method that in its simplest form focuses on waste reduction, is an example of OM BP's (de Souza, 2009; Gowen et al., 2006; Triplett, 2011). However, OIs may be significantly hindered by the internal and external context of the organization (Sousa and Voss, 2001). In this study, I examine how a number of cases of OI adoption in healthcare have been relatively limited despite their potential benefits (Triplett, 2011); and I also probe into how human behavioral barriers may plague OIs (Papadopoulos et al, 2011; Rose et al 2011).

1.1 Research Question

My research addresses the question: How, and why, do the processes and outcomes of operational implementations vary across different healthcare organizational units?

Healthcare was chosen as the industry context for this research. Operational implementations in healthcare have had minimal research in the operations management field compared to alternative industry contexts such as manufacturing. To answer my research question, I have focused on identifying the barriers and enablers accounting for the variation in processes and outcomes of the chosen operational implementation.

1.2 Advanced Access (AA)

Advanced Access (AA) is the operational implementation (Gladstone and Howard, 2011; Murray and Berwick, 2003; Pope et al., 2008; Rose et al., 2011) chosen for this research.

The reasoning behind choosing Advanced Access includes AA's high healthcare operations management content, accessibility to recent implementation cases and availability of data pertaining to the implementations. Additionally, in AA there are objective performance metrics such as Time to Third Next Available Appointment that can inform judgments regarding the relative effectiveness of its implementation across multiple cases (Murray and Berwick, 2003; Rose et al., 2011).

Defining Advanced Access demands careful attention to AA's origins, AA's causal qualities and how it is manifest in the healthcare industry. Similar to the "The Toyota Way" pioneering Lean Manufacturing (Liker, 2009), Advanced Access in healthcare is akin to a philosophy, or way of thinking. AA emphasizes certain values that call for a growing set of principles consistent with those values; in turn these principles call for a growing set of elements that are implemented through an expanding set of realizations towards achieving goals consistent with the values of the AA philosophy. This conception of Advanced Access is visually illustrated in Figure 1.

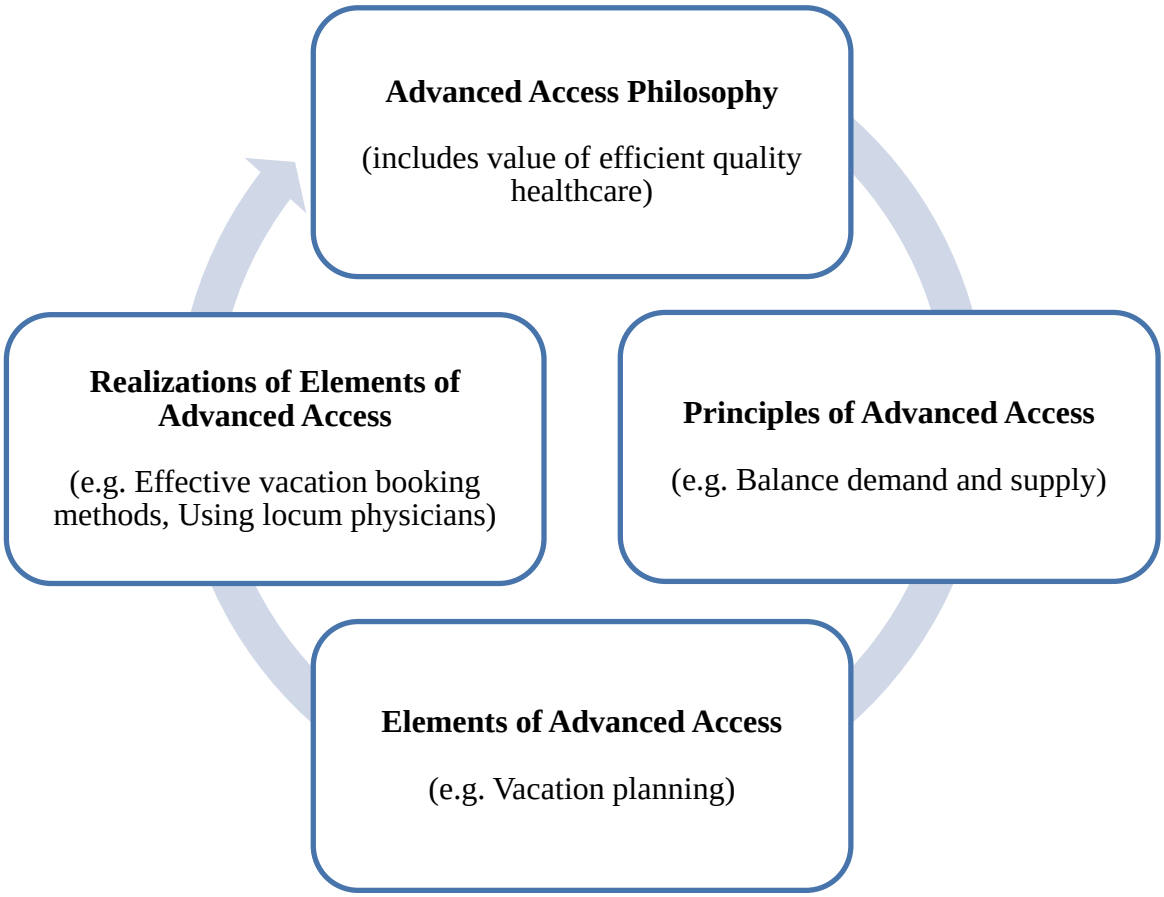


Figure 1: Visual illustration of the concept of Advanced Access

In the course of my research, I discovered that the Advanced Access philosophy is based on the creative thinking and implementation of operational measures for efficient and quality delivery of healthcare. Inherent values in the Advanced Access philosophy include:

- Operational efficiency: The efficiency value is the basis of the goals of timely healthcare for patients, effective use of specialization and easy healthcare delivery (Murray and Berwick, 2003).
- Quality healthcare for patients: This is the basis of the goal of continuity in patient treatment (Murray and Berwick, 2003).

Murray and Berwick (2003) give an in-depth description of the principles of Advanced Access, which include: demand-supply matching, care continuity improvement, variation reduction through standardization and "5S" (Liker, 2009).

I found that several elements of Advanced Access developed through the principles were implemented by clinics, and these constituted the sub-processes within the overall process of Advanced Access implementation. Clinics selected the implemented elements based on both their clinic needs, and the barriers and enablers to the implementation. Variation in implementation processes consequently existed first by relevance of the element to clinic, and second by the extent of barriers and enablers present in the clinic for each relevant element. See Table 1 for examples of the elements of Advanced Access.

AA Element	Summary
Process mapping	Processes are mapped and streamlined for efficiency.
Clinic layout Improvement	Layouts are improved for movement efficiency.
Documentation streamlining	The lean principle of 5S (Liker, 2009) is applied to documents for administrative efficiency.
Wait-time monitoring	Wait-times to get an appointment and wait times on the day of appointment are monitored to enhance operational efficiency.
Measurement and data collection	Measurements such as client processing time and Third Next Available Appointments are taken. Patient demand and care provider supply data are also periodically collected and analyzed to enhance timely care.
Centralized appointment scheduling	The task of client appointment scheduling is shifted from clinicians to administrative staff to free up clinician capacity.
Centralized triage	Multi-site clinics pool all referrals to one person or clinic for triage and effective demand distribution to the other clinic sites.

AA Element	Summary
Backlog reduction	Analogous to inventory reduction in lean (Liker, 2009). Existing client backlogs are worked down to enhance timely quality care.
Booking schedule appointment-type reduction	Wasted care provider capacity and wait-times are reduced by reducing appointment-type variation in the client booking schedule.
Continuity improvement	The same patients are streamed to the same care providers as much as possible to improve care quality.
Set-up time reduction	Set-up time's for activities are reduced, for instance, by cross-training staff to provide additional capacity and by setting-up before client arrival.
Efficient physician capacity utilization	Physician capacity is freed to enhance timely care of patients who really need physician attention by routing tasks that do not require physicians to other staff such as nurses.
Treatment room standardization	Treatment rooms are standardized to ease coordination and enhance administrative efficiency.

Table 1: Example Elements of Advanced Access

Various realizations of the elements of Advanced Access were implemented by clinics, which was one way that the processes of the operational implementation (AA) differed across clinics. Some of these realizations, categorized as per the OM concepts that underpin the realizations, are presented in Table 9. In summary, for the same OM concept or AA element, clinics exhibited variations in their actual implementation of that concept or element.

In the cases studied, clinics were enrolled in the same provincial Advanced Access program at different periods. Clinics were often represented by a multi-disciplinary team, which is referred to as the Core Implementation Team, and included people from both clinical and administrative roles. The clinics were introduced to Advanced Access through learning sessions. These learning sessions, known as "collaboratives", occurred alongside action sessions in which the clinics decided on what specific aspects of AA were relevant to their clinic. They then chose which Advanced Access elements to implement accordingly. These AA elements are sometimes referred to by interviewees in quotations as PDSAs (in reference to the process of Plan-Do-Study-Act in Shewhart cycle). Clinics had an Advanced Access facilitator (sometimes referred to by interviewees as "facilitator"), who acted in a consulting role to assist the clinics with their AA implementation. Clinics delivered periodic reports and metrics to the provincial AA program to assist with feedback. See Appendix A for further information about the provincial AA program and the metrics tracked.

1.3 Research Methods and Findings

A visual simplification of the research process I followed is illustrated in Figure 2. I collected data in the form of interviews and documents from clinics, which had implemented Advanced Access. An AA implementation in a specific clinic at a specific time constituted one case. Some clinics had two AA implementations. I proceeded to select five cases out of the lot as my core

sample for analysis, and retained the rest of the data as a hold-out sample. The core sample of cases for analysis consisted of three mental health clinic and two PCN clinic Advanced Access implementation cases. I analyzed the data using qualitative analysis approaches recommended by authors such as Corbin and Strauss (2008), Eriksson and Kovalainen (2008), Miles and Huberman (1994) and Yin (2009). In conducting my analysis, I relied heavily on the theory building approaches of Corbin and Strauss (2008), and Miles and Huberman (1994), and on the canons of philosophy of science as per Klemke et al (1998) to guide me in the theory building process.

My findings are specific phenomena that account for why there are variations in the processes and outcomes of operational implementations. These phenomena are:

1 Task Ambulation – A phenomenon stemming from complexity in the task environment and occurring as a result of movement of the task domain.
2 Lack of prior appropriate technology
3 Culture of the implementing clinic prior to Advanced Access implementation
4 Institutional Managerial Apathy – a phenomenon manifesting as lack of concern and lack of systematization of the provincial healthcare system by the provincial health authority.
5 Workload and related phenomena

I explain these findings through Contingency Theory, Institutional Theory and my proposed Effort Satisficing Theory.

Sousa and Voss (2008) suggest that OM scholars need to study in more depth the processes of adoption of OM practices. Sousa and Voss (2008), Donaldson (2001) and Scott (2008) further advocate the use of Contingency Theory and Institutional Theory to underpin such research.

Institutional theory is effective in explaining barriers and enablers relating to legitimacy concerns and institutional factors in organizations (Scott, 2008). Contingency theory is useful in explaining barriers and enablers relating to efficiency drivers in organizations (Donaldson, 2001).

In my research, institutional theory as advocated by Sousa and Voss (2008) was unsatisfactory towards explaining my research findings save my findings on culture. Contingency theory (again advocated by Sousa and Voss) explained the bulk of the findings through the notion of fit and misfit, however contingency theory didn't account for all the details in my data, especially in the behavioral operations dimension. My data richly captured the behavior of people and how variation in this behavior ultimately led to variation in the implementation outcomes of Advanced Access. Therefore, guided in part by the canons of philosophy of science as per Klemke et al (1998), through induction, I formulated the Effort Satisficing Theory. In formulating the Effort Satisficing Theory, I borrowed the notion of "satisficing" from Simon's work on the Bounded Rationality Theory (Simon, 1957; Simon, 1978; Simon, 1997) and adapted it to my domain of interest. I also borrowed the notion of "strain" from the mechanical engineering field and adapted it to my domain of interest.

From a practical perspective, the findings in this study can be used to inform practitioners, administrators and funders on factors that need to be considered before and during the implementation of OIs in healthcare operations. Through the Effort Satisficing Theory, this work also provides practitioners with a means to improve the outcomes of operational implementations across different industry contexts.

From a theoretical perspective, this study contributes to the body of knowledge about operational implementations including the "OM Practice Contingency Research (OM PCR)" advocated by Sousa and Voss (2008: 698). It also contributes by identifying task ambulation as a contingency that needs to be further studied, and it suggests modes of coping with it. The Effort Satisficing Theory for Operational Implementations (EST for OIs) is important to the field of operations management as it provides a theory to explain, predict and enhance operational implementation outcomes from a behavioral operations perspective. My General Effort Satisficing Theory is the most important theoretical contribution of this research to the fields of management and economics. The EST building blocks are visually illustrated in Figure 15. EST provides a lens to understand and improve organizational performance and economic performance from an effort-exertion perspective, as well as future research opportunities for scholars and researchers.

2 Literature Review

In this chapter, I review literature on the selected operational implementation for this study, Advanced Access. I then review literature on my initial theoretical frames, contingency theory and institutional theory. I present relevant aspects of the theories to this work. I also summarize in Tables, research in which these theories have been used to study OIs in healthcare and OM.

2.1 Advanced Access: An Operational Implementation in Healthcare

OIs have been increasingly adopted in healthcare institutions to improve outcomes such as patient access, cost-reduction, employee satisfaction, and quality of care (de Souza, 2009; Liberatore, 2011; Mazzocato et al., 2010; Talib et al., 2011). One healthcare OI is Advanced Access (Murray and Berwick, 2003; Pope et al., 2008; Rose et al., 2011), while other examples of OI's include Lean, Total Quality Management (TQM), and Six Sigma – these latter involve techniques such as statistical process control, competitive benchmarking, quality circles, and continuous improvements (de Souza, 2009; Liberatore, 2013; Talib et al., 2011). These techniques have been generally applied across hospitals, clinics and nursing departments, in specialties such as obstetrics-gynecology, cardiothoracic surgery, and diagnostic services (de Souza, 2009; Gupta et al., 2006; Liberatore, 2011; Liberatore, 2013; Mazzocato et al., 2010).

Advanced Access (in some instances called open access and/or advanced open access) is an OI conceived in response to the problem of inadequate access in healthcare that results in long waiting times (Gill, 2004; Gupta et al., 2006; Murray and Berwick, 2003; Rose et al., 2011). It addresses patients getting the help they want or need exactly when they want or need it (Gill, 2004; Gladstone and Howard, 2011; Murray and Berwick, 2003). AA involves ideas of Lean and "just-in-time thinking" (Murray and Berwick, 2003). One of AA's goals is to meet the current

demand at the current time (Murray and Berwick, 2003). This goal has often been rhetorically framed “do today’s work today” (Gladstone and Howard, 2011; Gupta et al., 2006; Murray and Berwick, 2003; Pope et al., 2008; Rose et al., 2011). Another goal of AA is to improve continuity of care (Gill, 2004; Gupta et al., 2006; Murray and Berwick, 2003). AA requires sorting appointments by clinician rather than just clinical urgency and giving the patient the opportunity to deliberately trade-off between urgency and continuity of care whenever necessary (Murray and Berwick, 2003). AA protects future capacity by pulling all current work into the present (Murray and Berwick, 2003). AA’s implementation involves Lean healthcare principles as well as demand and supply management strategies such as: tracking and forecasting external and internal demand, tracking and forecasting supply, backlog reduction with the use of temporary capacity, and continually balancing demand and supply (Gupta et al., 2006; Murray and Berwick, 2003; Pope et al., 2008). It involves the use of performance measures such as: time to third next available appointment, continuity of care, no-show rate and patient satisfaction (Gladstone and Howard, 2011; Murray and Berwick, 2003; Rose et al., 2011).

Reduction in wait times (tracked by the time to third next available appointment performance measure) is a reported benefit of Advanced Access implementation (Murray and Berwick, 2003; Murray et al., 2003; Rose et al., 2011). Other reported benefits are reductions in no-show rates of appointment patients and improved continuity of care (Murray and Berwick, 2003; Rose et al., 2011; Solberg, 2011).

Gill (2004), Murray and Berwick (2003) and Pope et al (2008) suggest that barriers to Advanced Access implementation include psychological barriers because its principles run counter to institutionalized scheduling beliefs in healthcare, as well as fear of change - and a lack of confidence that healthcare demand can be met with existing resources. Gill (2004) suggests there

are myths among some care providers –for example large backlogs can be a sign of success, and the fear and insecurity generated by these as an implementation barrier results in variation in implementation outcomes. Gill (2004) also suggests that the impact of technology, specifically inadequate access to needed data, could generate implementation challenges which could increase implementation time.

A barrier to implementation Rose et al. (2011) cite is fear on the part of providers that continuity would be decreased if Advanced Access is implemented for patients to be seen by whichever physician is available. They also cite an inappropriate focus of real-world Advanced Access implementations on same-day access to the exclusion of other core principles as a barrier to better implementation outcomes. This focus results in lack of improvements in patient satisfaction.

True et al. (2012) researched Advanced Access implementation readiness in a US Veteran Integrated Services Network (VISN) using qualitative research approaches. Advanced Access implementation barriers identified in their study include: leadership engagement, inadequate staffing resources and inadequate access to both information from the electronic medical record and personnel with knowledge of how to generate reports from the EMR. Lack of confidence in the commitment of higher-level leadership to the implementation was also identified as an implementation barrier. These barriers impacted which Advanced Access elements implementation teams could put into effect, as well as the viability and sustainability of access gains from the implementation (Mancuso, 2013; True et al., 2012). They found that making a case by presenting data demonstrating the access problems to facility leadership for them to buy into supporting the implementation enhanced implementation outcomes. They also found that collaboration was used to reduce the impact of understaffing on the implementation. For

instance, teams from different primary care providers embarked on collaborative initiatives to share their patient workload. They also found that technology in the form of Tele-Health was also used to offload work from understaffed primary care providers to enable their patients to receive needed healthcare services.

Pope et al. (2008) studied Advanced Access implementation in the UK using qualitative research approaches. Similar to Rose et al (2011), Pope's team suggested that a misinterpretation which arises from the promotion of Advanced Access through the rhetoric of "doing today's work today" is a reason for variation in processes and outcomes of AA implementation. Pope et al. (2008) found variation in implementation processes and outcomes to stem from: informal demand monitoring, ad hoc contingency plans and embargoing future appointments for demand which cannot be satisfied same day. They suggest that the use of discretion and rule breaking are factors enhancing variance between AA implementation processes and outcomes. They also suggest that the AA guiding philosophy of manageable demand seems counter-intuitive to healthcare staff. This philosophy contributes to adaptation and modification of AA, which in turn results in variation in implementation processes and outcomes. They also suggest that concerns about the workload involved in implementing AA, as well as its perceived incompatibility with the norms, values and beliefs of those who are supposed to use AA, is a barrier to effective implementation.

Gupta et al. (2006) cites the dynamic nature of medical practices and inadequate guidelines for customizing Advanced Access to fit different physician practice styles and demand patterns as barriers to better implementation outcomes. They suggest encouraging and rewarding physicians for flexing capacity in order to enhance clinic-level supply-demand matching as an enabler for better implementation outcomes.

Similar to True et al. (2012), Murray et al. (2003) researched variation in Advanced Access implementation outcomes in the US using qualitative research approaches. They found that the implementation was effective because the physicians were committed to it for their patients and themselves. They also found that management devoting great effort to resolve implementation challenges, including the entire staff in the implementation process and setting up needed data systems enhanced implementation. However, they also found barriers to implementation including physicians who were used to maintaining tight control of their schedules as well as difficulty in using the hospital's medical records. Another barrier to better implementation outcomes was rigid implementation of Advanced Access without flexibly adapting it to a clinic's need when the clinic lacks the appropriate technology.

Since Advanced Access involves ideas from Lean thinking (Murray and Berwick, 2003), another OI, its implementation could also probably be impacted by some of the barriers and enablers that impact Lean healthcare implementation. Lack of understanding and agreement on Lean principles and poor communication and leadership, further magnified by organizational norms and culture has been identified as barriers in Lean healthcare implementation (Grove et al., 2010). Other reported barriers to lean implementation include: people challenging new roles assigned to them as not being part of their work, cynicism to the expertise of the implementing team with respect to professional matters, and staff members feeling efficiency and productivity are being prioritized over quality and patient experience (Waring and Bishop, 2010).

Papadopoulos et al. (2011), however, reported staff perceptions that Lean is another management fad being thrown upon them as a barrier to Lean implementation. They reported that high visibility of tangible benefits of OI outcomes to all pro-implementation and anti-implementation workers concerned has been cited as facilitating implementation. They also reported high level

leadership socializing with lower level workers who implemented Lean as reducing implementation resistance by lower level workers by given them a sense that they were doing something worthwhile.

In summary, healthcare OIs such as Advanced Access exhibit variance in processes and outcomes (Pope et al., 2008; Rose et al., 2011; True et al., 2012). They are plagued by various implementation challenges that are overcome through different means (Grove et al., 2010; Papadopoulos et al., 2011; Pope et al., 2008; True et al., 2012; Waring and Bishop, 2010).

2.2 Contingency Theory

Contingency theory has been applied in healthcare research (Abraham et al., 2011; Broekhuis and van Donk, 2011; Timmermans et al., 2012; Wang et al., 2005). It has also been increasingly applied in OM research (e.g. Rosenzweig, 2009; Sousa and Voss, 2008; Tenhiälä, 2011). It aims to model relationships between contingency, response, and performance variables (Donaldson, 2001; Sousa and Voss, 2008). Contingency variables are "high inertia" factors of the organization such as organizational size and environment (Donaldson, 2001; Sousa and Voss, 2008). Response variables are acts of the organization such as adopting management practices (Sousa and Voss, 2008). Performance variables are outcomes for the organization to attain their goals, satisfy stakeholders, and function properly (Donaldson, 2001; Sousa and Voss, 2008).

Contingency theory suggests performance variables such as outcomes of operational implementations would be influenced by the extent of fit between response variables such as operational implementations and contingencies that reflect the situation of the organization (Donaldson, 2001; Sousa and Voss, 2008; Van de Ven et al., 2013). Within OM and the management field, different contingencies have been researched of which some such as environmental dynamism and task uncertainty are dimensions of complexity (Donaldson, 2001; Sousa and Voss, 2008). Fit is characterized in different forms including fit as match and fit as profile deviation (Venkatraman, 1989).

In fit as match, operational implementation outcomes are expected to be influenced by the extent to which an operational implementation in an organization aligns with a specific contextual variable, the contingency (Sousa and Voss, 2008; Venkatraman, 1989). Increased alignment is

perceived as increased match fit and this is expected to result in better operational implementation outcomes (Sousa and Voss, 2008; Venkatraman, 1989).

In fit as profile deviation however, the operational implementation is expected to align with a set of contingencies rather than a specific contingency (Sousa and Voss, 2008; Venkatraman, 1989). The contingencies take on values which form an ideal profile and deviations of the profile of the implementing organization from this ideal profile is regarded as misfit and this is expected to result in poorer implementation outcomes (Sousa and Voss, 2008; Venkatraman, 1989).

Aside the notion of fit, the construct of complexity is at the heart of the contingency theory research program (Donaldson, 2001; Van de Ven et al., 2013). This has resulted in insights into a number of contingencies including: technological complexity, size, task uncertainty and environmental uncertainty (Broekhuis and van Donk, 2011; Donaldson, 2001; Pedersen and Sudzina, 2012; Van de Ven et al., 2013; Wang et al., 2005). Complexity is at the core of contingency theory and in this research, I explore mobility (ambulation), a phenomenon which arises from and generates complexity.

Mobile work environments present a dimension of complexity and contingency theory based studies have been conducted in these environments (Gebauer et al., 2010; Lembach and Lane, 2011; Yuan et al., 2010; Zheng, 2007). These studies have explored the fit between a given mobile work support function and a task characteristic (Lembach and Lane, 2011; Yuan et al., 2010; Zheng, 2007). Zheng (2007) for instance researched mobile work using regression analysis and structural equations modeling (SEM). Zheng (2007: 185) generated a model that describes the ideal fit between task characteristics and functionalities of mobile technology. The essence of his model was to illustrate which mobile functionalities such as location tracking and text

messaging were a better fit given a task characteristic such as time criticality. Unlike the focus of the above studies on which mobile support fits which task characteristic, in this study I explore different degrees of mobility (ambulation) and focus on the broad strategies and technology characteristics which can be used to cope with the OI implementation challenges they bring.

Some studies that illustrate the application of contingency theory in healthcare operational implementations are given in Table 2. Some studies that illustrate the application of contingency theory in operational implementations within the OM field are given in Table 3. Over the last decade, OM research has paid increasing attention to contingency theory and its implications for operational implementations. However, from my viewpoint, a limitation of these studies is that none of them focused specifically on healthcare OIs such as Advanced Access. In this research, I address this limitation. .

Study	Methods	Contingencies	Findings
Abraham et al. (2011)	Quantitative: Logistic regression	size and external environmental munificence	found the adoption of a gold standard in nursing, magnet recognition, to be associated with large publicly-owned hospitals located in growing markets.
Broekhuis and van Donk (2011)	Mixed methods: 16 multiple embedded case studies using dialogues and statistical analysis of correlations using patient registry data	patient-induced uncertainty [customer-induced uncertainty dimension of input uncertainty] and task uncertainty	found that high levels of patient-induced uncertainty, uncertainty resulting from ever changing needs of very sick patients, reduce the adoption of coordination by standardized work processes.
Chou et al. (2008)	Quantitative: Surveys, Correlation Matrices, Multivariate regression	internal environmental contingencies: standardization of procedures	found that high standardization of procedures within a hospital was an enabler for the effective implementation of the national foundation for infectious diseases antimicrobial resistance prevention and control strategies in U.S. hospitals.
Sicotte et al. (2002)	Quantitative: surveys, factor analysis and multiple regression	internal environmental contingencies: administrative formalization	presence of administrative formalization initiatives offering operative frameworks founded on and aligning workgroups with interdisciplinary values is an enabler to interdisciplinary collaboration implementation in community healthcare centers.
Timmermans et al. (2012)	Quantitative: cross-sectional survey, correlation, multiple regression analysis	internal environmental contingencies: nature of organizational team learning activities	found the nature of organizational team learning activities affect the implementation of both incremental and radical innovations in nursing teams in Netherlands and Belgium.
Wang et al. (2005)	Quantitative: multiple regression analysis	size and external environment	found managerial information systems to be more likely adopted by large network-affiliated for-profit hospitals located in highly populated areas.

Table 2: Example contingency studies of operational implementations in healthcare

Study	Method	Contingencies	Findings
Benner and Veloso (2008)	Quantitative: statistical regression analysis on 75 firms in the automotive industry.	Strategic contingency: technological coherence	found that firm technological coherence, the extent of diversification of processing technologies, services and products of an organization, moderated the relationship between process management OIs such as ISO 9000 and outcomes such as financial performance with firms having moderate technological coherence reaching higher financial performance.
Pedersen and Sudzina (2012)	Quantitative: multiple linear regression models of surveys of 299 Danish firms	Environmental uncertainty: competitor environment uncertainty	found that unpredictability of the competition explained adoption of performance measurement systems with increased competition unpredictability associated with increased adoption.
Rosenzweig (2009)	Quantitative: partial least squares analysis of a structural model of a web-based survey of 50 manufacturers	Environmental munificence	found that increased environmental munificence indicated by a high growth rate of demand within an industry reduced the operational performance effects of e-collaboration practices.
Spina et al. (2002)	Quantitative: correlation analysis of 67 Italian manufacturers	Size and strategic orientation	found that organization size and strategic orientation [high number of new products releases as an order winner of high strategic priority] were factors influencing the adoption of integration OIs such as co-design in operations with both increased size and increased new product release rate associated with increased co-design adoption.

Study	Method	Contingencies	Findings
Tenhiälä (2011)	Mixed methods: qualitative interviews, site visits and work observations plus hierarchical regression analysis of electronic survey questionnaires from seven machinery supply chains with 98 make-to-order production processes in 40 plants from five countries.	Task environment: Process type complexity	found that process factors significantly impacted delivery performance outcomes with different OM capacity planning practices outperforming others under specific process environments such as job shops and bottleneck controlled production lines.
Yu et al. (2012)	Multiple case studies of four Chinese manufacturers from different countries using a semi-structured interview approach.	Environmental: Distribution environment uncertainty and distribution environment heterogeneity	found that the adopted distribution strategy in manufacturing firms was contingent upon the uncertainty-heterogeneity characterization of the distribution environment in the sense of fit as matching.
Zhang et al. (2012)	Quantitative: regression analysis on a factor analysed survey of 238 manufacturing plants in three industries across eight countries	Organizational structure and external environmental uncertainty	found that organizational structure and the external environment moderated relationships between OM practices and effectiveness, with Quality Exploitation practices providing the best performance outcomes in stable external environments and Quality Exploration practices providing the best performance outcomes in plants with an organic organizational structure and with dynamic external environments.
Zhao et al. (2004)	Quantitative: cluster analysis of surveys	Size and business environmental uncertainty	found that factors such as size, competition, environmental uncertainty, and the perceived importance of quality explained the adoption of advanced quality management practices in services.

Table 3: Example contingency studies of operational implementations in the OM field

2.3 Institutional Theory

Institutional theory (Kauppi, 2013; Scott, 2008; Scott, 2014) has been applied in healthcare research (Lockett et al., 2012; Robert et al., 2011). It has also been advocated by Sousa and Voss (2008) and has been applied in OM research (Cai et al., 2010; Braunscheidel et al., 2011; Sarkis et al., 2010; Williams et al., 2009). It aims to enable us to understand how organizational structures and processes acquire meaning and continuity beyond their technical goals (Suddaby, 2010: 14) as well as how these are changed (Scott, 2014). It suggests that regulative, normative and cultural cognitive phenomena impact organizational operational implementations (Ketokivi and Schroeder, 2004; Scott, 2014). Coercive, normative and mimetic pressures may act on organizations and influence adoption or rejection of an operational implementation (Braunscheidel et al., 2011; DiMaggio and Powell, 1983; Scott, 2008). Institutional theory also suggests that organizations may exhibit path dependence in the process of institutionalization and de-institutionalization (Scott 2014: 144-145) of an operational implementation.

Institutional theory suggests that in the course of deinstitutionalization of an operational implementation and institutionalization of an alternative, path dependence could plague the implementation (Scott, 2014). The opportunities foregone by accepting to institutionalize an operational implementation could result in people exhibiting agency via interest group resistance (Scott 2014: 119, 149) in an attempt to retain the status quo. Institutional theory also suggests that appropriateness logics and instrumentality logics may be used by institutional constituents (Scott, 2008) such as healthcare workers to advocate for or against an operational implementation. Institutional constituents may also draw on functional pressures, political pressures and social pressures to advance rationales for the deinstitutionalization of one operational implementation in favor of an alternative (Scott 2008; 2014: 167-169). Institutional

constituents in favor of an operational implementation may eventually succeed in institutionalizing the operational implementation by the process of increasing objectification (Scott, 2014: 148-149) that can be fostered through means such as communication of the outcomes of the operational implementation. Variation in path dependence and consequently the resistance to change could thus result in variation in OI outcomes.

Example studies that illustrate the application of institutional theory in healthcare operational implementations are given in Table 4. Example studies that illustrate the application of institutional theory in operational implementations within the OM field are given in Table 5. Similar to contingency theory in OM, a limitation of these studies from my perspective is that none of them focused specifically on healthcare OIs such as Advanced Access. In this research, I address this limitation by exploring if there are any findings that could be explained by institutional theory.

Study	Method	Institutional Factors and Processes	Findings
Jensen et al. (2009)	Qualitative: A case study employing 10 interviews lasting about 60-90 minutes, documents and participant observations in an orthopedic surgery ward in a Danish hospital.	Values, vested interests, identity and internal stakeholder agency	found that the values of work optimization and provision of better patient treatment were reasons for implementation of an electronic patient record system in a clinical setting in Denmark. They found that during implementation, some physicians felt that their professional authority and identity as specialists were challenged by the operational implementation, they became skeptical and resisted the implementation. Physicians bent the rules regarding which and how processes in the implemented OI were actually used.
Kennedy and Fiss (2009)	Quantitative: Surveys and regression analysis on a sample of 3,303 US hospitals.	legitimacy seeking and efficiency seeking logics	found that during total quality management (TQM) implementation within US hospitals, there is a coexistence of motivations to appear legitimate and motivations to realize economic performance improvements. The study also found that issue perception is related to extent of TQM implementation. Hospitals which reported a concern for economic and social gains implemented TQM to a higher extent than those who reported a concern for economic and social losses.
Lockett et al. (2012)	Qualitative: Comparative case analysis across four cases in UK with data gathered from 21 interviews in the first phase and 44 interviews in the second phase.	Structural legitimacy, normative legitimacy, values and professional interest	found that in the implementation of new pathways for cancer genetic services within the UK National Health Service, those who have limited structural legitimacy under prevailing conditions are most willing to engender change, but also least able to. The study also found that those who have strong structural legitimacy are most able to enact change but often least willing to. Those who are however able rhetorically to combine a balance of structural and normative legitimacy are most able to produce change. Moreover, the study found that framing processes during communication of the implementation can generate barriers

Study	Method	Institutional Factors and Processes	Findings
			and enablers to implementation. Ensuring implementing teams "speak the right language" to the different stakeholders by ensuring rhetoric discourses are tailored to resonate with the values of the stakeholders enhances the effectiveness of implementations. They also found that changes to existing work practices needed careful alignment with the existing professional interests.
Lucas et al. (2005)	Quantitative: Discriminant analysis on cross sectional survey data from licensed Nursing Home (NH) administrators in New Jersey.	Leadership and cognitive frame alignment factors such as training	Found enablers facilitating continuous quality improvement implementation in nursing homes as including availability of information systems, team supports and continuous quality improvement training for managers. The study also concluded that NHs adopt formal CQI to meet external expectations of new regulations and accreditation criteria.

Study	Method	Institutional Factors and Processes	Findings
Robert et al. (2011)	Mixed methods: Quantitative analysis on data from a national online survey with 150 respondents as well as qualitative analysis on data gathered from interviews, observation and documents through case studies with five hospitals in different regions of England.	Values and leadership	found the values of simplicity and practicality to be an enabler in the implementation of the "productive ward", a UK national quality improvement program that aimed to engage nursing staff in change implementation at the ward level. In particular, the study found that the perception of staff that the operational implementation was a simple and practical solution to their problems enhanced implementation. They also found that staff empowerment combined with an emphasis of local ownership as opposed to using a directive approach facilitates implementation. Moreover, leadership dedicated to the implementation facilitated the implementation. Identified barriers to implementation included high staff turnover and managing clinical workload.

Table 4: Examples of institutional theory studies of healthcare operational implementations

Study	Method	Institutional Factors and Processes	Findings
Braunscheidel et al. (2011)	Qualitative: Case studies in seven manufacturing organizations with data collected through interviews.	Coercive, mimetic and normative pressures	Coercive pressure emanating from customers played a key role in the adoption of six sigma in four out of seven companies Mimetic pressure in the form of imitating perceived successful organizations played a role in six sigma adoption in four out of seven companies. Normative isomorphic pressure though not playing a major role in the decision to adopt Six Sigma. It however played a role in the implementation of Six Sigma as companies selected consultants and professional organizations to offer training. Other findings were that good "innovation-values fit" and good "implementation climate" were factors enabling implementation effectiveness of OIs such as Six Sigma
Cai et al. (2010)	Quantitative: Structural equations modeling with data from 398 Chinese manufacturing companies.	Institutional support and relational networks	found that relational networks in the form of informal interpersonal relationships known as "Guanxi" together with institutional support in the form of government support enhanced trust among partners and together they enhanced information sharing and collaborative planning adoption.
Rogers et al. (2007)	Mixed: regression analysis on quantitative data obtained from the customer in an automotive supply chain on about 99 suppliers and analysis on interview data from about 14 suppliers in Canada.	efficiency improvement and image construction logics	found that both efficiency improvement and image construction processes were active through the course of supplier development program implementation mandated by a customer.

Study	Method	Institutional Factors and Processes	Findings
Williams et al. (2009)	Qualitative: content analysis on 19 interviews with mid-to-high level supply chain managers in USA.	stakeholder pressures and mimicry of practices	found that primary drivers of Supply Chain Security practices include: coercive pressures from government and customers, normative pressure from society, mimetic pressure from competitors. Specifically, the following were found to drive supply chain security practice adoption: government imposition and pressure from processes such as long lead-times from lengthy security checks in the event of non-conformance, customer expectations and mandatory demands, competitor mimicry and perception management, and societal concerns such as ending up in the news and the fear of harming society.
Zsidisin et al. (2005)	Qualitative: Grounded theory analysis on interview data collected in three case studies	regulative and normative pressures	found that a significant degree of homogeneity exists among the three firms in their business continuity plans and planning processes for supply chain risk management. Regulatory mechanisms influencing isomorphic change stemmed from imposition and inducement arising from governments and customers. The study also found that the purchasing profession as well as external agencies advocating standards of professional competence and commercial ethics generated normative pressure for the institutionalization of specific practices such as supply chain risk management. The driving force for such normative pressure was attributed to the training and background many purchasing professionals have.

Table 5: Examples of institutional theory studies of operational implementations in the OM field

2.4 Effort Satisficing Theory Related Literature

I induce the Effort Satisficing Theory from the research data later. In this section, I review literature relevant to the theory.

The concept of satisficing pioneered by Herbert Simon is quite commonly drawn upon. However, satisficing has often been used in the extant literature in terms of satisficing on dependent variables such as decision quality and performance (see Barros, 2010; Simon, 1972: 168-170; Simon, 1978: 350-356), rather than satisficing on the independent variables such as effort-exertion which yield the dependent variables. In this work, I address this gap by applying the concept of satisficing to the independent variable, effort-exertion, which yields the dependent variables of activity outcomes and performance. Another observation in the extant satisficing literature is a belief that satisficing leads to good outcomes. In the field of psychology for instance, the focus on satisficing includes where it yields good decisions in a reasonable amount of time (Aronson et al, 2004). In this work, I address a gap by focusing on situations where satisficing leads to poor outcomes, situations when reduction of satisficing tendencies would yield better outcomes.

2.4.1 Satisficing Threshold Determinant Related Literature

The field of psychology abounds with theories about human behaviour and phenomena influencing behaviour. The field of social psychology for instance is concerned with a level of analysis being the individual in the context of a social situation (Aronson et al, 2004). It is concerned about social influence on individual behaviour driven by the desire to maintain a positive self-esteem and the need to be accurate. Although much concerned about how

individuals construe phenomena, it does have a handful of relevant phenomena and theories about effort-exertion by people. Such phenomena and theories include:

- The Perseverance Effect
- The Self-Fulfilling Prophecy
- The By-Stander Effect
- The Over Justification Effect
- The Looking Glass Self
- Social Comparison Theory
- Self-Completion Theory
- Self-Evaluation Maintenance Theory

(see Aronson et al, 2004)

The perseverance effect is the phenomenon that people's beliefs about themselves and the social world which influences their effort exertion on activities persists even after the evidence supporting these beliefs is discredited.

The self-fulfilling prophecy is a mental schema-driven phenomenon in which people exert the level of effort needed to make their expectations come true. It is the phenomenon in which people's expectations about a person or phenomenon influences their effort exertion and reaction to that person or phenomenon with the ultimate purpose of ensuring consistency between their original expectations and the final outcomes of their effort exertion, how the person turns out.

The by-stander effect is a phenomenon in which the greater the number of by-standers witnessing an emergency, the less likely any one of them is to exert effort to help. It is essentially

a phenomenon in which in an activity, people, for instance by-standers, use the effort exertion of others around them, for instance other by-standers, as a reference to determine the extent of effort they themselves should exert on that activity. The by-stander effect thus suggests that a worker in a workplace may use the effort exertion of his co-workers as a benchmark to determine whether or not she should exert more (or less) effort on an activity or towards a goal. The more the co-workers not exerting effort towards that goal, the more likely any worker would exert effort. It suggests that, generally, people tend to gravitate towards the mean effort exertion in a group. The by-stander effect also quite subtly suggests that employees may exert more effort in an activity to achieve a given goal if leaders who are very visible in an organization, are doing the same.

The over justification effect on the other hand is a phenomenon in which people view their behaviour as caused by compelling extrinsic reasons, making them underestimate the extent to which intrinsic reasons caused their behaviour. In the over-justification effect, offering task task-contingent rewards to people with initially high intrinsic motivation for a task causes them to exert less effort on the task upon withdrawal of the task-contingent reward. Performance-contingent rewards on the other hand do not tend to cause people to exert less effort upon withdrawal of the rewards as they communicate to people that they are good at what they do. Immunizing against the negative effects of extrinsic rewards tends to reduce the over-justification effect.

The looking glass self is the phenomenon that we see ourselves through the eyes of other people and incorporate their views into our self-concept. It suggests that the type of audience primed in people's mind in the course of an activity could affect the level of effort they exert in that activity. Employees may therefore work harder if they prime a hard-working person or

alternatively a person who often encourages them to work harder, in their minds in the course of an activity.

Social comparison theory is the idea that people learn about their own abilities and attitudes by comparing themselves to others. Such comparisons may be downward social comparison where they compare to themselves to people worse than they are on a particular dimension, or upward social comparison where they compare themselves to people better than they are on a particular dimension. Social comparison theory suggest that when people focus on their actual or usual self rather than their ideal self, exposure to outstanding others inspires them to generate higher hopes and aspirations for themselves than they would if they hadn't been exposed to the superstars. Similar to the by-stander effect, social comparison theory suggests that the amount of effort people exert on activities pertaining to a given dimension may be influenced by their exposure to other people engaging in activities in that dimension.

Self-completion theory suggests that when people experience a threat to a valued aspect of their self-concept, or identity, they become highly motivated to seek social recognition of that identity. It suggests that when a valued aspect of people's identity is threatened, people would exert more effort to prove their identity with that valued aspect threatened. It suggests an effort exertion attempt to restore an identity status quo.

Self-evaluation maintenance theory suggests that people's self-concept can be threatened by the performance of others in an activity, and that the level of threat is determined by both the closeness of those others to the people whose self-concept are threatened and the relevance of the activity to the people. The more irrelevant the activity to their self-concept, the more they bask in the high performance of other people close to them in that activity. The more relevant the

activity is to their self-concept however, the more threatened they are of the high performance of people close to them in that activity. The theory suggests that the threat could even influence people to sabotage the performance of those close others in that activity. The theory predicts three principal modes by which people restore self-esteem when other people close to them shine in an activity of relevance to their self-concept: by distancing themselves from those other people, by improving their performance to match or outshine those other people, or by reducing the relevance of that activity to their self-concept. The theory suggests that employees may increase effort exertion on an activity if their close colleagues perform well on that activity and the performance is achievable. However, if the performance of their close colleagues seems way out of their league, employees may reduce effort exertion on that activity by reducing the relevance of the activity to them in order to restore their self-esteem.

The fields of human resources and organizational behaviour also do have some theories about effort-exertion by people, motivation theories. Such theories include:

- Equity Theory
- Goal Setting Theory
- Expectancy Theory
- Cumulative Prospect Theory
- Picoeconomics or Hyperbolic Discounting Theory
- Need Theory
- Temporal Motivation Theory

(see Johns and Saks, 2008; Steel and König, 2003; Steel and König, 2006)

Equity theory suggests that people are motivated to maintain an equitable exchange relationship. It suggests that people try to reduce inequity to achieve equity. The theory suggests that motivation stems from a comparison of the efforts one exerts in a work activity and the outcomes one receives in comparison with the outcomes of other people. The theory suggests that in the event of perceived inequity, people either use psychological means or behavioural means to reduce the inequity. Psychological means used include perceptual distortion of one's own effort exertion, perceptual distortion of the effort exertion of the comparison group and choosing another comparison group. Behavioural means used include reducing one's effort exertion, attempts to increase one's outcomes and leaving the exchange relationship, for instance leaving the organization altogether.

Goal Setting Theory suggests that people are more motivated to exert effort in organizations when they have specific, challenging, and acceptable goals to which organizational members are committed and for which they are provided feedback on their progress towards the goals. It suggests that people are more committed to goals that are set with their participation than goals simply handed down by their superiors. It also suggests that supportiveness as opposed to coerciveness encourages goal commitment.

Expectancy Theory on the other hand suggests that the product of outcome expectancy and outcome value determine the extent of effort people devote to an activity. Outcome expectancy refers to the probability that the outcome will be achieved while outcome value refers to the perceived value of the outcome. The higher the product, the higher the effort exertion.

Cumulative Prospect Theory similar to Expectancy Theory resonates outcome expectancy and outcome value as influencing effort-exertion. However, unlike Expectancy Theory, Cumulative

Prospect Theory suggests that the sum of the product of marginal outcome expectancy and marginal outcome value determine the extent of effort people devote to activities. The theory also distinguishes between losses and gains incurred as a consequence of effort exertion and suggests that losses loom larger than gains in influencing effort exertion. The mathematical function for losses is modeled concave while that for losses is convex. The function is modeled steeper for losses than for gains.

Picoeconomics or Hyperbolic Discounting Theory basically suggests that in choosing from a variety of possible rewarding activities, people have an innate tendency to inordinately undervalue future events. People tend to put off activities leading to distant but valuable rewards in favor of ones with more immediate though lesser rewards. It also suggests people have different sensitivities to delay and the more sensitive people are to delay, the higher their preference for activities which yield more immediate rewards. One law which is used to express the theory mathematically is the matching law (Steel and König, 2006: 893). One simple matching law suggests that utility, people's preference for a course of action is given by the product of reward frequency and reward amount divided by delay of reinforcement. Delay of reinforcement refers to how distant in time the reward will be achieved. This theory is said to illustrate the established phenomenon of preference reversals (Steel and König, 2006: 892-893). In economics, it is studied under the designation of time preference or implicit interest rate (Steel and König, 2006: 893).

Need Theory suggests that needs represent an internal energy force that directs behaviour towards actions that permit the satisfaction of the need itself, also referred to as satiation. It suggests that needs may be primary also referred to as viscerogenic and directly related to our biological nature, or secondary also referred to us psychogenic needs and related to our

personality. The theory suggests that three psychogenic needs are fundamentally relevant to people in organizations: the need for affiliation, the need for achievement and the need for power. The theory also suggests that in any effort-requiring activity, both the need for achievement and the need to avoid failure are relevant. The theory suggest that needs are not stable, they tend to fluctuate in intensity ranging for example from a slumbering satisfaction to absolute craving and they tend to fluctuate due to satiation. Need Theory suggests that at any time, the most intense need is the need we try to satisfy or reduce through our thoughts and behaviour. It suggests that people's patterns of effort-exertion are the consequence of their needs. The theory suggests that behaviour is determined by drive strength (need strength) and long-term considerations, delay, are only relevant to the extent that they influence the present need intensity. The greater the need drive strength, the greater that need influences our actions. The theory suggests that drive strength increases as we approach the satisfaction of our needs. The theory further suggests that drive strength may be decomposed into two components: the gradient of reinforcement and the gradient of stimulus. The gradient of reinforcement reflects the temporal dimension, how immediate the rewards and punishments associated with effort exertion are expected. The more immediate, the greater the drive strength. The gradient of stimulus reflects the reliability of environmental cues to predict the occurrence of rewards and punishments associated with effort-exertion geared towards need satiation.

Temporal Motivation Theory suggests that motivation can be understood by the effects of expectancy and value, weakened by delay with differences for rewards and losses (Steel and König, 2006: 897). The theory is an attempt to integrate Expectancy Theory, Cumulative Prospect Theory, Picoeconomics and Need Theory.

2.4.2 Relevant Macroeconomic Theory

The Keynesian School and the Austrian School of Macroeconomic Theory (Flanders, 2012; Papola, 2010; Papola, 2011; Skidelsky, 2010; White, 2010) are relevant to the Effort Satisficing Theory I induce later from the data in this dissertation. While these theories locked in a century old battle are broad with a lot of detail, I will focus this review only on the most relevant aspects to the Effort Satisficing Theory.

The Keynesian School of Macroeconomics (De Grauwe, 2011; Flanders, 2012; Marchionatti, 1999; Papola, 2010; Papola, 2011; Skidelsky, 2010) suggests that the flow of money drives the economy. The flow can be controlled through fiscal and monetary policy. Spending can be controlled through fiscal policy while interest rates are regulated through monetary policy. Economic parameters such as unemployment rates and inflation are controlled by this means. In Keynesianism, economic agents such as entrepreneurs and investors play a role in influencing performance of the economy. Keynesianism argues that business (hence the economy) is driven by animal spirits, the confidence (or lack thereof) that economic agents have in the economy (Skidelsky, 2010). For instance, the entrepreneur's decisions depend on expectations on "what the consumers will be prepared to pay when he (the entrepreneur) is ready to supply them after the elapse of what may be a lengthy period" (De Grauwe, 2011; Marchionatti, 1999: 418). When animal spirits are low, economic agents exert less effort in the economy and the economic performance suffers (Skidelsky, 2010). In the Keynesian school, low animal spirits is one of the reasons for low economic performance. Other reasons include liquidity traps (Skidelsky, 2010) but I shall not relate these now.

The Austrian School of Macroeconomics (Flanders, 2012; Papola, 2010; Papola, 2011; White, 2010), specifically the Hayekian School suggests that business cycles influence the economy creating boom and bust cycles. It suggests that free markets should be pursued, that price signals should not be distorted. In this school, the time-profile of outputs in the economy, the mix between productions for the present and production for the future is important. Hayek aimed to explain why the boom in a business cycle couldn't go on for ever. In the Hayekian explanation, it is a credit bubble story. A credit expansion occurs as a result of artificial lowering of interest rates, the premium on present consumption in exchange for future consumption, via monetary policy. Entrepreneurs confuse the credit expansion with a genuine supply of savings. Entrepreneurs embark on projects. Eventually, the lowered interest rates cannot be sustained and the interest rate rises as a result of either a rise in inflation or execution of monetary policy. A crisis emerges as investments commitments become unsustainable. For instance, the investment commitments prior made cannot be carried through because they are either unprofitable under financing with the new high interest rates or they have a significant potential to cause cash flow problems for entrepreneurs and investors finance them with their own equity. Investors and entrepreneurs consequently abandon the projects they started and try salvaging whatever they have resulting in waste, mal-investments which wreck the economy. Economic performance suffers in the interim as the boom yields a bust, an economic recession, as a consequence of the rising interest rates. A permanent loss to the economy's growth potential results due to the mal-investments which were made since everything is not perfectly reversible. The relevant aspect of this theory to my work is the effect of changes in interest rates.

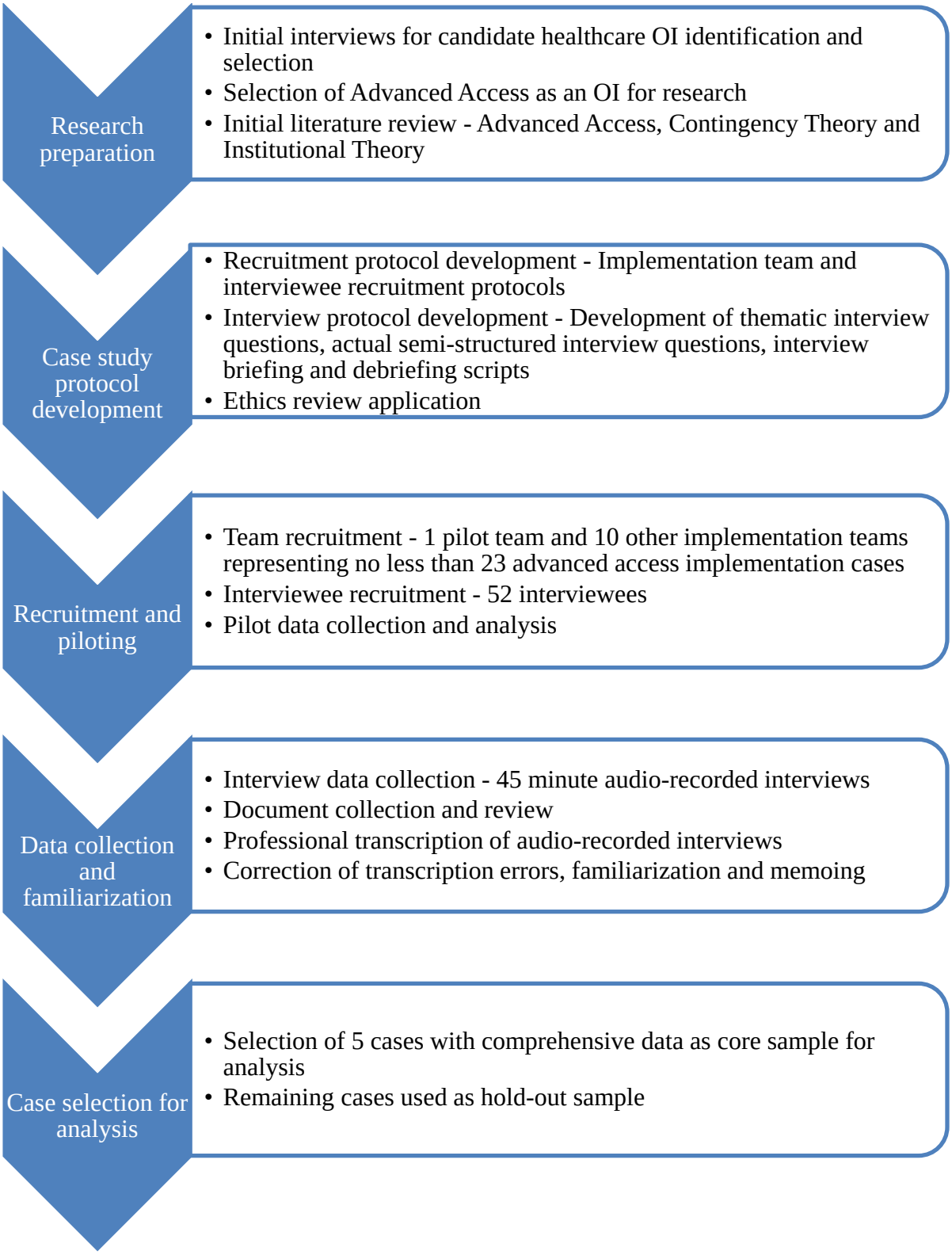
In this section, I reviewed many theories and phenomena. Later, I induce the Effort Satisficing Theory, a theory which although induced quite independently of the above theories and phenomena, overlaps and unifies them, at least partially.

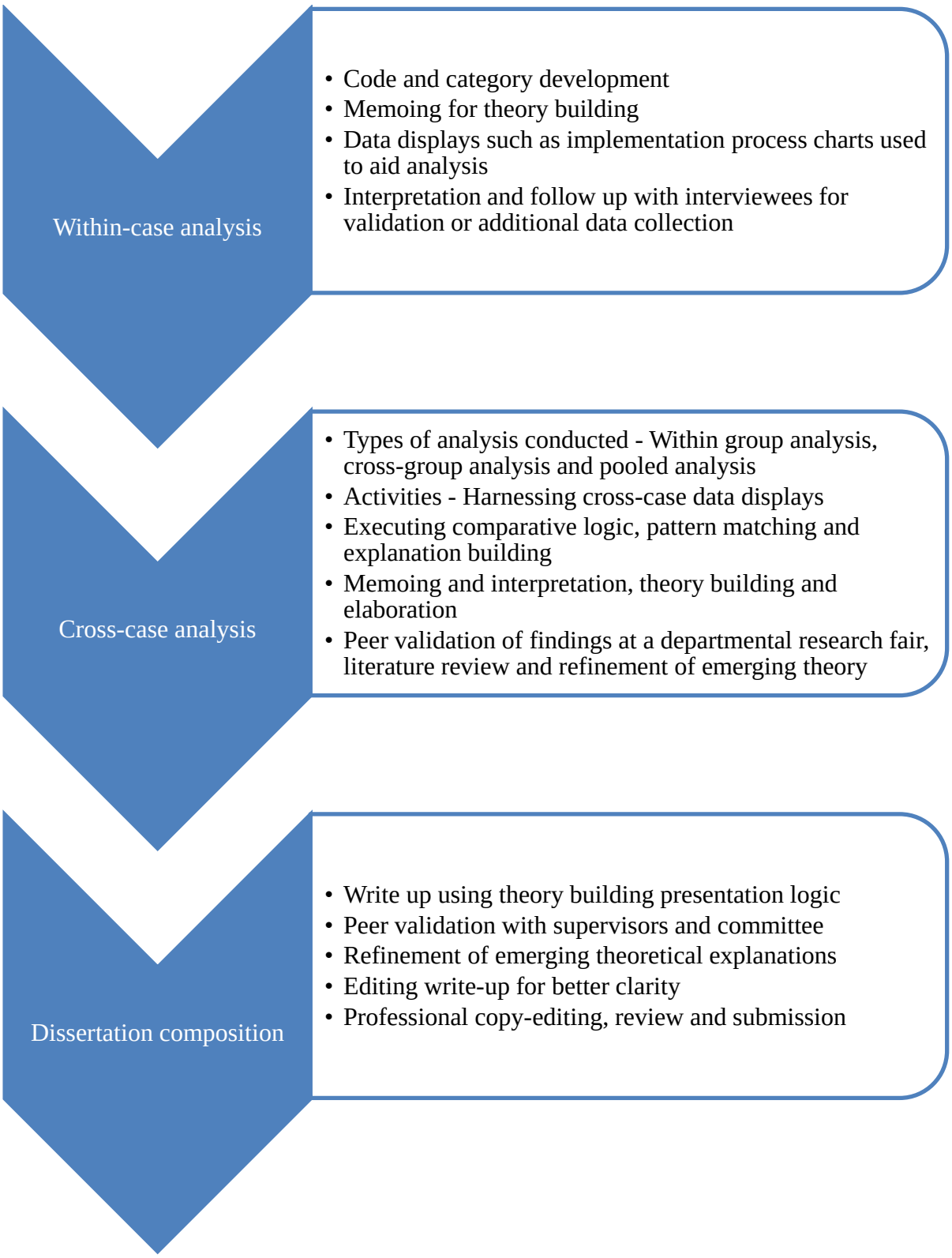
3 Research Methods

This research used the case study approach advocated by Eriksson and Kovalainen (2008) and Yin (2009) because it aims to investigate how and why contemporary phenomena occur in a situation where we have little control over events related to the phenomena's occurrence. A simplified diagram of the research process is illustrated in Figure 2.

Multiple case studies employing interviews and document gathering as data sources (Eriksson and Kovalainen, 2008; Miles and Huberman, 1994; Stake, 2006; Yin, 2009) was the research approach used. The multiple case study approach is advocated by Miles and Huberman (1994) and Yin (2009) to increase understanding, explanation and generalizability. The approach assures readers that case findings are not idiosyncratic (Miles and Huberman, 1994). In data collection, a case study protocol was used as per Yin (2009) to enhance reliability. The analysis included within-case, cross-case and pooled analyses (Eriksson and Kovalainen, 2008; Jain et al., 2009; Miles and Huberman, 1994; Yin, 2009) using principles of general qualitative data analysis. In explanation building for generalizability, both the replication logic advocated by Yin (2009) and the logics advocated by philosophers of science such as Hempel (1998), Salmon (1998) and Cartwright (1998) were considered. Where there was a divergence in the philosophical inclinations as per what each advocated, I leaned more towards the option that I perceived to hold greater potential for novelty and increased understanding of events given my background and the research task. Consequently, during theoretical elaborations of a barrier or enabler, I sometimes dismissed the replication logic of Yin (2009) that leans towards the statistical relevance logic of Hempel (1998) that favors dominant regularities.

Figure 2: A simplified figure of the research process I have followed




Within-case analysis
• Code and category development
• Memoing for theory building
• Data displays such as implementation process charts used to aid analysis
• Interpretation and follow up with interviewees for validation or additional data collection
Cross-case analysis
• Types of analysis conducted - Within group analysis, cross-group analysis and pooled analysis
• Activities - Harnessing cross-case data displays
• Executing comparative logic, pattern matching and explanation building
• Memoing and interpretation, theory building and elaboration
• Peer validation of findings at a departmental research fair, literature review and refinement of emerging theory
Dissertation composition
• Write up using theory building presentation logic
• Peer validation with supervisors and committee
• Refinement of emerging theoretical explanations
• Editing write-up for better clarity
• Professional copy-editing, review and submission

I dismissed the logics of Yin (2009) and Hempel (1998) in favor of the logics of Salmon (1998) and Cartwright (1998) that challenge favoring dominant regularities by arguing for causal relevance among others. I assessed the potential for analytical generalizability of non-dominant regularities through their abstraction potential for causal explanatory and predictive theory building rather than assessment by statistical relevance within the sample of cases as given by their replication rate.

The remainder of this section covers the:

(i) Recruitment process, including recruitment criteria

(ii) Data collection process in which interviews were conducted and documents reviewed.

(iii) Case selection for analysis process in which the cases in the overall sample were split into two, a core sample for analysis and a holdout sample for both validation and future research.

(iv) Case data analysis process in which both within-case and cross-case analysis were conducted.

3.1 Recruitment

Healthcare teams that had implemented Advanced Access in the province were contacted online for participation in the research. A number of teams expressed interest. However, recall bias (Woiceshyn and Daellenbach, 2005) was a problem that I sought to reduce in the recruitment phase in this retrospective case study, therefore not all the teams that expressed interest could be included.

Recruitment inclusion criteria were that:

- a team should have implemented Advanced Access, meaning the team was involved with at least one case of Advanced Access implementation
- and the team should have a low recall bias with respect to at least one case of Advanced Access implementation.

Initially, I sought to reduce recall bias by strictly focusing on only Advanced Access implementations in the last three years prior to interviewing. However, the problem with this criterion was that there was a risk of having a very small sample and missing out on potential cases that could contribute more to theory building. Moreover, this criterion was not a true measure of recall bias as recall bias was about how well the events in the cases were remembered independent of whether cases were very recent or not. The phenomenon of memory loss, which accounted for the use of the age of the case as a proxy for recall bias, was possibly different for different people. It was possible that some teams that implemented Advanced Access more than three years ago will remember events that occurred during implementation very well. This was especially true if the team members have a very good memory, they were very involved with it

or their Advanced Access implementation has been very much alive now. I consequently abandoned strict adherence to this criterion.

Finally, I chose to assess recall bias using self-assessment of recall bias as the ultimate exclusion criterion for recruiting teams. Any teams which had implemented Advanced Access more than three years before the time of recruitment were asked if they believed that they could remember the events which occurred during their Advanced Access implementation. Majority of the team members available for interviewing had to believe that they could remember the events that occurred during the time of implementation before the team was recruited. Some teams as well as individual interviewees opted out of recruitment as they self-assessed that there was a possibility that they may have a high recall bias.

There were two waves of recruitment. In the first wave, although the recruitment was targeted to all teams that had implemented Advanced Access in the province, teams that implemented Advanced Access in mental health clinics considerably dominated the recruited sample. Teams that implemented Advanced Access at Primary Care Network (PCN) clinics had largely not responded to participate. Since the governance of the mental health clinics and PCN clinics were different and the research design explicitly sought to control for this by including at least one pair of PCN clinics for analysis, a second wave of recruitment targeted at PCN clinics was conducted. This resulted in a more balanced sample of recruited Advanced Access implementation teams with:

- Four teams associated with Advanced Access implementations in mental health clinics
- Four teams associated with Advanced Access implementations in PCN clinics

- Two teams associated with Advanced Access implementations in clinics which were neither mental health clinics nor PCN clinics

Ultimately, a pilot team and ten other Advanced Access implementation teams were recruited to participate and these teams had completed Advanced Access implementations within seven years (that is from 2006) from the time of recruitment with the most recent ones being a year (that is around 2012). Some of the teams were linked to as much as six Advanced Access implementations in related clinics. The relationships between these clinics include clinics that shared the same management or were part of the same Primary Care Network (PCN). Consequently, excluding the pilot team, the recruited sample had 10 distinct Advanced Access implementation teams responsible for Advanced Access implementation at 23 clinic sites. The clinic site locations ranged from rural to urban.

Initially, the expected number of interviewees per implementation team was four based on a prior analysis of Advanced Access implementation team composition in the province. This target was based on a 100% participation rate of the expected Advanced Access implementation team members, each drawn from a different role, namely: clinician such as physician or therapist, office manager, medical office assistant and Advanced Access implementation facilitator. However, in the course of recruitment, the minimum number was set to two in order to address effects of differences in team size and organizational turnover as revealed by the research context. At the end of recruitment, recruited teams generally ranged from two to about six, representing the entire Advanced Access implementation team available for interviews that self-assessed favorably for recall bias. The team members were generally drawn from different job roles and this was another way I addressed recall bias as per Woiceshyn and Daellenbach (2005). Recruited team members generally remembered events that occurred during the implementation,

especially the implementation challenges they faced. Excluding the pilot team of three, the average recruited team size was five, the median of the recruited team size was also five and the mode of the recruited team size was six.

Including the pilot team of three, the recruited sample was made up of 52 interviewees. Generally, each interviewee had been involved with the Advanced Access implementation at their site at the time of implementation. All were either involved with Advanced Access at their clinics at the beginning of implementation or involved at the time of interviewing as per the inclusion/exclusion criteria for interviewee recruitment. As in Table 6, the job roles of interviewees were of a wide range to address interviewee reliability problems arising from sources such as perspective bias, recall bias and inaccurate articulation (Woiceshyn and Daellenbach, 2005; Yin, 2009).

Executive Directors	Directors
Physicians	Managers
Nurses	Therapists
Dieticians	Intake Social Workers
Pharmacists	Secretaries
Medical Office Assistants	Office Clerks
Project Coordinators	Application Analysts
Advanced Access Implementation Facilitators	Advanced Access Coordinators

Table 6: Interviewee job roles

Interviewee education level ranged from High School Graduates all the way up to Master's Degree Holders while the range of experience varied from 2 years to over 35 years. Notable operations management related professional designations among interviewees ranged from Lean Six Sigma Green Belts to Black Belts. Miles and Huberman (1994) warned of "Elite bias", but the wide range of job roles, educational level and experience avoided this problem.

3.2 Data Collection

Data collection was piloted with the pilot team to enhance contextual insight, sensitivity and also to identify potential logistics problems that could occur in data collection (Corbin and Strauss, 2008; Kvale and Brinkmann, 2009; Yin, 2009).

Data collection involved interviews and document reviews to enhance triangulation and increase reliability and construct validity as Yin (2009) recommends. In-depth interviews were used as the primary data source while document reviews had a complementary role as per Eriksson and Kovalainen (2008) and Stake (2006).

3.2.1 Interviews

An interview is an attempt to understand an event or situation from a respondent's point of view (Brinkmann and Kvale, 2015; Kvale and Brinkmann, 2009). It is a conversation where meanings are not only conveyed but also cooperatively built up, received, interpreted, and recorded by the interviewer (Silverman, 2004; Silverman, 2011). Data was collected through interviews in this research because (a) they provide access to in-depth responses and rich data and (b) they provide flexibility to modify one's line of enquiry, check understanding, and probe, all of which increase research quality (Brinkmann and Kvale, 2015; Kvale and Brinkmann, 2009).

The interview structure was of a semi-structured form (Kvale and Brinkmann, 2009; Yin, 2009) to enhance reliability yet allowed for flexible probing. Interview questions were generally open ended and probing for details was used when needed (Woiceshyn and Daellenbach, 2005). The interviews were conducted both face-to-face and over telecommunication technology (Kvale and Brinkmann, 2009; Oelke et al., 2008).

As prior implied, to gain a balanced perspective on each case, dimensional sampling (Miles and Huberman, 1994) was used wherever possible. Interviewees within each Advanced Access implementation team associated with a case included members of the Advanced Access implementation team drawn from different roles including: clinicians, office staff and implementation facilitators. Interview questions were focused on the team's implementation of Advanced Access at various sites particularly the Advanced Access implementation stories and the enablers and barriers that plagued or facilitated the implementations. No patient opinions, information or data were involved in this research.

Interviews followed Kvale and Brinkmann's (2009) four-stage process to ensure rigor: *preparation*, which involved thematization and design; *staging* that included briefing, main interviewing, de-briefing and a post-debriefing; *pre-analysis* encompassing familiarization, transcription, and the development of summaries and memos; and *analysis*, which includes tidying and structuring, and meaning generation through coding and categorization (Brinkmann and Kvale, 2015; Kvale and Brinkmann, 2009).

Interviews were about the Advanced Access implementation stories of each recruited Advanced Access implementation team with a focus on the barriers and enablers of implementation. Interviewees spoke of their Advanced Access implementation process, the implementation challenges they faced, how they overcame them and how the implementation felt. Interviews were generally about 45 minutes per interviewee. All interviews were audio recorded and notes were taken during interviews. Familiarization of interviews through a review of the notes taken was made after each interview to identify emerging themes. Memos about emerging themes were also made both after interviewing and after audio transcription. The emergent themes in each

interview were fed back into the interviewing process in subsequent interviews (Miles and Huberman, 1994) as interviewees were asked probing questions around those themes.

An interview protocol including thematic interview questions and the actual interview questions was used during interviewing. This formed part of the case study protocol recommended by Yin (2009). The possibility of having two 45-minute interview rounds was planned for in the interview protocol. This was not used except for the first non-pilot team interviewed at which time the interviewer had not developed enough contextual sensitivity to quickly steer the interviews towards saturation. For the other teams, one 45 minute round of interviews was sufficient because saturation on what the implementation challenges faced were and how they were overcome from an interviewee point of view was often approached for the cases with the most comprehensive data in the sample after one 45 minute interview round. Follow up email correspondence was used to fill in any identified gaps.

Reliability in interviews may include three separate issues, namely interviewee reliability, interviewer reliability and transcription reliability (Brinkmann and Kvale, 2015; Kvale and Brinkmann, 2009; Silverman, 2006).

Regarding interviewee reliability, Yin (2009) notes problems with interviewee responses as including bias, poor recall and inaccurate articulation. Source triangulation was used to keep these in check as Yin (2009) recommends for improving reliability. Source triangulation was applied in two forms, by using interviews and documents as sources as per Yin's (2009) suggestion and also by respondent triangulation, asking different interviewees similar questions addressed by their colleague team members via probing for details. The second approach was

consistent with the logic behind Kvale and Brinkmann's (2009) recommendation of repeating an important interview question to check for the reliability of the interviewee's responses.

The second reliability issue, interviewer reliability, was checked by avoiding non-purposeful leading questions and by following the systematic interview process recommended by Kvale and Brinkmann (2009).

The third reliability issue, transcription reliability, was enhanced by satisfying relevant "criteria of low-inference descriptors" in that subject to each interviewee's consent, all interviews were recorded audibly, and professional transcription was undertaken (Brinkmann and Kvale, 2015; Kvale and Brinkmann, 2009; Silverman, 2006). Transcripts were carefully read and corrected for transcription errors as a further step to satisfy the "criteria of low-inference descriptors" (Kvale and Brinkmann, 2009; Silverman, 2006). To increase recording quality, face-to-face interviews were conducted as much as possible in relatively quiet spaces even if it meant the researcher had to spend the night at another town or city. Telephone interviews were only used if face-to-face interviews were highly uneconomical due to issues such as geographical dispersion of the Advanced Access implementation team or an inability to get the majority of the team to be interviewed on the same day.

Validity in interviews includes "interpretation validity" which refers to the extent by which the interviewer or analyst may correctly interpret the interviewee or the phenomenon whose account is being given by the interviewee (Kvale and Brinkmann, 2009). It was enhanced by (a) asking "control questions" such as the role of an interviewee within the organization and the events in the cases (b) member validation which involves paraphrasing the interviewee's response and requesting for confirmation or rebuttal (d) checking for whether interviewee statements

correspond to what I seem to know about the cases (Kvale and Brinkmann, 2009). Probing questions and member validation were used when there seemed to be doubt regarding the meaning of interviewee statements (Kvale and Brinkmann, 2009). Moreover, interview summaries were sent to the Advanced Access implementation teams for validation.

3.2.2 Documents

Data collection included document gathering as a triangulation measure to increase reliability (Yin, 2009). Documents which were relevant to the cases included: charts of the Advanced Access performance metrics such as third next available appointment and continuity over time, Advanced Access implementation reports, Advanced Access implementation PowerPoint presentations and implementation evaluations. These were collected whenever available and reviewed (Woiceshyn and Daellenbach, 2005; Yin, 2009). To maximize interpretation validity, I took into account why the document was produced, by whom, and for whom (Silverman, 2004; Silverman, 2011; Yin, 2009). I considered the target audience of each document and any implicit assumptions (Silverman, 2004; Silverman, 2011; Yin, 2009).

3.3 Case Selection for Analysis

The number of Advanced Access implementation teams recruited from which data was collected and the amount of data collected was very large. This was because comprehensive sampling (Miles and Huberman, 1994) was used. Consequently, for research tractability, a few cases had to be selected as the core sample for analysis while the others were reserved in a holdout sample for validation, elaboration and future research. This approach also had the advantage of being able to ensure purposive sampling (Eriksson and Kovalainen, 2008) within the recruited sample. This approach of recruiting for a large number of cases and later sampling from within that for analysis, rather than recruiting just a few for analysis right from the onset, reduced the effects of convenience sampling on the research. It enhanced the chances of including cases with comprehensive data that were most suitable for the research as per the research design.

The initial research design was based on enhancing both literal and theoretical replication (Yin 2009) by using pairs of very effective and less effective cases. To enhance theoretical replication however, the outcomes of Advanced Access needed to be known in the recruitment phase. This was a problem as it was not possible given both the context and research ethics considerations. Consequently, the approach of recruiting for data on a large sample of cases by comprehensive sampling (Miles and Huberman, 1994), familiarizing with the data, multi-dimensionally grouping the cases and purposively selecting cases most suitable for the research via comparable case selection (Miles and Huberman, 1994) offered a good way out of the problem.

3.3.1 Multi-dimensional Candidate Case Profiling for Case Selection

During case selection, candidate cases can be profiled along relevant theoretical dimensions for effective sampling (Eriksson and Kovalainen, 2008; Miles and Huberman, 1994; Yin, 2009).

Multiple objectives were being pursued in this research due to the research context. There were different stakeholders with different demands on the research. It was important to profile or group cases in a multi-dimensional manner to enable balancing these multiple competing objectives. The objectives included:

- Following the research design of theoretical and literal replication using case pairings of very effective and less effective implementations to enable easy identification of enablers and barriers.
- Ensuring control factors, discussed below, were used in case pairings to improve within-pair homogeneity and analyses. Within-pair homogeneity makes it easier to identify the essential phenomena that account for implementation outcome differences within a pair of cases.
- Advancing theoretical understanding through theory building.
- Advancing through knowledge generation, the capability of practitioners to implement OIs such as Advanced Access more effectively and efficiently.
- Research tractability.

The first three objectives were what called for the dimensions used in the multi-dimensional grouping of cases. Cases were grouped on:

- Implementation effectiveness
- Control factors
- Theoretical factors for theory building

To group on implementation effectiveness, I first familiarized myself with the data to identify relevant dimensions of "implementation effectiveness". I had to identify what "outcomes of

implementation" as per the research question were available in the data which could in turn be used for operationalization to distinguish between effective and less effective implementations. As these structured Advanced Access implementations are sponsored and the provincial Advanced Access program fixes the implementation duration, typical implementation outcome dimensions such as schedule and budget overruns were not applicable. Applicable Advanced Access implementation outcome dimensions identified in this research include: wait-time outcomes, extent of implementation, extent of institutionalization of the implemented elements and outcomes pertaining to the perception of the clinic regarding its Advanced Access implementation. I identified various measures by which I could profile the cases on the basis of how effective the Advanced Access implementations were. These measures are in Table 7:

Implementation Effectiveness Measures
Percent wait-time improvement
Post-implementation wait-time in relation to the target post-implementation wait time the clinic had hoped to achieve
Percentage of clinicians who did not implement Advanced Access altogether
Percentage of clinicians who did not implement some Advanced Access elements
Post-implementation assessment of how beneficial the implementation was
Number of Advanced Access elements implemented out of the number of Advanced Access elements which were potentially applicable to the clinic
Level of institutionalization of implemented Advanced Access elements
Sustainability of the post-implementation wait time
Level of difficulty in the Advanced Access implementation process
Extent of resistance at the time of implementation
Emotions expressed during implementation
Post-implementation emotions expressed about Advanced Access

Table 7: Advanced Access Implementation Effectiveness Measures

Although some of these implementation effectiveness measures could not be numerically quantified as such numerical data did not exist for them, they were assessed through the available qualitative research data.

The cases were then profiled next by control factors. Control factors included: large versus small clinic size, single site versus multi-site implementations, task environment differences such as family physician versus mental health task environments and governance differences such as different PCN governances and provincial health services governance.

The cases were then finally profiled by emerging theoretical factors for theory building. In this, the emerging theoretical factors identified during interview account familiarization were identified and cases were profiled as to which emergent theoretical factors their data could potentially help elaborate. I discuss the cases and their profiles below.

3.3.2 Case Selection

After the multi-dimensional case profiling for selection, the following cases were selected:

- Case 1 – Adult Mental Health Clinic
- Case 2 – Children's Mental Health Clinic
- Case 3 – Children's Mental Health Clinic
- Case 4 – PCN Clinic
- Case 5 – PCN Clinic

Case 1 and Case 2 formed a pair as per the initial research design and they satisfied the first three objectives referenced above. Case 1 was the more effective implementation while Case 2 was the less effective implementation. Regarding control factors, they were both small sized single site

implementations and they were both directly governed by the same entity, the provincial health services authority. They also had the same task environment, mental health. Moreover, the same Advanced Access core implementation team simultaneously implemented both cases, so I could control for differences in implementation team and maturation. Regarding case selection by theoretical factors for theory building, it had emerged during interview account familiarization that "Ambulation" and "Leadership" were the key barriers that accounted for the differences in implementation effectiveness between these two cases. The "Leadership" barrier was in the course of analysis decomposed into "Institutional Managerial Apathy" which was its source and "Workload" which was the key factor by which it reduced the implementation effectiveness of Case 2 relative to Case 1.

Case 3 was added on to the Case 1 and Case 2 pair since it was detected from interview account familiarization that it had potential in elaborating the implementation barrier "Ambulation" which emerged from contrasting the implementations in Case 1 and Case 2. Case 3 is a multi-site implementation of three sister clinic sites managed by the same manager and whose Advanced Access implementation was done by the same Advanced Access implementation team. This implementation team was different from the team that implemented Advanced Access in Case 1 and Case 2. Similar to Case 1 and Case 2, Case 3 was also a mental health clinic. The provincial health services authority that is an institution in the province governed this clinic. All the clinics in Case 1, 2 and 3 employed therapists. Due to its being a multi-site implementation, Case 3 can be to an extent considered as three distinct cases if the research focus were to identify differences between the three sites. However, in this dissertation, that is not my focus and thus I treat Case 3 as a single multi-site Advanced Access implementation.

Case 4 and Case 5 also formed a pair as per the initial research design, and they satisfied the first three objectives referenced above. Case 4 was the more effective implementation while Case 5 was less effective. Regarding control factors: they were both small-sized, single-site implementations that were directly governed by the Primary Care Initiative (PCI), which is the provincial framework that governs Primary Care Networks (PCNs). They were also associated with the same Primary Care Network (PCN) so I could effectively control for differences in governance or institutional environment. They also had the same task environment, family care, and they both employed primary care physicians. Unlike Case 1 and Case 2, the Advanced Access implementation teams that implemented Case 4 and Case 5 were different. The cases were also implemented at different times. Regarding case selection by theoretical factors for theory building, it had emerged during interview account familiarization that "Workload" was a key barrier which accounted for the differences in implementation effectiveness between Case 4 and Case 5 so the selection of these cases was a logical choice to probe into that barrier.

After the five cases, namely Case 1, Case 2, Case 3, Case 4 and Case 5 were selected as the core sample for analysis; the remaining cases were grouped into a holdout sample for validation and elaboration on any research findings that might emerge after analysis. The five cases were grouped into two:

- Mental Health Clinic Group: These were Advanced Access implementation cases in mental health clinics. This group is made up of: Case 1, Case 2 and Case 3.
- PCN Clinic Group: These were Advanced Access implementation cases in PCN Clinics. This group is made up of: Case 4 and Case 5.

The five cases were then analyzed in-depth.

3.4 Data Analysis

Pre-analysis (Kvale and Brinkmann, 2009) was conducted prior to in-depth data analysis to identify emerging preliminary findings. Pre-analysis was conducted during the data collection and case selection for analysis phases. This often included both within and cross-case analysis. Through pre-analysis, key AA implementation barriers were identified. These were: Ambulation, Institutional Managerial Apathy, Technology and Workload.

After pre-analysis, in-depth data analysis was conducted using:

- Within-case analysis
- Cross-case analysis of which there were three forms:
    - Within-group analysis
    - Cross-group analysis
    - Pooled analysis

3.4.1 Within Case Analysis

Each case was first analyzed individually (Miles and Huberman, 1994; Yin, 2009). This is a process to move from description to understanding and explanation (Miles and Huberman, 1994). The analysis followed general qualitative analysis procedures including: coding, categorization, comparison, abstraction, and dimensionalization (Corbin and Strauss, 2008; Miles and Huberman, 1994). The data was reduced via coding and it was rendered easily visible for analysis via data displays. Analytical comparisons were then made, after which interpretations were made and abstractions drawn and elaborated via their properties and dimensions manifested within the cases (Corbin and Strauss, 2008; Miles and Huberman, 1994; Stake, 2006).

Coding was carried out to reduce bias, and to provide structure and insightful overviews (Corbin and Strauss, 2008; Kvale and Brinkmann, 2009). The analytic codes were developed after the main data collection phase as the analysis progressed. Code types used included descriptive codes and theoretical codes (Corbin and Strauss, 2008; Kvale and Brinkmann, 2009; Miles and Huberman, 1994).

Categorization involved the aggregation of codes into higher-level categories (Corbin and Strauss, 2008; Miles and Huberman, 1994; Kvale and Brinkmann, 2009). The aggregation of codes into higher-level categories was used to stimulate explanation building and theorization (Corbin and Strauss, 2008). For instance, given that each Advanced Access implementation could involve more than five different Advanced Access element implementations, code categorization by which Advanced Access element the code pertained to enabled in-depth analysis of that Advanced Access element. This also enhanced later cross-case analysis, since I could "compare apples to apples", comparing the implementation of that specific Advanced Access element across the cases. "Data displays" (Miles and Huberman, 1994) in the form of tables and lists were extensively used in the analysis since they provided a simple structure to the otherwise complex Advanced Access implementation data collected. The nature of the data required the creation of custom data displays to ease working with the data as Miles and Huberman (1994) suggested could sometimes be needed. Data displays used included: critical event lists, inter-category matrices, and implementation process charts.

Critical event lists were used to identify the critical events in a case as well as their chronological ordering. These lists were sent to interviewees for validation. They were the basis for the construction of the implementation process charts that visually conveyed information about the general implementation sequence of Advanced Access elements within a case. The

implementation process chart is a kind of "critical incident chart" (Miles and Huberman, 1994; Woiceshyn and Daellenbach, 2005) in that it displays the timeline of critical events that took place during implementation to help visualize the implementation process. Inter-category matrices were used to map quotes pertaining to different code categories with each other. This enhanced structure in the analysis process and enabled comparisons between data pertaining to different code categories. For instance, an Advanced Access element code category could be mapped to an Advanced Access implementation issues category and a comment category. Another instance of such a matrix mapped Advanced Access element categories to: pre-implementation descriptive code category, post implementation descriptive code category, pre-implementation state effects code category and post-implementation state effects code category. Such matrices increased my understanding of each case. The inter-category matrices functioned like the "thematic conceptual matrix" advocated by Miles and Huberman (1994) as they helped to explore and understand the Advanced Access implementation within each case.

Interpretation and validation was carried out using the data displays and memos together with analytical methods such as pattern and theme identification, factoring and disconfirming evidence search and analysis (Kvale and Brinkmann, 2009; Miles and Huberman, 1994; Silverman, 2004; Silverman, 2006). As suggested above, I also checked for researcher effects and sought feedback through follow-up correspondence from informants (Miles and Huberman, 1994). Researcher effects on code reliability could not be checked through inter-coder reliability, as I was the only one working on this dissertation. However, I used "inter-temporal reliability" to check for code reliability by revisiting codes after my knowledge of the cases grew to determine whether I still agree with my initial code and category assignments. The codes, categories and their relationships to other codes, categories and theory were compared periodically for

reliability and refinement (Corbin and Strauss, 2008; Eriksson and Kovalainen, 2008; Kvale and Brinkmann, 2009). I refined some of my code and category assignments as a consequence of this process.

3.4.2 Cross-Case Analysis

Following the analysis of individual cases, comparative analysis was carried out across cases (Miles and Huberman, 1994; Yin, 2009). To increase rigor in the analysis, interpretation and validation methods similar to those used in within-case analysis were employed, as recommended by Miles and Huberman (1994).

The cross-case analysis incorporated analytic techniques such as pattern matching and explanation building to enhance internal validity as recommended by Eisenhardt (1989), Eriksson and Kovalainen (2008), and Yin (2009). Data displays were also used and an example is Table 17 in Appendix B.

As mentioned earlier, within-group analysis, cross-group analysis and pooled analysis were conducted in cross-case analysis.

3.4.2.1 Within-Group Analysis

In this analysis, cases within each group were compared and contrasted for theoretical replication. This was done by comparing and contrasting the overall Advanced Access implementation as well as specific Advanced Access element implementations that were common to the cases within the group. Identified barriers were then elaborated further through constant comparison in the data as suggested by Corbin and Strauss (2008).

At this stage of the research, the findings were peer validated in an internal operations management research fair and the feedback received indicated that there was a need for further elaboration on explanations such as those related to the impact of workload since without the elaboration they could not stand up against all rival explanations. At this stage, pooled analysis was planned to understand the impact of workload and the proposed theory underlying how it impacted OIs, Effort Satisficing Theory (EST), more comprehensively.

3.4.2.2 Cross-Group Analysis

In this analysis, I compared and contrasted the two groups of cases namely the mental health clinic group and the PCN clinic group. Advanced Access elements that were generally implemented in one group but not the other, and challenges which generally manifested in one group but not the other, were probed. A fundamental part of the analysis was to identify the barriers that were driving the emergence of the challenges in one group but not the other. This analysis was a natural extension of the constant comparison method recommended by Corbin and Strauss (2008).

In the course of this analysis, it was found that the process of changing cultures was a key challenge for the mental health clinic group. Cultural change was then explored further predominantly using literal replication logic within the mental health clinic group and the specific dimensions of cultural change that were the barriers were identified. This analysis also revealed lack of appropriate prior technology as a significant barrier in the mental health clinic group.

3.4.2.3 Pooled Analysis

After conducting within-group and cross-group analysis, pooled analysis was conducted as the final analysis to elaborate and theorize on each finding. I took a critical and philosophical approach to the analysis, in harmony with the recommendation of Corbin and Strauss (2008: 36) that we should not be constrained or stifled by the literature; we should use the literature and not let it use us. It was also in harmony with the "If-Then" tests advocated by Miles and Huberman (1994) if the "If-conditions" for executing these If-Then scenario analyses are not restricted to only those in the dataset from the recruited sample.

Pooled analysis contributed significantly in the elaboration of the emerging findings that had been identified in the within-group analysis.

In the remainder of this section, I turn my attention to elaborate on the following:

- How I conducted pooled analysis
- Why I abandoned strict adherence to replication logic
- The basis on which I determined which events and phenomena in the cases to consider salient for analysis
- The basis on which I abandoned levels of analysis restrictions

How did I conduct pooled analysis? In pooled analysis, each case was compared and contrasted with the other cases irrespective of which group of cases they belonged to. Each notable event in each case was also compared and contrasted with both events in other cases and also candidate hypothetical (yet plausible) events that could have happened if actors in each case had responded

differently to the events happening around them. Patterns were then identified and explanations sought. This analysis was an extension of the constant comparative method of Corbin and Strauss (2008) and the "If-Then" scenario analysis recommended by Miles and Huberman (1994), in that it went beyond the level where data is restricted to what happened regarding a phenomenon in only the cases recruited, to a theoretical level that included all that could possibly happen regarding that phenomenon if the recruited sample had been large enough. The sample of cases recruited for analysis of the phenomenon acted as a pointer to the greater sample of potential cases of the phenomenon, rather than acting as the only sample available for analyzing the phenomenon. A phenomenon that occurred in a case in the recruited sample of cases selected was consequently considered for explanation as long as it was viewed as a potentially common phenomenon in the greater sample of potential cases, even if it was not replicated in other cases of the recruited sample for analysis. In this stage of the analysis, explanatory and predictive models were theorized using guidance from the canons of philosophy of science per Klemke et al. (1998).

In pooled analysis, in accordance with the recommendation of Corbin and Strauss (2008: 263) seeming disconfirming evidence and rival explanations did not negate my analysis, but rather they added new dimensions to it which assisted with refining and elaborating findings.

Furthermore in pooled analysis, as I have implied, strict adherence to the literal replication logic of Yin (2009) was abandoned. Even though Yin (2009) argues that replication makes findings more generalizable in that it reduces the tendency that an explanation is rendered less artifactual to a case instance, strict adherence to the replication logic also reduces generalizability, in that it increases the chances that an explanation is artifactual to the case recruitment instance. It subjects the research to selection effects and increases the impact of selection bias on the

findings of the research. In other words, inductions are specific to the recruitment instance and this itself renders those inductions less generalizable. Strict adherence to the replication logic of Yin (2009) has a weakness of reducing generalizability in that it increases the chances that an explanation is artifactual to the case-recruitment instance.

To circumvent this weakness of a strict adherence to the replication logic advocated by Yin (2009) I yielded to a much broader definition of the term "data" as encompassing all the case data, together with what I knew from my experience about phenomena in the data. This resonates with what Kvale and Brinkmann (2009) suggest that in qualitative validation we should consider what we seem to know about a phenomenon when analyzing the validity of research data we have gathered about it from our samples.

In pooled analysis, I favored a mixed approach drawn from two philosophies:

- Hempel's (1998) philosophy on dominant regularities which argues for "the high probability or expectedness requirement" from which Yin's (2009) literal replication logic which focuses on dominant regularities manifested through replication draws.
- Salmon (1998: 250 - 257) and Cartwright's (1998: 235) philosophy on non-dominant regularities which argue that we can have explanations of events with low probability of occurrence, and that salience as principally determined by causality and explanatory utility rather than statistical relevance are the determinants of what is of explanatory import.

I integrate these two seemingly opposing philosophical views in my pooled analysis methodological strategy. For instance, I agree with Salmon (1998: 257) as I focus on within-case relevance and theoretical relevance, rather than statistical relevance in selecting events to explain

to elaborate on barriers and enablers within the research. Using my pooled analysis methodological strategy, I look for replication first within the sample of cases selected for analysis and then within the holdout sample to strengthen explanation building as advocated by Yin (2009). However, the fact that I may not find replication of an event, such as physicians ignoring concerns raised by office staff, does not prevent me from selecting that event for explanation and theory building.

Replication as advocated by Yin (2009) is used in this dissertation for theoretical elaboration, especially elaboration on the different ways a phenomenon such as a barrier manifests. However, the choice of which events or phenomena to focus on explaining in depth for elaboration of any findings prior found within this dissertation is determined by considerations of salience as suggested by Salmon (1998: 255-257).

In pooled analysis, I choose the events and phenomena to be focused on analyzing and explaining in depth to elaborate phenomena pre-identified as barriers or enablers during within-group analysis and cross-group analysis based on practical salience and theoretical salience. Practical salience in the context of this choice refers, among other things, to within-case relevance, the impact of the event or phenomenon on the Advanced Access implementation in the case. It is an extension of causality as a determinant of salience as argued by Salmon (1998). For instance, an event or phenomenon which interviewees within a specific case in the multiple-case study reported to have almost caused their Advanced Access implementation to be boycotted is considered as being of high practical salience. On the other hand, theoretical salience in the context of this choice refers to theoretical relevance: to what extent I perceive a scrutiny of the event or phenomenon to be capable of easily yielding novel theoretical insights. This is an extension of the position of Cartwright (1998: 235) on non-dominant regularities.

For instance, an event or phenomenon, which could result in extending an existing theory such as contingency theory via theory elaboration or which could result in the development of a new theory altogether, is considered as being of high theoretical salience. In terms of the Hempelian philosophy which the replication logic of Yin (2009) leans towards, the "expectedness requirement" there lies in the expectedness of the events which can be predicted by the theoretical elaborations yielded by scrutinizing that event, rather than the expectedness of the event itself within the sample of cases analyzed. For instance, I may focus on probing why a pregnant employee quit her job in one specific case of Advanced Access implementation. However, the salience of this is not just about one pregnant employee quitting but rather the development of an explanatory frame for why people leave organizations during OIs. Its salience may further lie in its utility as a theoretical predictive of the circumstances under which organizational turnover during OIs may rise.

As a further example, I may focus on why a physician dismissed a staff manager's concern in one specific case of Advanced Access implementation. However, the salience in that is not about a physician and a staff manager but about the development of an explanatory frame for why some stakeholders dismiss the concerns of other stakeholders. The explanatory frame may even be developed to a level that it can be used to explain, at least to some extent, why some stakeholders may push for a practice to be implemented while others may dismiss or resist the implementation against the expectations of the stakeholder pushing for the implementation. The explanatory frame can also be developed to the extent that it can be drawn upon to predict the relative likelihood of this under different conditions.

In the course of pooled analysis, I sometimes took a Hempelian philosophical explanation and analytic approach, specifically the approach for explaining motivated behavior advocated by

Hempel (1998: 213) as I seek confirming and disconfirming evidence for elaboration of findings. I search for "desires and beliefs" present before actions, that a course of action would most likely have a desired effect. I specify these even if they seem axiomatic to organizational nature or human nature to ensure that explanations are comprehensive and robust for generalizations. An instance of this Hempelian philosophical explanation approach is when I draw on the concept of self-preservation as input to explain why some Advanced Access implementations may be less effective.

In pursuing Hempelian philosophical explanations, I transcend levels of analysis per the suggestions of Devinney (2013). I philosophically view levels of analysis as just one type rather than the only possible type of domain characterization of an explanation or theory. I view levels of analysis as a domain characterization based principally on entity aggregations and organizational fields of knowledge. I transcend this by using other domain characterizations, for instance volitional entities. Volitional entities are common to multiple levels of analysis, including the organizational and individual level, so in doing this I effectively transcend restricting my analysis to a single level of analysis. This in turn makes the findings more generalizable, ceteris paribus.

To summarize, pooled analysis was conducted for elaboration of findings. It was conducted with philosophical insights, extended forms of the "If-Then" scenario analysis technique advocated by Miles and Huberman (1994) and the constant comparison technique advocated by Corbin and Strauss (2008).

3.5 Reliability, Bias, Rigor, Validity and Application

Reliability was enhanced by the use of a “case study protocol” and a “case study database” as recommended by Yin (2009).

Bias was reduced through disconfirming evidence search (Yin, 2009). Research bias in analysis was also reduced through “peer validation” in the form of cross-checking meanings and attributions of phenomena to theoretical factors with other researchers (Kvale and Brinkmann, 2009; Yin, 2009) in an internal Operations Management research fair. The use of different types of cross-case analysis methods namely within-group, cross-group and pooled analysis methods reduced method bias on the set of findings so that the set of findings was less an artifact of the chosen analytical method.

Rigor was enhanced by following up surprises, probing extreme cases such Case 2 and Case 5, member validating event sequences and interpretations as well as making if-then scenario analysis tests (Miles and Huberman, 1994).

Construct validity was enhanced by “member validation”, which involves paraphrasing the interviewees’ responses and asking confirmation or rebuttal from the interviewee (Eriksson and Kovalainen, 2008; Kvale and Brinkmann, 2009; Miles and Huberman, 1994; Yin, 2009). The use of two data sources, namely interviews and documents, enhanced construct validity as well (Yin, 2009).

Pattern matching enhanced internal validity and explanation building and addressing identified rival explanations as recommended by Yin (2009).

External validity was partly enhanced by pursuing replication logic at the early stages of analysis and analytic generalization at the later stages of analysis (Yin, 2009). In the course of analytic generalization the canons of philosophy of science as per Klemke et al. (1998) were strongly drawn upon to raise the generalizability of the research findings and resulting theoretical abstractions.

In the quest for increased external validity, I strived for valid researcher-based and reader-based analytical generalizations as recommended by Kvale and Brinkmann (2009) and Miles and Huberman (1994). This was done by providing readers with explicit theoretically generalizable findings as well as providing rich descriptions via quotations from which readers can make inferences (Kvale and Brinkmann, 2009; Miles and Huberman, 1994). To further enhance generalizability, some findings such as those about Ambulation and Workload were respectively abstracted into theoretical elaborations of an existing theory, Contingency Theory, and a proposed new theory named the Effort Satisficing Theory (EST). This was done by thinking in terms of properties and dimensions as advocated by Corbin and Strauss (2008) and by using the guidance of the canons of good theory building from philosophy of science as per Klemke et al. (1998). By developing the Effort Satisficing Theory (EST), a high-level synthesis of several patterns found in the dataset, the generalizability of this research's findings has been significantly increased as researchers and practitioners can generalize from the much broader Effort Satisficing Theory (EST) rather than from each found pattern in isolation.

Application and action orientation of findings (Miles and Huberman, 1994) were enhanced by integrating some major findings into theoretical abstractions which are systematized and provide both an explanatory and predictive frame which can be applied by practitioners implementing practices.

3.6 Dissertation Composition Structure

In writing the dissertation, I generally adopt the linear analytic structure advocated by Yin (2009). In the findings chapter however, I follow the theory building structure suggested by Yin (2009). I simultaneously present two types of findings in an interwoven fashion: empirical findings pertaining to the specific cases researched and theoretical findings pertaining to the broader theoretical frame induced from insights from the empirical findings. This resonates with the theory building structure suggested by Yin (2009) in which each section reveals a new part of a theoretical argument being made.

4 Case Summaries

As mentioned in the “Case Selection” sub-section, five cases were selected out of the recruited sample for in-depth analysis. In this section, I provide summaries of these five cases.

In all the cases, Advanced Access was implemented via enrolment in the provincial Advanced Access program. The provincial Advanced Access program is a common context for all the cases.

The provincial Advanced Access program is a program sponsored by the Provincial Health Authority and the Primary Care Networks (PCNs) for clinics. The sponsorship included the costs of learning about Advanced Access and funding an Advanced Access implementation facilitator who performed the role of a consultant to each participating healthcare unit during its Advanced Access implementation. Healthcare units could be as small as an individual clinic or as large as an entire PCN or health zone. Each healthcare unit selected a core Advanced Access implementation team to attend learning sessions organized by the provincial Advanced Access program. In learning sessions, the teams were presented with knowledge of Advanced Access and a menu of Advanced Access elements as input for their implementation. Knowledge of Advanced Access passed on to teams includes various topics useful for effectively improving the healthcare unit’s operations such as: process mapping, tactical capacity management, just-in-time and demand management. The teams then decided which topics to apply and which Advanced Access elements to implement based on what they perceived could be useful for their healthcare unit.

A rich description of the provincial AA program together with AA measures tracked during implementation is provided in “Appendix A: The Provincial Advanced Access Program”.

4.1 Case 1 – Adult Mental Health Clinic

"Case 1 – Adult Mental Health Clinic" (simply referred to as Case 1 elsewhere in this dissertation) is one of the more effective implementations of Advanced Access achieving within its goal a sustained post-implementation wait-time reduction of about 67%. It is an Advanced Access implementation in a relatively small single-site adult mental health clinic by the same Advanced Access implementation team that implemented Advanced Access for Case 2. The implementation cases both occurred simultaneously in the same geographic location.

The clinic in which this implementation case occurred lacked appropriate prior technology for Advanced Access, an EMR scheduling system. Leadership, specifically the care manager, also had a manageable workload of two departments to manage unlike that of Case 2 who had twice as much. The work culture prior to implementation like at all mental health clinics in the recruited sample was one characterized by privacy of each therapist's appointment schedules and independence of therapists in appointment scheduling. Moreover, like all mental health clinics in the recruited sample, therapists had a cultural value of starting the clinical engagement process, the therapeutic relationship, with a phone call they made to the patient to schedule an appointment.

Advanced Access implementation was mandated for this clinic. The core Advanced Access implementation team members were recruited based on management's beliefs that they were leaders who had an interest in quality improvement work. The team then went for an orientation session referred to sometimes as a pre-learning session. After this, they attended the main learning sessions sometimes referred to as learning collaboratives (or simply collaborative) while implementing Advanced Access. The implementation process is illustrated visually in Figure 3.

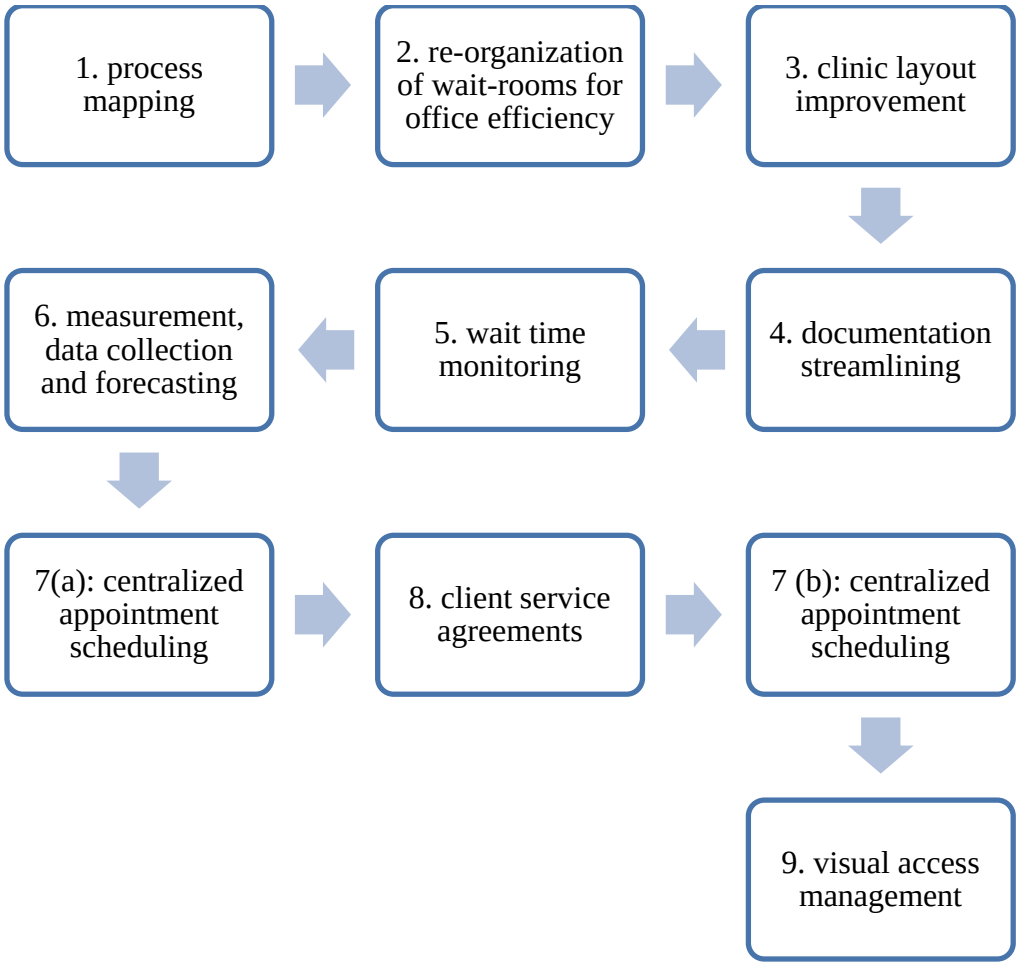


Figure 3: "Case 1 - Adult Mental Health Clinic" Advanced Access implementation process.

In this case of Advanced Access implementation, Case 1, there were implementation challenges fuelled by barriers but these were overcome through enablers.

The greatest challenges reported were during centralized appointment scheduling and wait time monitoring and they were institutional and cultural including: change fatigue and the private

independent work-culture of therapists. Pursuing a communicative culture of explaining Advanced Access and communicating the benefits that were being realized as the implementation progressed generally overcame them. Another challenge was a technological challenge in the implementation of the centralized appointment scheduling and measurement elements of Advanced Access due to the lack of an effective EMR. This was overcome through improvised technology development, using MS-Outlook for scheduling and tracking appointment metrics, which took time and slowed down the implementation.

4.2 Case 2 – Children's Mental Health Clinic

"Case 2 – Children's Mental Health Clinic" (simply referred to as Case 2 elsewhere in this dissertation) is one of the less effective implementations of Advanced Access, with clinicians stating: "people are now really discouraged about Advanced Access and they have a bad taste in their mouth about Advanced Access. So it would take a lot of rebuilding now."

Case 2 is an Advanced Access implementation in a relatively small single-site children's mental health clinic by the same Advanced Access implementation team that implemented Advanced Access for Case 1. Unlike Case 1, the clinic had a good access in terms of wait-time prior to implementation and that did not improve after implementation although the clinic paid more attention to it. However, similar to Case 1, access improved in terms of a reduction in the hassles patients had to go through when visiting the clinic. Like other mental health clinics cases, the clinic in which this implementation case occurred lacked appropriate prior technology for Advanced Access, an electronic scheduling EMR. Leadership, specifically the care manager, had a high workload of four departments to manage unlike that of Case 1 who had half as much. The culture prior to implementation was similar to that of all mental health clinics in the recruited sample. Unlike Case 1, the therapists in this clinic were very ambulatory, going to a lot of

schools and conferences, and scheduling meetings into their calendars while there based on what worked best for both the people they were meeting and themselves.

Like all mental health clinics, Advanced Access implementation was mandated for this clinic. The core Advanced Access implementation team was the same team in Case 1. The implementation process in this case, Case 2, in terms of which Advanced Access elements were reported as implemented and in what sequence, is illustrated visually in Figure 3.

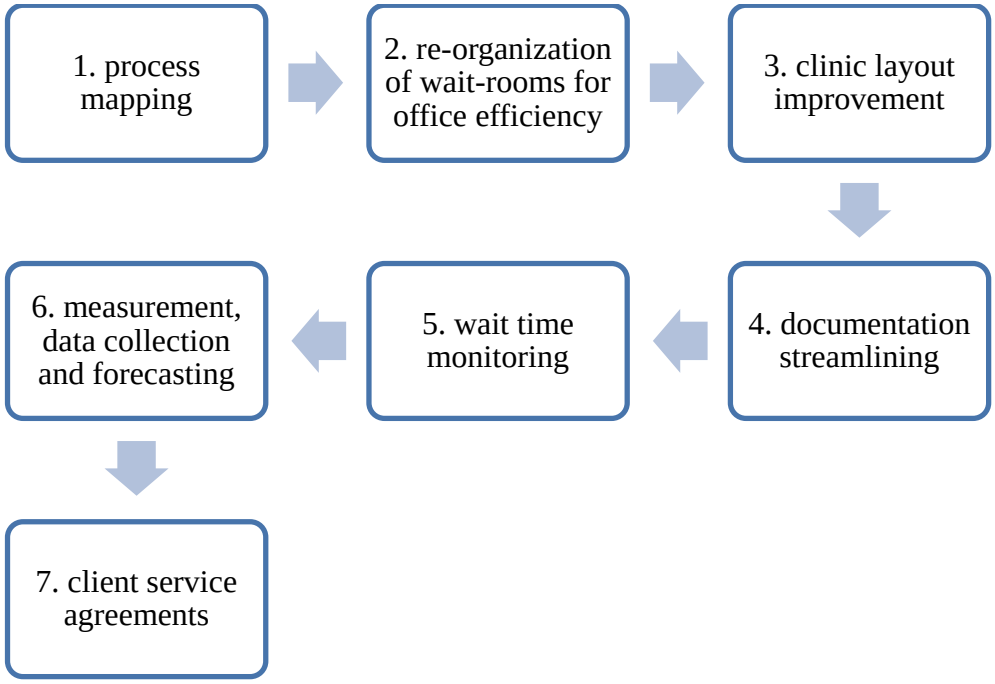


Figure 4: "Case 2 – Children's Mental Health Clinic" Advanced Access implementation process.

The greatest challenges reported were related to centralized appointment scheduling and the measurement elements of Advanced Access. Unlike Case 1, centralized appointment scheduling was reported as not implemented due to the high degree of ambulation inherent within the task of scheduling into therapists' calendars and the lack of appropriate synchronizing mobile technology to cope with it. Leadership, specifically the care manager, was reported to have not

used the lots of measurement data gathered for improvement initiatives: “my manager recently came on board and he's been so busy that he hasn't been to the meetings and he hasn't taken it on to use the information that we're collecting with the staff.” This had caused clinicians to be discouraged about Advanced Access to a state where it would take a lot of rebuilding. The busy schedule of the care manager due to the high workload imposed by institutional leadership such as program managers was reported as being principally responsible for this. An interviewee stated: “for them to assign him this huge role, how can they expect him to be able to commit the time to do it?”

4.3 Case 3 – Children’s Mental Health Clinic

“Case 3 – Children’s Mental Health Clinic” (simply referred to as Case 3 elsewhere in this dissertation) is one of the cases of implementation with a mixed effectiveness somewhere between Case 1 and Case 2. Similar to Case 1, it achieved a wait-time reduction of about 67% consistent with its goal but this was reported by the care manager to be unsustainable and still causing some turnover.

Case 3 is an Advanced Access implementation in a relatively large multi-site children’s mental health clinic. The implementation occurred at three clinic sites with quite different cultures: Old_Site1, Mid_Site2 and Young_Site3. Among the three sites, the implementation of Old_Site1 was the least effective, that of Young_Site3 was the most effective and that of Mid_Site2 sat right in the middle.

Again, like all mental health clinic cases recruited, all three sites of the clinic in which this implementation case occurred lacked appropriate prior technology for Advanced Access, an electronic scheduling EMR. Leadership, specifically the care manager, had a high workload:

"Advanced Access implementation probably added 20% to my workload that was already at 110% capacity." The culture prior to implementation, like all mental health clinics in the recruited sample, was one characterized by privacy of each therapist's appointment schedules and independence of therapists in appointment scheduling. Moreover, like all mental health clinics in the recruited sample, therapists had a cultural value of starting the clinical engagement process, the therapeutic relationship, with a phone call they made to the patient to schedule an appointment. Few therapists in this clinic were peripatetic hence had predictable out-of-clinic schedules unlike Case 2.

The implementation process in this case, Case 3, in terms of which Advanced Access elements were reported as implemented and in what sequence, is illustrated visually in Figure 5.

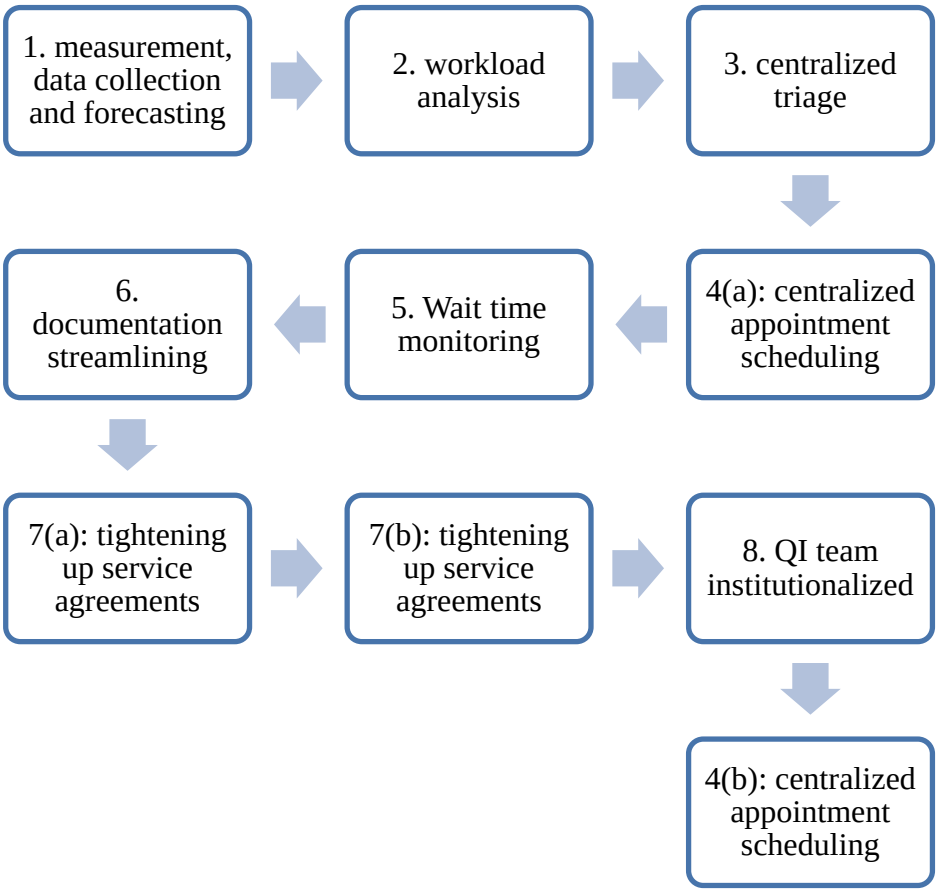


Figure 5: "Case 3 – Children's Mental Health Clinic" Advanced Access implementation process.

The greatest implementation challenges reported were similar to those of Case 1. Unlike Case 2 though, this clinic implemented centralized appointment scheduling in spite of ambulation being present within their task of scheduling. The clinic made a policy of freezing schedules within a two-week window and unlike in Case 1, it limited the scope of centralized appointment scheduling implementation to cope with their low degree of ambulation. An interviewee stated: "So the centralized appointment booking is only for the initial appointment".

4.4 Case 4 – PCN Clinic

"Case 4 – PCN Clinic" (simply referred to as Case 4 elsewhere in this dissertation) is one of the more effective implementations of Advanced Access achieving a sustained post-implementation wait-time reduction of about 50%. Regarding adoption rate, 100% of physicians in the clinic adopted Advanced Access. It is an Advanced Access implementation in a relatively small single-site PCN clinic. This implementation relative to that of Case 5 is more matured but both occurred in the same geographic location and within the same PCN.

The implementation case's clinic had the appropriate prior technology for Advanced Access, an electronic scheduling EMR, called Jonoke. The culture prior to implementation like all PCN clinics in the recruited sample was one characterized by physician appointment schedules being public within the clinic and dependence of physicians on office staff in appointment scheduling. Unlike the mental health clinics in the recruited sample, PCN clinic physicians had no cultural value of starting the clinical engagement process with a phone call they made to the patient to schedule an appointment since physicians did not schedule the patient appointments in the first place.

Advanced Access implementation was voluntary for this clinic although it was suggested by their PCN. The core Advanced Access implementation team members were recruited by the lead physician to be representative of the different job roles in the clinic. The team then went for an orientation session referred to as a pre-learning session in preparation for Advanced Access implementation. After this, similar to all cases, they attended the main learning sessions while implementing Advanced Access. The implementation process is illustrated visually in Figure 6.

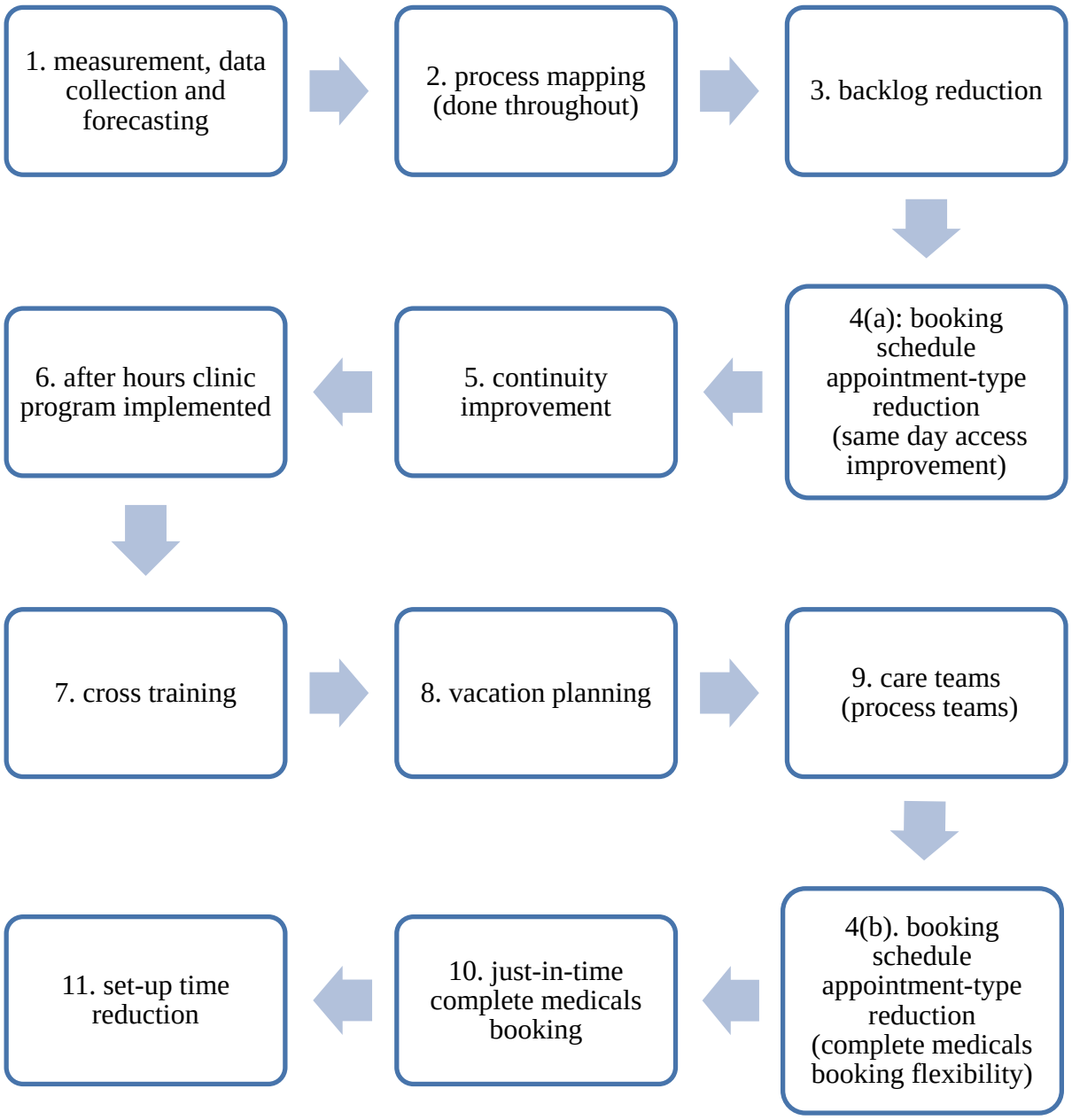


Figure 6: "Case 4 - PCN Clinic" Advanced Access implementation process.

In this case of Advanced Access implementation, Case 4, there were very few implementation challenges fuelled by barriers and all physicians adopted all but one Advanced Access element. The only challenges reported were during measurement and just-in-time complete medicals booking and these were due to workload and physician personal preferences. For measurement, an interviewee recalls: "the measuring was tiring, at times horrible for the staff but in the long run, it did bring a lot of things to light that you never thought about before." For just-in-time complete medicals booking, interviewees reported that two out of five physicians dismissed implementation on personal preference grounds even when they were showed the results of how the implementation had reduced the no-show rates of the other three physicians. The main enabler reported was trust among the physicians borne from working together for long.

4.5 Case 5 – PCN Clinic

"Case 5 – PCN Clinic" (simply referred to as Case 5 elsewhere in this dissertation) is one of the less effective implementations of Advanced Access. The clinic achieved about a 60% post-implementation wait-time reduction for physicians who adopted Advanced Access. However, regarding adoption rate, only about 33% of physicians in the clinic adopted Advanced Access. It is an Advanced Access implementation in a relatively small single-site PCN clinic within the same PCN as the clinic of Case 4.

The clinic had the appropriate prior technology for Advanced Access, an electronic scheduling EMR, called Telus. The culture prior to implementation, like all PCN clinics in the recruited sample, was one characterized by publicity of physician appointment schedules and dependence of physicians on office staff in appointment scheduling.

Advanced Access implementation was voluntary for this clinic although it was suggested by their PCN. The core Advanced Access implementation team members were recruited by the lead physician to be representative of the different job roles in the clinic and based on each member's interest. The team then went for an orientation session referred to as a pre-learning session in preparation for Advanced Access implementation. After this, similar to all cases, they attended the main learning sessions while implementing Advanced Access. The implementation process is illustrated visually in Figure 7.

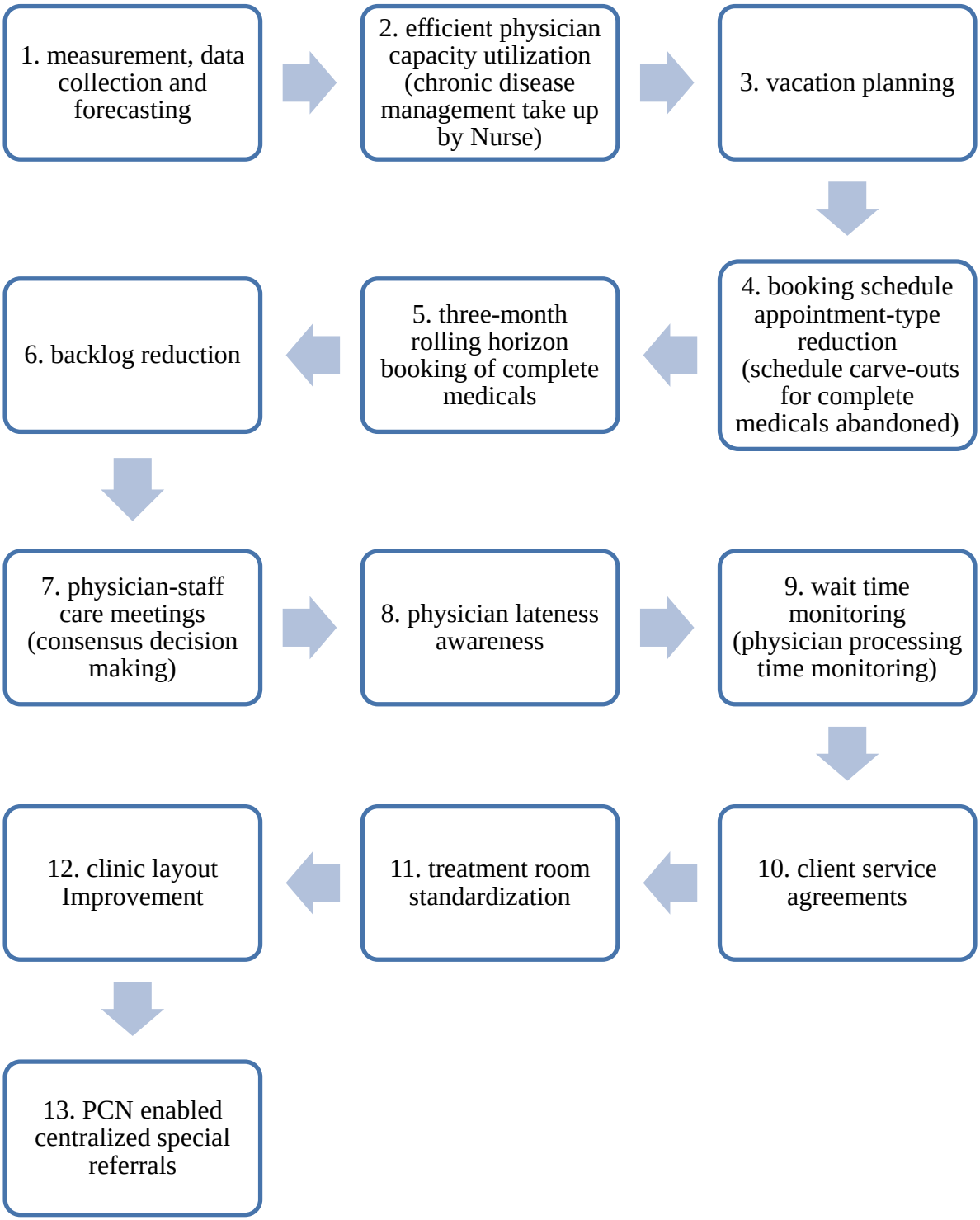


Figure 7: "Case 5 - PCN Clinic" Advanced Access implementation process.

The greatest challenges reported were related to the measurement element of Advanced Access for office staff as well as participation for physicians. Both challenges were reported as due to high workload.

For office staff, the challenge was reported as due to the extra workload Advanced Access added given their already high existing workload. In the learning sessions, staff voiced the potential challenge but physicians who picked it up dismissed it thinking they could easily overcome it. In implementation, however, this dismissal proved to be deadly to Advanced Access implementation as the challenge proved so huge that it almost caused the clinic to quit Advanced Access implementation altogether:

> "It was like within a couple of days of starting to collect data, and it was very very fast. It wasn't the usual adjustment time that people would say, okay this might settle down. It just was there, and it [the stress] was very high. And they were ready, _ We have wonderful staff, really, really good staff and if they are ready to quit working as a result of it, we're not doing it anymore. Not worth losing staff over."

For physicians, the challenge was reported as due to the extra workload Advanced Access added given the other responsibilities which drew on physician efforts. An interviewee stated: "I don't think they looked at it like it didn't work. I think the effort was too much at the time." At the time of data collection, some physicians expressed desire to begin implementation but they were again concerned about the effort required.

The main factors reported which enabled the implementation to proceed in spite of the challenges were: implementation scope reduction, collaboration between physicians and staff, a communicative culture and leadership commitment borne by optimism.

5 Findings

In this chapter, I present the findings of this research in three main sections with each representing a particular type of findings. Together, the three types of findings complement each other in creating a richer picture of the answer to the research question "how, and why, do the processes and outcomes of operational implementations vary across different healthcare organizational units?" As noted previously regarding the research question, the "operational implementation" chosen for this research is Advanced Access and the "healthcare organizational units" are clinics.

In the first section of this chapter, I present the findings on how processes vary across Advanced Access implementations of clinics when viewed in the lens of Advanced Access elements implemented. I present these findings in tabular form using a cross-case table that indicates for each clinic the Advanced Access elements that were implemented, rejected or were pending implementation.

In the second section, I present findings on how and why processes and outcomes may vary across clinics in Advanced Access implementations when viewed from an Operations Management (OM) theoretic lens. I present these findings in tabular form. I map various OM OI concepts to clinics that implemented them as well as how these OM OI concepts were realized in the implementation.

In the third section, I present the main thematic findings of this research on why implementation processes and outcomes vary. In "Appendix B: Tabulated findings on barriers and enablers", I present via a cross-case table, an enumeration of the different barriers and enablers responsible for the variation in the implementation of different Advanced Access elements. The findings in

the third section emanate from that enumeration. Barriers and enablers in that enumeration were distilled into a set of core themes by their frequency of occurrence, the intensity of their impact on the implementation process and their interrelationships with each other. The elaboration of each of these core themes including their interrelationships with other themes is presented in the third section. In the course of elaboration, theoretical insights for OIs are developed.

This chapter is related to subsequent chapters in this dissertation. The theoretical insights developed from the themes in the third section of this chapter are the inputs from which the theoretical abstractions in the next chapter, “Effort Satisficing Theory” and “Ambulation Contingency: An Elaboration of Contingency Theory” are developed. These abstractions have been abstracted to a level that they can be independently selected as theoretical frames and used for prediction and explanation of events in this research and beyond. The theoretical developments were motivated by the lack of a grand theoretical frame for explanation, prediction and strategizing on events in which some of the themes in the third section of this chapter, for instance Workload, play critical roles. In the discussions chapter, I draw some theoretical connections between the findings in this chapter and two extant theoretical frames, contingency theory and institutional theory.

5.1 Tabulated findings on implementation process variations across clinics

In this section, I present tabulated findings on how processes vary across Advanced Access implementations of clinics when viewed through the lens of Advanced Access elements implemented.

Table 8 shows various Advanced Access elements (AA element) and the clinics (cases) that reported implementation of those elements. Each element of Advanced Access is associated with a segment of the implementation process.

At a granular level, there are different types of outcomes in an Advanced Access implementation. Outcomes include soft outcomes such as enhancing client experience as well as hard outcomes such as Third Next Available appointment. Some of the outcomes are tracked in Advanced Access implementations and enumerated in Table 16 in Appendix A. Each element of Advanced Access enhances specific outcomes. Table 8 gives a picture of Advanced Access implementation process and outcome variation across clinics.

Table 8: Advanced Access elements implemented across different clinics

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
1. Process mapping	✓	✓		✓	
2. Clean up and re-organization of wait- rooms	✓	✓			
3. Clinic layout Improvement	✓	✓			✓
4. Documentation streamlining	✓	✓	✓		
5. Wait-time monitoring	✓	✓	✓		✓
6. Measurement and data collection	✓	✓	✓	✓	✓
7. Centralized appointment scheduling	✓	×	✓		
8. Client service agreements	✓	✓	✓		✓
9. Visual access management	✓	×			
10. Workload analysis			✓		
11. Centralized triage			✓		
12. Institutionalized Quality			✓		

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
Improvement Teams					
13. Idea boards (Kaizen boards)			×		
14. Care teams (Process teams)			•	✓	
15. Backlog reduction				✓	✓
16. Booking schedule appointment-type reduction				✓	✓
17. Continuity improvement				✓	
18. After-hours clinic				✓	
19. Cross training				✓	
20. Vacation planning				✓	✓
21. Just-in-time complete medicals booking				✓	
22. Set-up time reduction				✓	
23. Efficient physician capacity utilization					✓

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
(CDM take up by Nurse)					
24. Three month rolling-horizon booking of complete medicals					✓
25. Physician-Staff care meetings (Consensus Decision Making, an informal adaptation of "ringi" decision making)					✓
26. Physician lateness awareness					✓
27. Treatment room standardization					✓
28. PCN enabled centralized special referrals					✓

Legend:

- ✓ = A check mark indicates that an AA element was implemented.
- ✗ = A cross indicates that an AA element was not implemented even though it was probably proposed.
- • = A circular dot indicates that it an AA element is pending.

  = A blank indicates interviewees did not report on the implementation of the Advanced Access element possibly due to that element not being implemented or it not being salient in their implementation as per their memory of it.

5.2 Tabulated findings on variation of OM concepts and their realizations

In this section, I present tabulated findings on the variation of Operations Management (OM) and their modes of realizations in Advanced Access implementation processes of clinics. Different clinics implemented different OM concepts and even within that, the clinics implemented different realizations of the concepts. Reasons for this include the specific needs of the clinic, their culture, and their workload among other reasons.

In Table 9, the numberings on the clinic type and the mode of realization correspond to each other. For instance, the mode of realization of 5S, “Creating packages for related documentation” numbered 6 corresponds to the clinic type numbered 6, “Mental Health Clinics (Case: 3)”. This indicates that the mental health clinic, Case 3, was the clinic that realized 5S implementation by “Creating packages for related documentation”.

Due to the variation in the OM concepts implemented and their mode of realization in the different clinics, Table 9 presents us with a picture of how and why processes and outcomes may vary across clinics in Advanced Access implementations as per an OM theoretic lens.

Table 9: Operations Management (OM) OI concepts and modes of realization in Advanced Access implementation by clinic

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
1. Process mapping	1. Client flow maps and identification of bottlenecks to client flow	1. Mental Health Clinics (Case: 1, 2)
2. 5S (in Lean Production)	1. Cleaning up and re-organizing wait rooms	1. Mental Health Clinics (Case: 1, 2)
	2. Reducing the length of questionnaires	2. Mental Health Clinics (Case: 1, 2)
	3. Simplifying documents to enable easy filling.	3. Mental Health Clinics (Case: 1, 2)
	4. Streamlining documentation handoffs	4. Mental Health Clinics (Case: 1, 2)
	5. Threshold Color-coded Computerized Client Access Management	5. Mental Health Clinics (Case: 1)
	6. Creating packages for related documentation, for instance, enrolment packages	6. Mental Health Clinics (Case: 3)
	7. Making a centralized intake calendar where all the available appointments in the clinic are in one calendar to enhance appointment visibility rather than the available appointments being on multiple calendars	7. Mental Health Clinics (Case: 1, 2)

	OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
3.	Spatial layout improvement (Facility and workstation layout improvement)	1. Location of services within the clinic building to increase access by reducing throughput time for clients (client time in clinic) or reducing hassles for clients, clinicians and office staff. 2. Locating equipment such as printers in the clinic to save time for clinicians and office staff	1. Mental Health Clinics and PCN Clinics (Case: 1, 2, 5) 2. PCN Clinics (Case: 5)
4.	Standardization	1. Standardizing appointment times (Standardizing new and return therapy appointment durations) 2. Standardization of treatment room set-up across the different physicians in a clinic	1. Mental Health Clinics (Case: 1, 2) 2. PCN Clinics (Case: 5)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
5. Wait time monitoring	1. Monitoring wait time to get an appointment (i.e. Wait time as time between client requesting an appointment and client being given an appointment time to see the therapist/physician)	1. Mental Health Clinics and PCN Clinics (Case: 1, 2, 3, 4, 5)
	2. Monitoring wait time on the day of appointment (i.e. Wait time as time between client arrival at clinic to see a therapist/physician and client actually seeing a therapist/physician)	2. Mental Health Clinics and PCN Clinics (Case: 1, 2, 5)
6. Backlog reduction (WIP level reduction)	1. Physicians stopping taking in new patients to stop "panel size" growth	1. PCN Clinics (Case: 4)
	2. Physicians collaboratively help out their colleagues to reduce their backlog	2. PCN Clinics (Case: 4)
	3. Physicians schedule in extra work-hours	3. PCN Clinics (Case: 5)
	4. Having group clinic sessions where appropriate rather than individual clinic sessions	4. Mental Health Clinics and PCN Clinics (Case: 3, 5)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
7. Using supply contracts	1. Having therapists designate the number of new appointments they will provide per period, typically a week.	1. Mental Health Clinics (Case: 1, 2, 3)
	2. Having therapists designate specific reliable appointment times for new appointments on a rolling horizon typically weekly.	2. Mental Health Clinics (Case: 1)
8. Using capacity reservation contracts	1. Having service agreements in which a client signs which specify the minimum duration before appointment for which a notice of cancellation should be given and the penalty the client will face if either that is not adhered to or the client no-shows.	1. Mental Health Clinics (Case: 1, 2)
	2. Having physicians at their discretion and upon the recommendation of administrative staff, to send letters to their clients who had high no show rates that these clients could be charged if they continue to no show.	2. PCN Clinics (Case: 5)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
9. Capacity management	1. Capacity monitoring by collecting supply data and projecting it periodically, typically weekly	1. Mental Health Clinics (Case: 1, 2)
	2. Demand monitoring by collecting demand data and projecting it periodically, typically weekly	2. Mental Health Clinics and PCN Clinics (Case: 1, 2, 4)
	3. Creating public calendars for visual appointment-supply tracking	3. Mental Health Clinics (Case: 1, 2, 3)
10. Capacity planning	1. Vacation planning by placing holds on booking for appointment spots of clinicians who are away, removing the hold just soon enough before the clinicians vacation ends and gradually ramping up booking to a healthy level which would not overwhelm the clinician upon arrival.	1. PCN Clinics (Case: 4, 5)
	2. Vacation planning by having locum clinicians to take care of patients of clinicians who are on vacation.	2. PCN Clinics (Case: 5)
11. Demand Pooling (Risk Pooling)	1. Centralized Triage: Assigning triage and routing of patients to different clinic sites in a multi-site clinic to a single clinic site or individual in the clinic sites who has visibility of all new appointment spots in the different clinic sites.	1. Mental Health Clinics (Case: 3)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
12. Workload leveling (*Heijunka* in Lean Production)	1. Determination of caseloads for individual therapists and panel size for individual physicians	1. Mental Health Clinics and PCN Clinics (Case: 3, 4, 5)
	2. Comparative workload analysis across clinicians and office staff	2. Mental Health Clinics and PCN Clinics (Case: 3, 4)
13. Collaborative Supply Chains	1. Collaborating to ensure referring healthcare units (clinics) are sending comprehensive and accurate required information during referrals	1. Mental Health Clinics (Case: 3)
	2. Collaborating to ensure referring healthcare units (clinics) are referring the appropriate clients for the services the referral clinic offers	2. Mental Health Clinics (Case: 3)
	3. After hours clinics for care continuity improvement across clinics in the same PCN	3. PCN Clinics (Case: 4)
14. Proactive Quality Management	1. Physician-client care continuity improvement programs within clinics	1. PCN Clinics (Case: 4)
15. Process teams (cellular service delivery)	1. Care teams made up of different professions such as a physician, a nurse and an admin staff working as a single team for the same patient pool within the clinic such as the physician's patients. Each clinic is made up of multiple care	1. PCN Clinics (Case: 4)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
	teams and most information flow about the patient pool of the care team occurs within the care team rather than across the care team.	
16. Agile supply systems	1. Appointment type reduction in booking schedule to enhance appointment supply flexibility 2. Visual access management via "Two-zone Access Management Strategy"	1. PCN Clinics (Case: 4, 5) 2. Mental Health Clinics (Case: 1)
17. Cross-functional training (Flexible workforce)	1. Cross-training administrative oriented staff to perform light clinical tasks such as taking blood pressure readings on automated machines.	1. PCN Clinics (Case: 4)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
18. Specialization	1. Centralized appointment scheduling: having administrative oriented staff rather than clinical oriented staff (e.g. therapists and physicians) to be responsible for booking new client appointments. Clinical oriented staff just provides input such as their new appointment times to a public calendar.	1. Mental Health Clinics (Case: 1, 3)
	2. Centralized appointment scheduling: having administrative oriented staff rather than clinical oriented staff (e.g. therapists and physicians) to be responsible for booking return client appointments Clinical oriented staff just provides input such as writing on a card the time window within which the return appointment is needed.	2. Mental Health Clinics (Case: 1)
	3. Having clinical tasks not requiring the attention of a physician to be streamed to other health workers who have the capability for that so as to free up physician time. For instance having nurses take up the education component of Critical Disease Management (CDM) tasks from physicians.	3. Mental Health Clinics (Case: 5)

OM concepts in Advanced Access implementation	Modes of realization by clinics	Clinic type in which realized in dataset
19. *Kaizen* Teams (Continuous Improvement Teams)	1. Establishing quality improvement teams to build better internal capacity to continuously make and maintain improvement work.	1. Mental Health Clinics (Case: 3)
20. Collaborative Decision Making	1. Having meetings involving all clinicians and staff members such as Physician Staff Care Meetings, in which everybody is able to air their challenges for effective ways of resolving them to be sought from the group as a whole.	1. PCN Clinics (Case: 5)

5.3 Main Thematic Findings

In this section, the main thematic findings of this research responsible for why processes and outcomes of OIs vary across healthcare units are summarized in the introduction and expanded upon in the rest of the section. A data display table detailing the cases where different enablers and barriers mentioned in this section, "5.3 Main Thematic Findings", were found is presented in Appendix B as Table 17. Anther data display table summarizing the main findings and some of their associated properties, dimensions and manifestations is given in Appendix C as Table 18. I now present an introduction to the main findings which gives the bigger picture on the details presented in the individual sub-sections of this section.

5.3.1 Introduction to Main Findings

Some factors were found to be responsible for the variation in outcomes of Advanced Access implementation in this research. These included ambulation, technology, culture, workload and institutional managerial apathy. Some of the factors were inter-related with other factors as they were influenced by and in-turn influenced other factors. They were systematically organized into seven subsections in this chapter. Some factors such as technology had to be split between these sections as the sections were organized to enhance explanation rather to present the workings of each factor independently. Some of these factors were integrated through theory building to enable more comprehensive explanations of OI outcomes as found in this research. Figure 8 shows how the factors were split and integrated into a broad explanatory frame.

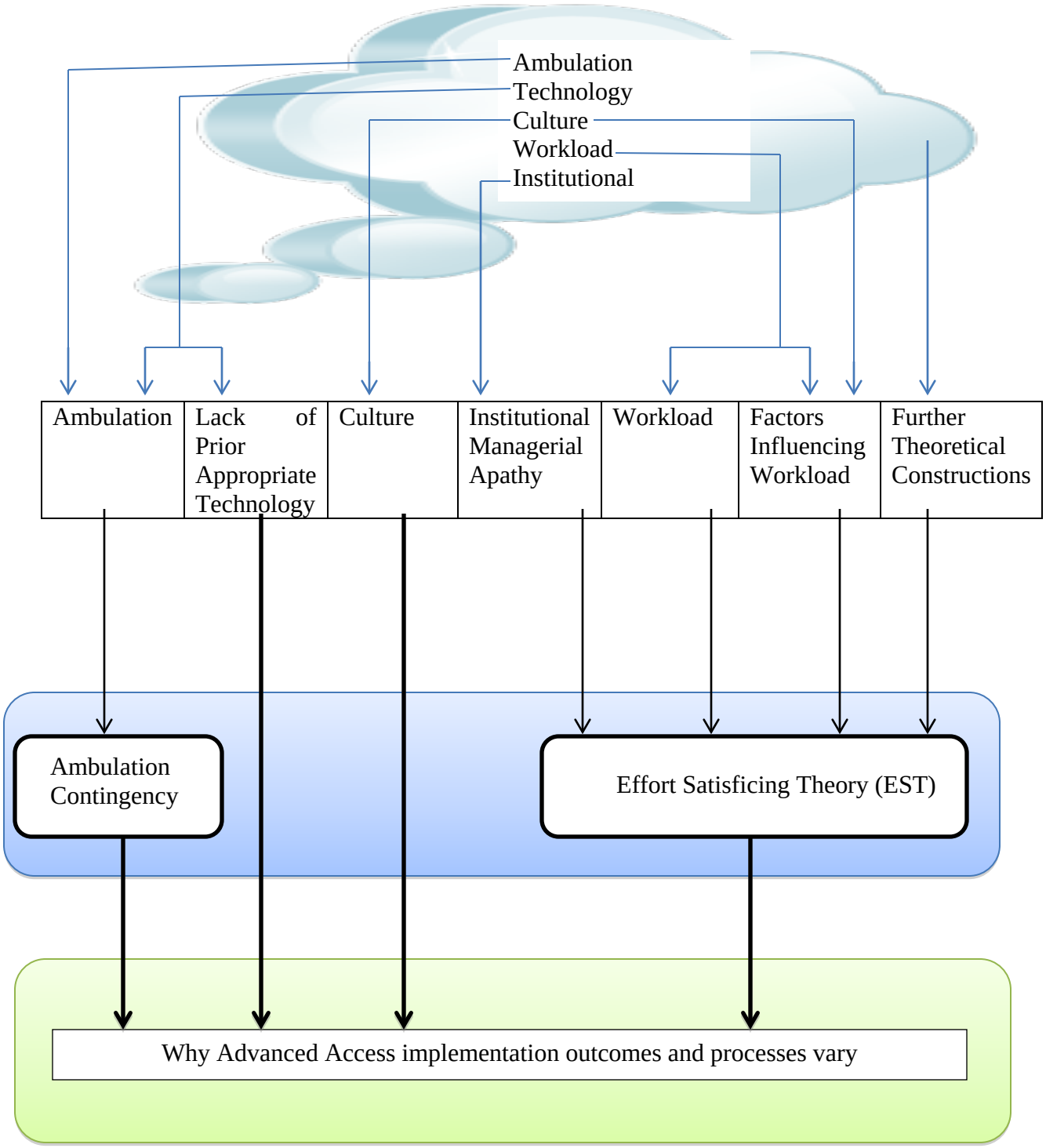


Figure 8: Explaining Advanced Access implementation outcome and process variation

Figure 8 shows the raw findings from analysis as the idea cloud. The five main raw findings are listed within the idea cloud. These include ambulation and institutional managerial apathy. Ambulation is a phenomenon that occurs when a domain of interest is characterized by movement while institutional managerial apathy is a phenomenon, which manifests as lack of concern and lack of systematization in an institution such as a provincial health service. The inter-relationships between these raw findings in the idea cloud in Figure 8 were explored in depth. Based on the inter-relationships found, they were systematized into the sub-sections of this section. Some of these as shown in Figure 8 were then abstracted by inductive theory building and synthesized into theoretical abstractions presented in the next chapter. These theoretical abstractions namely ambulation contingency and the Effort Satisficing Theory (EST), generate a broad frame for understanding and predicting both Advanced Access implementation outcomes and OI outcomes in general, under the situations which fall within the domain of these theoretical abstractions. The theoretical abstractions in the next chapter and the findings under the sections of "5.3.3 Lack of Prior Appropriate Technology" and "5.3.4 Cultural Change" together explain much of the Advanced Access implementation outcome variation in this research.

The theoretical abstraction titled "Ambulation Contingency: An Elaboration of Contingency Theory" is an extension of an existing theory, contingency theory, unlike the Effort Satisficing Theory (EST) which is a new theory I am proposing. Since EST was induced from phenomena presented in this section I will highlight key elements of EST to serve as a guidepost and to clarify my theoretical perspectives.

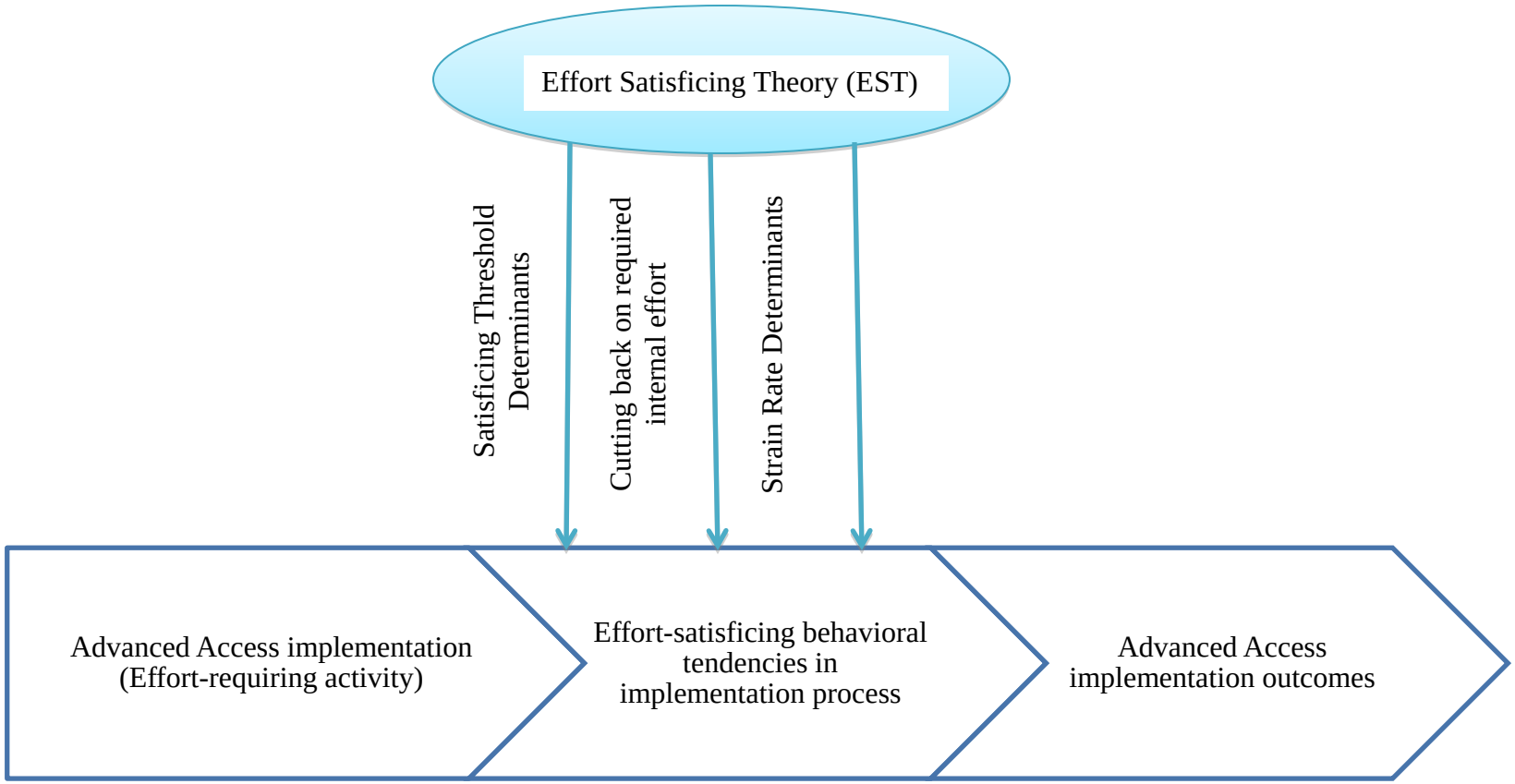


Figure 9: Effort Satisficing Theory model of Advanced Access implementation outcomes

I introduce basic theoretical terms in the Effort Satisficing Theory (EST) in section "5.3.6.4 High-workload and levels of analysis" and I elaborate and introduce new theoretical terms after that. Figure 9 shows a simplified model of how EST can be used to explain and predict some Advanced Access implementation outcomes, especially those impacted by high workload. A fundamental assertion of EST is that: volitional entities tend to satisfice on efforts. The volitional entities in our Advanced Access implementation cases refer to people in clinics. Satisficing on efforts refers to people not exerting the optimal effort, the ideal effort, needed for all effort-requiring activities in the clinic. Advanced Access implementation is among these activities.

In Figure 9, Advanced Access implementation requires effort exertion from people. However, due to volition and self-preservation, people tend to satisfice on efforts. Consequently, in Advanced Access implementation, people exhibit effort-satisficing behavioral tendencies in the implementation process. The extent to which effort-satisficing behavioral tendencies are exhibited in the implementation process depends principally on three theoretical phenomena illustrated in Figure 9. Each of these three theoretical phenomena is composed of several empirical phenomena that manifest in the implementation process to alter the effort-satisficing behavioral tendencies. The effort-satisficing behavioral tendencies of people then influence Advanced Access implementation outcomes. The three theoretical phenomena influencing effort satisficing behavioral tendencies as illustrated in Figure 9 are:

- The Satisficing Threshold Determinants
- Cutting back on required internal effort
- The Strain Rate Determinants

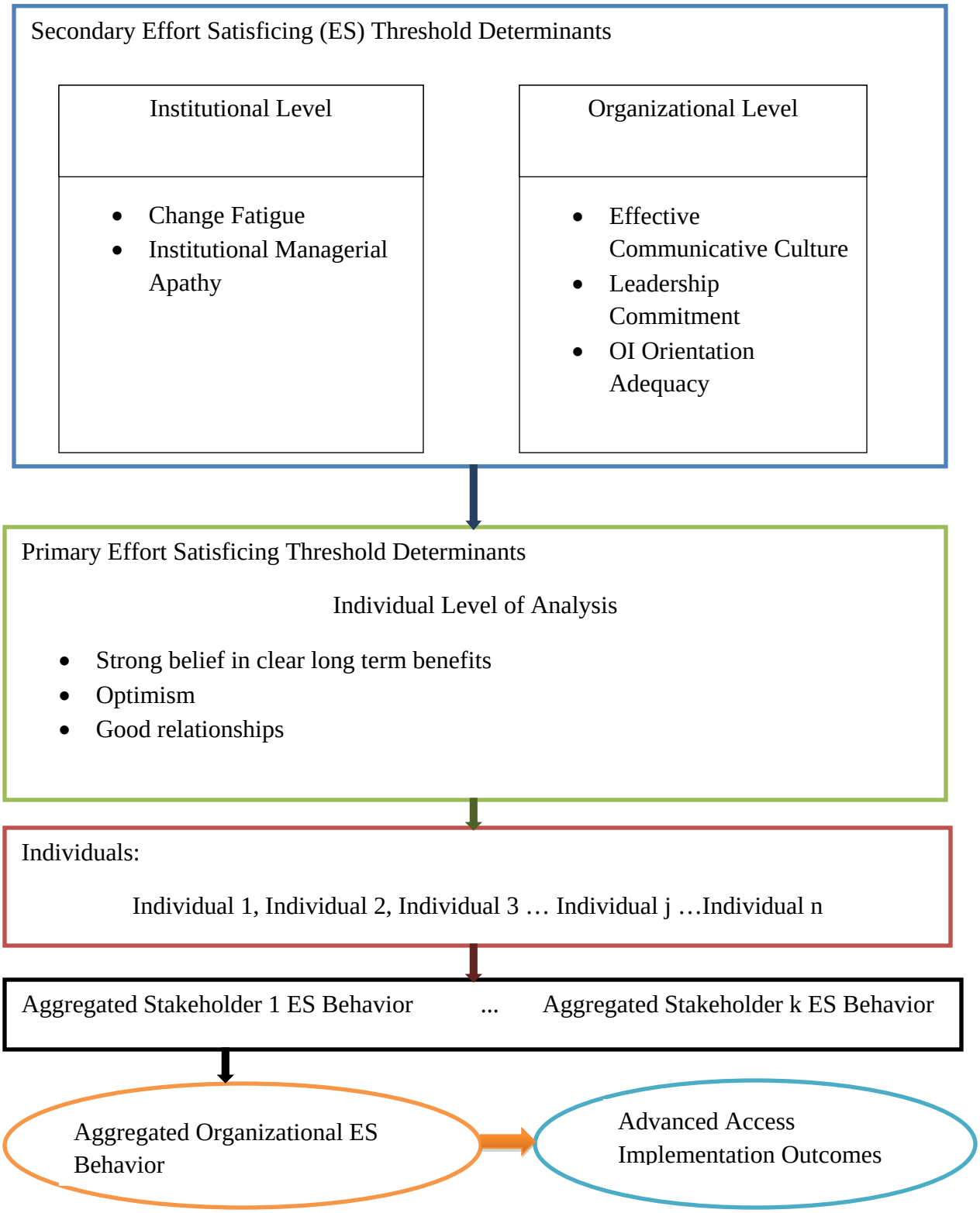


Figure 10: A simplistic cross-level model of Satisficing Threshold Determinants and their impact in Advanced Access Implementation

Figure 10 summarizes principal Satisficing Threshold Determinants found to impact Advanced Access implementation in this research. I induce a bulk of these from section “5.3.7 Factors Influencing the Impact of Workload as an Implementation Barrier” and I later summarize these in the theoretical abstractions chapter when I formally propound the Effort Satisficing Theory (EST). Figure 10 shows secondary effort Satisficing Threshold Determinants originating from the institutional and organizational levels of analysis that impact primary Satisficing Threshold Determinants at the individual level of analysis. These primary Satisficing Threshold Determinants then influence individual effort satisficing behavior, which then aggregate to stakeholder, and then organizational effort satisficing behavior that influence Advanced Access implementation outcomes.

Regarding “cutting back on required internal effort”, I induce the bulk of this from sections “5.3.7.5 Scope reduction” and “5.3.7.6 Workload offloading channels”.

Regarding the “Strain Rate Determinants”, I define these in the section on fundamental theoretical terms and in “6.2.1.6 The relationship between internal effort and strain: A case of correspondence rules” after applying the idea of correspondence rules from Carnap (1998: 321).

When the three modes of influencing effort satisficing behavioral tendencies namely:

- the Satisficing Threshold Determinants
- cutting back on required internal effort
- the Strain Rate Determinants

are effectively harnessed, OI outcomes can be significantly improved. Variance in harnessing these contributes to OI outcome variance.

5.3.2 Ambulation

Ambulation herein refers to an organizational level phenomenon associated with motion of a domain of interest. Task ambulation is a phenomenon in which the task domain moves, for instance as a result of peripatetic workers executing a work related task in different places. Task ambulation due to peripatetic clinicians scheduling into their work calendars as they travelled around was a factor responsible for variation of processes and outcomes of implementation in this research. It manifested as a barrier to Advanced Access implementation in the mental health clinic group of cases. It was identified during the within group analysis of the mental health clinic group of cases to impact the implementation of specific elements of Advanced Access. It impacted the adoption of centralized appointment scheduling, an Advanced Access element whose implementation enables better use of clinician capacity by assigning administrative staff such as “Intake” workers and secretaries to book the appointments of clinicians. By consequence of its impact on the adoption of centralized appointment scheduling, ambulation impacted the adoption of other Advanced Access elements such as visual access management, a type of visual process control, whose adoption was generally associated with the adoption of centralized appointment scheduling.

In the implementation of centralized appointment scheduling in the mental health clinic group of cases, Case 1, an adult mental health clinic and Case 3, a children’s mental health clinic, were the more effective implementation cases. Case 2, another child mental health clinic, was the less effective case. Case 1 and Case 3 adopted centralized appointment scheduling while Case 2, rejected the adoption. An interviewee describes the situation with Case 2 as at the time of interviewing:

> "No, our department [referring to their clinic] is different that way so the Intake team books into the adult calendars [referring to calendars in the clinic of Case 1]. They have a separate Intake calendar where everybody's new appointments are available on that and they don't book into ours. So they give us all of the intakes and twice a week, we go through the intakes and hand out to different therapists and we book them that day into our calendars and we can get them in that week."

Quotation 1: Ambulation

She emphasizes further:

> "we set up our own calendars anyway. Intake doesn't book into those spots for us. We book our own appointments into those spots."

Quotation 2: Ambulation

Within-group analysis of implementation Case 1 and implementation Case 2 revealed that while both implementations were made by the same Advanced Access implementation team within the same location, the two differed in that while in Case 2, task ambulation was reported, in Case 1 it was not reported. In Case 2, interviewees pointed ambulation as the reason that the clinic did not adopt centralized appointment scheduling. The task environment was quite unique due to the high degree of task ambulation and called for dismissal of centralized appointment scheduling in order to cope with it as an interviewee elaborates:

> "we go out and do a lot of case conferences and set up meetings outside and we would find it very difficult without having the technology that we would need to have someone else booking to our calendar when we're out trying to book meetings. So we have to take

a paper calendar with us in order to arrange meetings when we're out. And so if someone has booked someone into a spot then we're going to run into problems, right?"

Quotation 3: Ambulation

In contrast, within group analysis revealed that in the other children's mental health clinic, Case 3, centralized appointment scheduling was adopted even though there was some task ambulation. Analysis revealed that the two clinics differed in the degree of ambulation associated with them with the degree of ambulation associated with the less effective implementation case, Case 2, being much higher than that of the more effective implementation case, Case 1.

Implementation	Clinic Type	Task Ambulation Degree	Adoption Decision
Case 1	Adult Mental Health	None	Adopted
Case 3	Children's Mental health	Low	Adopted
Case 2	Children's Mental Health	High	Rejected

Table 10: Ambulation and Adoption of Centralized Appointment Scheduling

In summary as in Table 10, Case 1 reported no task ambulation and implemented centralized appointment scheduling. Case 3 reported a low degree of task ambulation and implemented centralized appointment scheduling. Case 2 reported a high degree of task ambulation and rejected the adoption of centralized appointment scheduling.

5.3.2.1 Types of ambulation: task ambulation

There may be various types of ambulation but as mentioned above, the specific type of ambulation that was found to be a barrier to Advanced Access implementation in this research is task ambulation. In this type of ambulation, the task domain moves. The task moves often because the people or resources associated with the task are moving and the task moves as a consequence. An interviewee illuminates task ambulation:

> "another issue with outside booking [referring to intake and administration booking] for the Children's Department is we [referring to Child Therapists] go out and do a lot of case conferences and set up meetings outside"

Quotation 4: Ambulation

She elaborates further on task ambulation by pointing out its consequences and how they cope with it:

> "we have to take a paper calendar with us in order to arrange meetings when we're out. And so if someone has booked someone into a spot then we're going to run into problems"

Quotation 5: Ambulation

From Quotation 4 and Quotation 5 we note that the task of scheduling appointments into therapist's calendars is ambulating across the clinic and the case conference venues as therapists ambulate. Had the therapists not been booking into their schedules while outside the clinic, there would have been no ambulation of the task of scheduling appointments into therapist's calendars.

Having identified which type of ambulation I found as a barrier in Advanced Access implementation, the next question that arises is what are its characteristics? In the language of Corbin and Strauss (2008), what are its properties and dimensions? How can we analytically characterize this type of ambulation?

5.3.2.2 Properties, dimensions and manifestations of ambulation

Task ambulation was found on analysis to manifest with some set of properties varying within dimensions that could be analytically separated for theory elaboration on how to cope with task ambulation. Next, we contrast two ambulation scenarios in two clinics in order to identify relevant properties and dimensions of ambulation.

The locational and temporal can be invoked in characterizing ambulation. An interviewee invokes these when elaborating on the scheduling task ambulation scenario in Case 3:

> "So at our [Young_Site3] Clinic, we have one therapist who a half a day a week goes out to one particular school. We have -- at our [Old_Site1] Clinic, we have [X: where X is only a small fraction of the therapists in that clinic] therapists that they don't go out to schools, but they have a partnership with Youth Addictions Program. So they leave the clinic, they go to Youth Addictions and they see kids at Youth Addictions. So there are the oddities where the therapists are outside of the clinic seeing kids, but for the majority of cases in all of the clinics they're seeing kids and families here or onsite."

Quotation 6: Ambulation

Moreover, in response to the question of whether the day the therapist at their Young_Site3 Clinic goes to this "particular school" is a fixed day of the week the interviewee answered "yes".

In response to the question of whether that therapist at their Young_Site3 Clinic books meetings/appointments into his calendar while at the school, the interviewee answered "yes" again. A follow up with the clinic confirmed that, for the fraction of therapists at the Old_Site1 Clinic who had a partnership with Youth Addictions Program, little time was spent with Youth Addictions outside the times the therapists are physically at the Youth Addictions Building.

The locational and the temporal may be invoked in characterizing task ambulation but are there other relevant characterizations? In contrast to the task ambulation scenario in Case 3 highlighted in Quotation 6, an interviewee elaborates on the scheduling task ambulation scenario in Case 2 as she states:

> "We [referring to Child Therapists] go out and do a lot of case conferences and set up meetings outside … They [referring to the times therapists are out of the clinics for schools, conferences and other meetings] are not fixed days of the week. Therapists go to schools and other meetings off site as needed or arranged. ….Not all of the appointments are booked while at events but it is common practice at case conferences to set another time and date to meet again. … These meetings/appointments are arranged based on what works best for most participants, not on any specific day of the week. … We do not visit schools on regular days of the week. There are no set times. We sometimes arrange to see kids in school or attend case conferences there. When we are at these visits or appointments at a school or other agency, we sometimes book the next visit or meeting. We don't know the exact schools or agencies we are going to visit week by week. They are booked on an as needed basis. Booking a further appointment when offsite occurs at that time usually."

Quotation 7: Ambulation

Comparing and contrasting the task ambulation scenario of Case 3 from which Quotation 6 emanates with that of Case 2 from which Quotation 7 stems reveals important analytical properties and dimensions of task ambulation. As suggested by Corbin and Strauss (2008), these properties and dimensions although not exhaustive are important for theory building and we use them later to elaborate on contingency theory. The properties and dimensions of task ambulation found in the cases and relevant to identifying modes of coping with task ambulation are below:

Properties:

- Ambulation has a spatial property
- Ambulation has a temporal property

Dimensions:

- There is a spatial quantity (locational quantity) dimension to degree of ambulation. This has to do with how many locations the therapists go outside the clinic to, and schedule meetings or appointments. In Case 3, this is low as clinicians ambulate to just a single school and a single building. However in Case 2 we can infer from the fact that the therapists don't know the exact schools or agencies that this likely high, at least more than one.
- There is a spatial uncertainty (locational uncertainty) dimension to degree of ambulation. This has to do with whether or more precisely, how far out in time the therapists know where they would be going outside the clinic to, and schedule meetings while there. In Case 3 this is low but in Case 2 this is high.
- There is a temporal quantity (temporal frequency) dimension to degree of ambulation. This has to do with the question of how often the therapists go outside the clinic, and schedule meetings while outside. Again, in Case 3 this is low but in Case 2 this is high.
- There is a temporal uncertainty dimension to degree of ambulation. This has to do with the question of whether or more precisely, how far out in time the therapists know when they would be going outside the clinic and schedule meetings while outside. Again in Case 3, this is low but in Case 2 this is high.

Dimensions of Ambulation	Case 3	Case 2
Locational quantity (Spatial quantity)	Low	High
Locational uncertainty (Spatial uncertainty)	Low	High
Temporal frequency	Low	High
Temporal uncertainty	Low	High

Table 11: Degrees of Ambulation in Different Advanced Access Implementation Cases

In Table 11, I contrast Case 3 with Case 2 in terms of their degrees of task ambulation. Case 2 evidently has a much higher degree of scheduling task ambulation than Case 3 since the former is higher on all dimensions of ambulation.

Given this characterization, questions that arise include: does the ambulation challenge to Advanced Access implementation differ in the two cases? How are clinics of more effective Advanced Access implementation cases currently coping with task ambulation scenarios resulting in differences in Advanced Access implementation outcomes? How do less effective Advanced Access implementation cases recommend that we cope with task ambulation to achieve better implementation outcomes? Are different modes of coping with ambulation required for different degrees of ambulation?

5.3.2.3 Modes of coping with ambulation

In this research it was found that there were differences regarding how Case 3 coped with task ambulation and the mode of coping advocated for by interviewees in Case 2 for the effective implementation of centralized appointment scheduling in their clinic. While task ambulation in Case 3 characterized by a low degree of ambulation was principally coped with by scope limitation, in Case 2 characterized by a high degree of ambulation, technology was rather advocated for as the principal means to cope with it.

In the remainder of this section, I elaborate on:

- ❖ Scope limitation
- ❖ Technology

Scope limitation is a mode of coping with task ambulation found in this multiple case study. When scope limitation is used to cope with ambulation in Advanced Access implementation, Advanced Access is purposely implemented partially rather than comprehensively in an attempt to reduce the adverse effects of ambulation by means such as avoiding the ambulation. Two related types of scope limitation were found:

- Task-type scope limitation
- Temporal scope limitation

Task-type scope limitation

One type of scope limitation found to be applied was task-type scope limitation. Task-type scope limitation is a limitation on the range of tasks for which the implementation is done. In Case 3,

task-type scope limitation was applied in terms of which appointment types centralized appointment scheduling was implemented for. An interviewee elaborates on this:

> "The centralized appointment booking is only for the initial appointment. All subsequent appointments, the therapists book them themselves."

Quotation 8: Ambulation

In this clinic, there were two types of tasks for which centralized appointment scheduling could be implemented, initial appointment scheduling and return appointment scheduling. Return appointments constituted the bulk of appointments, about 86%, while initial appointments were only a few of about 14% of total appointments scheduled by the clinic. In restricting the Advanced Access implementation of centralized appointment scheduling to only initial appointment scheduling, the clinic was able to reduce the tendency of its being confronted with many task ambulation challenges. In particular, the clinic reduced its exposure to ambulation challenges from return appointments that could have rendered centralized appointment scheduling less effective.

Temporal scope limitation

Another type of scope limitation found in Case 3 is temporal scope limitation. Temporal scope limitation is a phenomenon in which the times for which the implementation is applied are restricted. In Case 3, temporal scope limitation was applied in terms of the times at which centralized appointment scheduling could be applied to book into therapist's calendars. An interviewee elaborates on this:

> "When we book the new appointments, the therapists have chosen a specific day and time of the week that they have designated as their new appointment time. So that helps

as well, right, so we know when they know every Monday at 1:00 I'm going to have a new appointment. There are the odd times when that changes and that has to be shifted, but for the most part people just kind of keep that time and work everything else around that time and that helps to ease the burden of the whole centralized processing."

Quotation 9: Ambulation

In Quotation 9, there is a limitation applied in the temporal dimension. By limiting the application of the Advanced Access element of centralized appointment scheduling to specific times designated by the therapists, the impact of ambulation on the Advanced Access implementation outcomes is reduced as clinicians move task ambulation tendencies outside that time. Having a designated time helps with memory and coordination regarding when to allow task ambulation and when not to, which in turn enables better implementation outcomes. Temporal scope limitation was employed by the clinic to provide its therapists with an opportunity to actively manage the timing of their ambulation as a means to reduce the exposure of its centralized appointment scheduling to task ambulation challenges that could render it less effective.

Policy enactment can be used to render temporal scope limitation more effective. In this, policies are enacted in association with the OI to make firm the temporal scope limited times in which the OI is applied. Policies are enacted to reduce discretion in changing the pre-determined times for the OI application. This reduces temporal uncertainty that reduces coordination problems with task ambulation to render the OI effective.

During the implementation of the Advanced Access element of centralized appointment scheduling in Case 3, clinicians were afraid that there would be double bookings. Double

bookings could occur if therapists exercised discretion in changing the pre-determined times they had notified administration to employ centralized appointment scheduling to book into therapists' calendars. This could render the temporal scope limitation ineffective since the times to which the centralized appointment scheduling application was confined to would be ever changing and consequently generating coordination problems. In Case 3, this was reported to have happened a couple of times. However, the clinic responded to render the temporal scope limitation more effective by policy enactment. An interviewee elaborates on what they did:

> "Part of the centralized booking and what she [the Administrative Booking Staff] and I have set up is we've said to therapists, "You cannot change your appointment -- your new appointment time if it's within three weeks of today's date." The reason for that is because I give her [the Administrative Booking Staff] a schedule two weeks ahead of time with the appointment slots and then she uses that as her reference when she's phoning the families."
>
> *Quotation 10: Ambulation*

Policy enactment in this instance was used to reduce the coordination problems associated with rescheduling and by this it reduced the tendency of double booking, an undesired phenomenon.

However, in spite of policy enactment, clinicians could decide to go against the policy. This could render the centralized appointment scheduling implementation less effective. A question that arises is how did the clinic manage this? How did it cope with departures from the enacted policy to render its centralized appointment scheduling and consequently its Advanced Access implementation more effective? The clinic simply assigned the responsibility of resolving the

implications of any departures from the policy on those clinicians who departed from it. One interviewee elaborates:

> "So there have been a few times where the therapists have kind of changed their schedules around and we've gone and booked it, and basically we put it back on the therapists to fix the situation because they know the rules. They shouldn't be changing things around if it's within the two to three weeks."
>
> *Quotation 11: Ambulation*

By assigning clinicians the responsibility of resolving any problems that arose from their own departures from the policy, the clinic made work just a little bit more difficult for those clinicians who departed from the enacted policy. This in turn deterred clinicians from departing from the enacted policy which made their Advanced Access implementation more effective than would have otherwise been.

Theoretically, the principal means by which scope limitation is effective in coping with task ambulation lies in its effectiveness to enable circumventing the ambulation. This involves delimiting the scope of the implementation such that a bulk of the ambulation would occur outside the scope of the implementation. The task-type scope limitation in Quotation 8 and the temporal scope limitation in Quotation 9 are illustrative of this theoretical deduction within the context of the cases.

- ❖ Technology

Another mode of coping with task ambulation found in this multiple case study is technology. Unlike scope limitation, when technology is used to cope with task ambulation in Advanced

Access implementation, the purpose is not to avoid the task ambulation but rather to face and overcome its potential effects.

Technology was used in Case 3 and advocated for in Case 2 for coping with task ambulation. However, the technologies differed in that mobile technologies were used in Case 3 while synchronized mobile technologies were advocated in Case 2 to cope with the task ambulation.

Mobile technologies were used in Case 3, a case characterized by a low degree of ambulation, to cope with ambulation for the effective implementation of the centralized appointment scheduling element of Advanced Access. This provided the flexibility required as the task of booking into therapists' calendars ambulated as therapists moved to different locations and booked into their calendars while administrative staff also booked into these therapists' calendars at the clinic. These mobile technologies were not synchronized with the other technologies, computers, used to book into therapists' calendars, but were still effective for coping with the low degree of task ambulation in Case 3. The mobile technologies used were in the form of paper-based technologies. An interviewee describes how mobile technologies were used to cope with the low degree of ambulation in more depth:

> "So all of us carry our day timers and then we transcribe everything from our day timers into the electronic schedules. So the therapist that would be out at the school, he would be booking it into his day timer, and then once he got back to the office he would be putting it into his schedule. … So for that one therapist that goes out to a school, if I get an intake for a child that's attending that school, then I highlight to [the Administrative Booking Staff] that that needs to be booked with that particular therapist. So he will see that kid at

the [Young_Site3] Clinic for the very first appointment. Subsequent appointments, he will book for that child within the school setting."

Quotation 12: Ambulation

Synchronized mobile technologies were advocated for in Case 2, a case characterized by a high degree of ambulation, to cope with the task ambulation for the effective implementation of the centralized appointment scheduling element of Advanced Access. The technology type advocated for in Case 2 was similar to that of Case 3 in that they were both mobile technologies. However, unlike Case 3, synchronized mobile technologies rather than just mobile technologies were specifically advocated for in Case 2 which was characterized by a high degree of task ambulation unlike Case 3 which was characterized by a low degree of task ambulation. This was advocated for in order to provide both the mobility and coordination required as the task of booking into therapists' calendars ambulated as therapists moved about quite unpredictably booking into their calendars while Administrative and Intake staff also booked into the therapists' calendars at the clinic. The synchronized mobile technologies advocated for were mobile phones synchronized with the computer scheduling infrastructure of the Administrative and Intake staff of the clinic. An interviewee elaborates on this:

"We go out and do a lot of case conferences and set up meetings outside and we would find it very difficult without having the technology that we would need to have someone else booking to our calendar when we're out trying to book meetings. So we have to take a paper calendar with us in order to arrange meetings when we're out. And so if someone has booked someone into a spot then we're going to run into problems, right? … Yeah. So I could see it [referring to the centralized appointment scheduling element of

> Advanced Access] working if we had the proper technology, if we had iPhones or something that we could look at our schedule and that we're directly linked to somehow. I don't know how it would work but somehow directly linked to the Intake calendar. Then other people could book into our calendars and we would see it immediately. But without that we're running into trouble."
>
> *Quotation 13: Ambulation*

In summary, my findings on coping with task ambulation in Advanced Access implementation can be stated as follows. As per Quotation 12 and Quotation 13, both children's mental health cases were able to handle task ambulation, specifically scheduling task ambulation, with mobile technology, specifically paper technology. For on-site appointment scheduling needs, stationary technologies specifically desktop computers were used to schedule into therapists' calendars on-site in clinics in both cases. However, coping with off-site appointment scheduling needs in the course of centralized appointment scheduling was a different issue. While the clinic in Case 3 was able to implement centralized appointment scheduling using a combination of scope limitation and mobile technology to cope with the few appointment scheduling exceptions, off-site scheduling needs emanating from its low degree of ambulation, the clinic in Case 2 wasn't able to do that. The high degree of task ambulation in Case 2 relative to that in Case 3 called for synchronized mobile technologies in order to implement centralized appointment scheduling effectively in Case 2.

My findings raise further questions for theory elaboration. Are certain modes of coping more effective for certain degrees of ambulation? Does the nature of the scheduling task itself even have an influence on what modes of coping would be more effective given a certain degree of

ambulation? Could we develop a framework to characterize modes of coping with ambulation based on combinations of the analytical dimensions found?

In “Theoretical Abstractions” I answer these questions by developing a framework on modes of coping with ambulation. I position this framework in the broader context of Contingency Theory as I treat ambulation as a contingency, one of the many manifestations of complexity, the core contingency which underlies the contingency theory research program.

5.3.3 Lack of Prior Appropriate Technology

Lack of prior appropriate technology impacts Advanced Access implementation. This was identified at the institutional level while comparing and contrasting the Mental Health Clinic group with the PCN Clinic group in cross-group analysis. Lack of prior appropriate technology as a significant barrier was more specific to the Mental Health Clinic group namely Case 1, Case 2 and Case 3. Unlike the PCN clinics that had an electronic scheduling “Electronic Medical Record” (EMR) system, the mental health clinics did not. The mental health clinics generally had a client information system such as Arhmis and MS-Outlook for client scheduling. This was unlike the PCN clinics that had electronic scheduling EMRs such as Jonoke and Telus. The use of MS-Outlook for client scheduling presented the challenge of technology development. Technology development impeded Advanced Access implementation in that it was time consuming as one interviewee mentions:

> "We spent a lot of time -- we had a steep learning curve in developing the technology to track how many people are we seeing, what's the demand, how many people are knocking on our door, what's the wait time for people to get in to receive therapy, how long are they in therapy and how do we know when their therapy is completed."
>
> *Quotation 14: Lack of Prior Appropriate Technology*

This phenomenon is also related to institutional managerial apathy manifested in the Provincial Health Authority. Quotation 29, Quotation 31 and Quotation 32 in section “5.3.5 Institutional Managerial Apathy” provide further elaboration on this in relation to that.

Appropriate technology such as electronic scheduling EMRs can have an enabling role in Advanced Access implementation. For instance, as one interviewee elaborates in Quotation 75 in

section “5.3.7 Factors Influencing the Impact of Workload as an Implementation Barrier”, they can act as a channel to offload work, especially during the implementation of client service agreements element of Advanced Access focused on no-show reduction.

Lack of prior appropriate technology impacts Advanced Access implementation in relation to training for the use of new technology. An interviewee elaborates on this:

> “we were asking them to go in and put appointments in their calendars ahead of time and that was a hard thing for a lot of people to get their head around. Also, some people were never that computer-savvy. So some people had to be trained on how to do it … [Those who were not computer savvy were] probably six out of 16”

Quotation 15: Lack of Prior Appropriate Technology

This phenomenon of training associated with the use of technology that an organization was not using prior to implementation is also related to culture, as people have to familiarize themselves with the new technological environment and work within it as an interviewee indicated:

> "I think it was a significant change for therapists to not only in their mindset, but also it's how that relates to every day, like some people use electronic calendars already and we're very familiar with that. That's a small percentage.”

Quotation 16: Lack of Prior Appropriate Technology

The links between lack of prior appropriate technology, an institutional level technological barrier across mental health clinics, the institutional culture across mental health clinics, organizational training and individual cultures as per their culture-cognitive scripts are evident. The institutional level technological barrier gave rise to a paper-based institutional culture.

However, some groups of clinicians were more exposed to an electronic-based culture in their private lives. While organizational training was needed for all clinicians, it was more challenging for individual clinicians who were less exposed to an electronic based culture in their private lives since they probably did not have a sufficient knowledge base or the cultural habit. This challenge called for higher efforts to maintain the Advanced Access implementation.

5.3.4 Cultural Change

Culture, an institutional level phenomenon, manifested as a barrier to Advanced Access implementation in mental health clinics. Cultural change was identified during cross-group analysis to impact Advanced Access implementation. To implement Advanced Access effectively, the mental health clinics unlike the PCN clinics had to undergo significant cultural change and this impacted the implementation process and outcomes. The process of changing cultures was a barrier to implementation in that it slowed down implementation, surfaced unpleasant emotions for clinicians whose culture were being changed and it increased the strain on management. The major dimensions in which culture change was found to impact were through:

- Changes in cultural orientation
- Values
- Attitude changes

5.3.4.1 Changes in cultural orientation

Changes in cultural orientation impacted the processes and outcome of Advanced Access implementations. In the remainder of this section, I elaborate on:

- ❖ Private – Public cultural orientation changes
- ❖ Less organized – More organized cultural orientation changes
- ❖ Independence – Dependence cultural orientation changes

Advanced Access implementation required a public work culture in which individual clinician schedules were not private but rather open to others, specifically to scheduling

coordinators. The process of transitioning from a more private culture to the more public culture needed for effective Advanced Access implementation was a barrier, especially in the implementation of the centralized appointment scheduling element of Advanced Access across mental health clinics. An interviewee describes the situation:

> "Well, that was a huge problem because that was a total change of culture and management had to really work on getting people to look at it differently because the therapists' point-of-view was they didn't want people in their calendars."

Quotation 17: Culture

Another interviewee elaborates further on the situation and how important having a public work culture was to effective Advanced Access implementation:

> "One of the biggest barriers was the idea they had been using a paper scheduling method amongst therapists. So each therapist had their own calendar. It was not commonly known. It was challenging to book in patients. So one of the biggest hurdles was to move to an electronic process of scheduling and I think that that really concerned a lot of people who were not used to that, who were not comfortable with having their schedules open to all, but as we go forward through the process that became one of the primary focuses – moving this group of paper based scheduled therapists to an electronic schedule so that an intake coordinator could clearly see who had capacity, appropriately distribute referrals and that ultimately led – really that was one of the biggest changes that led to them improving their metrics in terms of wait times for clients."

Quotation 18: Culture

A question arises: are there any deeper reasons why some therapists did not want other people to view their calendars? It turns out that the barrier was not just about therapists not wanting people to see their calendars. It was also because a public calendar culture exposed performance issues. As one interviewee elaborates, this barrier even caused some turnover:

> "Well, there was a significant amount of pushback from some individuals because that was an intrusion into their personal practice. And this comes back to the point that, you know, within many mental health therapist services they believe they can run their own individual practice. So they didn't want people seeing their open calendars. Between preference and also some people knew that they were not carrying their share of patient load. So it exposed performance issues. It put pressure on people that were already under a lot of pressure. I don't want to underestimate the fact that the world of therapists is very difficult. You have significantly complex clients. You can only do so much for them. It's a lot of emotional pain, and you're directly involved with that. So it's a very challenging position to start with. So there was a lot of resistance that we certainly – and I think it had to do with personal preference, style of practice history. And actually quite a few – I don't know the exact number, but there was turnover as a result of this program. There were therapists that left the program because they did not want to work in the structure."

Quotation 19: Culture

- Less organized – More organized cultural orientation changes

The cultural orientation also changed from a less organized to a more organized work culture. Advanced Access implementation required a work culture in which clinician schedules were organized for effective client access management. In mental health clinics, prior to implementation, this was not the institutionalized culture. The process of transitioning from a less organized cultural orientation to the more organized cultural orientation needed for effective Advanced Access implementation was another dimension in which the cultural barrier to Advanced Access implementation manifested. An interviewee elaborates:

> "The other part of that [referring to implementation challenges faced] was we were required to select a certain number of spots or appointment times every week that we would devote to new clients and that we couldn't change that. We gave the times, it was put into a computer and we couldn't alter it. So you had to plan your schedule so that if you knew you were going to be away to get your schedule in the computer up-to-date as soon as you could because you didn't want to have to phone people and reschedule yourself, things like that so we had to be a bit more organized. That's one piece. "

Quotation 20: Culture

- Independence – Dependence cultural orientation changes

The cultural orientation also changed from an independent to a dependent work culture. Advanced Access implementation required a work culture in which clinicians' schedules, especially regarding the ratio and timing of new appointments to return appointments,

were more dependent on the state of client access as perceived by management through the access metrics such as Third Next Available Appointment or the 90th percentile wait-time. Prior to implementation, the institutionalized culture across mental health clinics in the province was different as one interviewee explains:

> "It [the traditional number of new appointments per week in the mental health industry] varies. In our industry, it's 22 appointments a week on average. That's the general standard, accepted standard. That doesn't tell you how many new are in there. It could be 20 return appointments."

Quotation 21: Culture

The transition from the more independent cultural orientation to a more dependent cultural orientation needed for effective implementation of the Advanced Access elements of centralized appointment scheduling and wait time monitoring proved to be a barrier:

> “asking them [referring to therapists] to give up the control of their schedule. That’s a major challenge. That’s a cultural shift. You’re asking them to give up that, that control over their schedule. Just that piece right there is a major cultural shift.”

Quotation 22: Culture

Another manager in a different mental health clinic elaborates further on this Advanced Access implementation barrier:

> "Staff were resentful of losing autonomy because we went to this pooling of appointments and they were told they had to supply X number of [new] appointments,

and that was a completely foreign concept. They were used to managing their own schedule completely and they felt that they were giving up autonomy on that."

Quotation 23: Culture

A work culture in which clinicians have autonomy regarding client scheduling decisions as found in the mental health clinics is a barrier to Advanced Access implementation. A work culture in which clinicians depend on administrative staff for scheduling decisions as found in the PCN clinics is an enabler for Advanced Access implementation. Dependence on administrative staff for scheduling decisions to improve client access resonates with the efficiency value of Advanced Access.

5.3.4.2 Values

The process of transitioning to the values needed for effective Advanced Access implementation also impacted the implementation process and outcomes. Advanced Access called for a set of clinical values that differed from the initial clinical values of therapists. Advanced Access valued efficiency and thus required that workers more specialized in a specific task be assigned that task. This required that administrative staff phone clients and book appointments into therapists' calendars. However, the institutionalized culture across mental health clinics was that the therapists phone the client and through this, the therapeutic relationship between therapist and client began. The clash of values was a barrier as one therapist elaborates:

"In the old days, we would call the client and talk with them and sort out the appointment time. We had to set up -- we call it pre-populating our calendars; and

> administration does that now, admins do that. Many therapists did not want to give up that telephone contact."
>
> *Quotation 24: Culture*

She elaborated further on why therapists did not want to give up the initial phone contact:

> "Many therapists wanted to start establishing the therapeutic relationship via the phone call"
>
> *Quotation 25: Culture*

The reason for this was more than just preference. It was tied to an institutional "appropriateness logic" (Scott, 2008) in the sense that some therapist felt it was clinically inappropriate as a care manager indicated:

> "Some of them [referring to therapists] felt that we were doing a clinical disadvantage in having admin support phone the clients because they felt they started the clinical engagement process with clients on the phone when they booked the appointment. There was resistance at every turn, and it was exhausting to manage."
>
> *Quotation 26: Culture*

This barrier created a challenge that proved very difficult, painful and a long process for some therapists. It generated a challenge from a clash of cultures and a clash of cultural values. "Institutional rationality logics" (Scott, 2008) competed as efficiency versus appropriateness logics clashed.

5.3.4.3 Attitude changes

Effective Advanced Access implementation required an attitude change from therapists. This was a barrier that impacted the implementation outcomes. Prior to implementation, the work attitude of therapists was to focus on the client in front of them and figure out how to help that client. Advanced Access implementation however required therapists to also focus on the clients who were waiting. They had to do things differently, for instance close client cases faster, to reduce the wait-time for clients who were waiting for care as a therapist describes:

> “As therapists, we would begin to look at what can we do differently to bring people in sooner so they don't have to wait so the queue is shorter. That was a major attitude change or demand, I guess an attitude demand.”

Quotation 27: Culture

She went on to elaborate on the situation:

> "That [referring to monitoring client wait time to see a therapist on the day of appointment] was a real attitude shift. In other words, being concerned about wait time versus who's in front of you."

Quotation 28: Culture

In summary, Advanced Access implementation requires a particular culture; a culture which values efficiency, is oriented to public organized schedules, is oriented to clinician dependence on client access scenario and administrative staff for scheduling, and is open to innovation. When the implementing clinic does not have this culture prior to the start of Advanced Access

implementation, the process of culture change can become challenging and affect implementation outcomes.

5.3.5 Institutional Managerial Apathy

Institutional Managerial Apathy, an institutional level phenomenon within the clinics governed by the provincial health services authority, first emerged as a barrier to Advanced Access implementation in the course of within-group analysis of the mental health clinic group. It re-emerged in cross-group analysis as the implementation challenges in the mental health clinic cases were contrasted with the PCN clinic cases. It was then further elaborated through pooled analysis. Institutional Managerial Apathy manifested in different dimensions namely:

- Institutional leadership failing to provide appropriate standardized scheduling IT resources across provincial healthcare services for effective Advanced Access implementation.
- Institutional leadership not taking a proper inventory of the skill set of the workforce and utilizing that for agile problem solving.
- The institution, the provincial health authority, not carefully assessing the workload of its managers thus facilitating their effort-satisficing through reprioritization.
- Inadequate thought given to the provincial healthcare system and the systematization of its processes and change initiatives as a whole.

I elaborate on each of these next.

5.3.5.1 Institutional leadership failing to provide appropriate standardized scheduling IT resources across provincial healthcare services for effective Advanced Access implementation

Institutional Managerial Apathy manifested as the provincial health services authority leadership failing to provide standardized critical IT resources for effective Advanced Access implementation even though it, the provincial healthcare services authority, was funding the program for clinics. This reduces extent of implementation as per the number of Advanced Access elements implemented as one interviewee points out:

> "This was another issue. So leadership [referring to provincial health services authority leadership] wasn't pushing the need for a standard scheduling system across these services, yet they were expecting the clinics to just figure it out. This is why we have systemic breakdowns in public health services. Leadership won't make decisions. And again, just like the provincial Advanced Access program people, not understanding the actual operational reality. So they [referring to the clinics] just – they figured a way to use their old calendar and synchronize all the calendars. But in this type of system where it's known that a scheduling issue is a significant barrier to implementing the program by not providing resource that supports changing that scheduling system you risk creating a lot of work and you don't assume to get to some of the other things that you'd like to do."

Quotation 29: Institutional Managerial Apathy

In theoretical terms, by institutional leadership not providing the enabling scheduling technology, more workload is created for clinics. This in turn affects implementation outcomes via two modes. The first mode is that the workload created slows down implementation progress

as clinics work hard to get through it all. This reduces implementation extent as assessed within any given time period, especially, within the formal structured Advanced Access implementation period which can be as long as fourteen months. The second mode is that increased workload and the inappropriate technology increases frustration which results in a greater tendency for clinics to satisfice on efforts which in turn lowers the extent of Advanced Access implementation.

A question however arises: In what way are the current information technology (IT) resources unstandardized? The current IT resources are unstandardized in the sense that there are different systems used across different clinics in the institution as an interviewee describes:

> "There are different systems everywhere you go between rural -- like at the hospital, they have MEDITECH, here we have ARHMIS for our clients information system. … ARHMIS is the client information system and Outlook is the booking and email system."

Quotation 30: Institutional Managerial Apathy

Another question arises: In what way are the current scheduling IT resources not appropriate for Advanced Access implementation? It was found that all mental health clinics in the recruited sample used MS-Outlook for scheduling while the PCNs used their electronic Scheduling EMRs. An interviewee elaborates on the difficulties of using MS-Outlook for Advanced Access scheduling:

> "It's not so user-friendly [referring to MS-Outlook], I don't think. And that's the thing about it: if you delete something, there's no way of getting it back. So if someone accidentally just deletes an appointment, you're messed right up. And I don't know that IT can even fix that."

Quotation 31: Institutional Managerial Apathy

Another question arises: to what extent is this an institutional level problem and why is it being categorized as institutional managerial apathy? Pooled analysis revealed that the problem was much broader than just Advanced Access implementation as an interviewee reveals:

> "What's happening with [Microsoft] Outlook, sometimes it's out of our control and because the Provincial Health Services Authority is such a big entity, there's – I think over what? A hundred thousand people are using Outlook. I think sometimes there will be and we'll continue to have glitches going forward. I understand just recently that there was sort of - they lost a lot of data in the Outlook calendars. So, that is more of an IT issue going forward on what they can do going forward to maybe picture out what could be a little bit better. But again Outlook was - is – wasn't made for this type of - It usually is – it's more different software for booking into stuff like that so it's just that we don't have the resources available to us. … Outlook wasn't – it was not made for booking clients and obviously there are different programs such as – well out there for scheduling for - for clients. But we don't have those resources"

Quotation 32: Institutional Managerial Apathy

The magnitude of the problem shows its institutional character and the source of the problem was pointed to institutional managerial apathy in the Provincial Health Services Authority, especially on the part of institutional leadership.

5.3.5.2 Institutional leadership not taking a proper inventory of the skill set of the workforce and utilizing that for agile problem solving

Another dimension in which institutional managerial apathy manifested was that institutional leadership was not taking a proper inventory of the skill set of the workforce and utilizing that in an agile manner for implementation problem solving. For instance, in the holdout sample of cases, there was an office staff with education in computer programming who if granted access to fix certain IT problems, could have sped up the implementation and reduced a lot of frustration about the IT system used for scheduling and monitoring access. However, due to a rigidly set up IT bureaucracy of IT "access" and "tickets", even this programmer had to wait very long for IT issues to be fixed whereas if the institution had recognized and tapped her skill, she could have resolved a lot of the IT problems around Advanced Access implementation. An interviewee elaborates on this implementation barrier:

> "I mean, we have our clinic but then also we have to work within the policies of the provincial health services authority and other programs and how they're run. … So with IT, it's their department and they have policies and procedures [includes: "doing tickets, getting a ticket number, calling them numerous times"] in which we need to adhere by."
>
> *Quotation 33: Institutional Managerial Apathy*

Institutional Managerial Apathy thus manifested as institutional managerial apathy in agile implementation problem solving. The combined effect of institutional managerial apathy in providing effective standardized scheduling resources, institutional managerial apathy in utilizing the skill of the workforce for agile implementation problem solving, and a seeming institutional IT departmental bureaucracy slowed down implementation in the mental health

clinics relative to the PCN clinics. A lot of time was spent developing technology, sending emails and waiting for IT departmental fixes to technology development problems.

5.3.5.3 The institution not carefully assessing the workload of its managers thus facilitating their effort-satisficing through reprioritization

Institutional Managerial Apathy also manifested as the institution not carefully assessing the workload of its managers thus facilitating their effort-satisficing through reprioritization. As per the within-group analysis of the implementation cases in the mental health clinic group, effort-satisficing through reprioritization was one of the two primary means that rendered the implementation of Case 2 ineffective relative to Case 1. An interviewee describes the situation:

> “Management [referring to institutional leadership specifically their Program Manager] will say they're supportive though. They'll say "Yup, we are committing admin, we are committing your manager to go to all the meetings" because we actually wrote a formal letter to our program manager and she wrote back and said, "Yes, we're in full support of Advanced Access implementation. Your manager [referring to their care manager] should be at all the meeting." But he doesn't have the time. So there's a disconnect between what they're saying and what they're doing. So for them to assign him this huge role, how can they expect him to be able to commit the time to do it?”
>
> *Quotation 34: Institutional Managerial Apathy*

5.3.5.4 Inadequate thought given to the provincial healthcare system and the systematization of its processes and change initiatives as a whole

Pooled analysis revealed institutional managerial apathy manifested as inadequate thought given to the provincial healthcare system and the systematization of its processes and change initiatives as a whole. Institutional Managerial Apathy in the dimension of the level of thought and systematization of processes and change initiatives was identified to be high. This in turn creates a lot of upfront work for Advanced Access implementation that slows down implementation as one interviewee describes:

> "With the specialty care programs [such as mental health clinics], the other challenge with them, is that their systems are most often so complex, so convoluted, so broken in a sense that -- and maybe broken isn't the right word. It's kind of like I used the analogy that they are often like a house that was originally built in 1960, and in 1960 it was a great house. But since then they've made so many changes to it and additions and pieces onto it without really sort of any thought for the entire system, as an entire flow system, that no one knows anymore from beginning to end and all the pieces in between how the processes work anymore. Therefore, what they have is largely immeasurable systems, systems that aren't even understood in its entirety by the workers themselves; and therefore, that becomes a major challenge because as we then start to apply the principles [of Advanced Access] we're kind of then at the point at which we have to do a lot of system analysis through mapping, through conversation, through all of these things before we can even get to the point where we can understand where we need to measure, what the measures are so that we can get a baseline, so that we can then start to find out what the constraints are and then move forward."

Quotation 35: Institutional Managerial Apathy

The question that emerges for an inquisitive mind is: why hasn't the system been planned to be measurable and operationally efficient in the first place? An answer to this question lies in the disease-state model that has seemingly dominated healthcare development as the interviewee elaborates further:

> "Traditionally if we think over time, over culture, the way healthcare has developed is not necessarily on the business model. It's been based on a disease state model.

Quotation 36: Institutional Managerial Apathy

The interviewee elaborates further, pointing out the institutional leadership and cultural dimensions to this barrier to Advanced Access implementation:

> "I think what we struggle with is, from a leadership level, those people who are trying to do it based on data are doing it based on faulty data. We don't have good and clear data. We're not good in healthcare, at collecting business-type data. We do collect things around clinical care, but we don't do those basic measures around what we need to know in terms of, again, going back to supply and demand, going back to system capacity, going back to understanding geography, and understanding population, and demographics and all of those kinds of things. So it's always a kind of a shot in the dark. And so, we've been doing that for years, and years, and years. And over that time, we've then ended up with more and more convoluted system."

Quotation 37: Institutional Managerial Apathy

5.3.6 Workload

An institutional, organizational and individual level phenomenon, workload, was a factor responsible for variation of processes and outcomes of implementation in this research. High workload first emerged as a barrier to Advanced Access implementation in the course of within group analysis of the PCN clinic group of cases. High workload re-emerged as a barrier to achieving better implementation outcomes in the within-group analysis of the mental health clinic group. The findings on workload which emerged in the within-group analysis were then elaborated further through pooled analysis to provide for a richer understanding for theory building.

In the course of within group analysis of the PCN clinic group of cases, high workload was identified as principally the reason for:

- The clinic of the less effective PCN Advanced Access implementation case, Case 5, almost quitting the entire Advanced Access implementation process unlike the clinic of the more effective implementation case, Case 4 or any other clinic in the recruited sample.
- Office staff foregoing the measurement and data collection element of Advanced Access in the less effective PCN implementation case, Case 5, unlike in the more effective case, Case 4.
- The low physician adoption rate of Advanced Access in the less effective PCN implementation case, Case 5, a rate of 33% compared to the high physician adoption rate of Advanced Access in the more effective case, Case 4, a rate of 100%.

- Staff turnover due to Advanced Access implementation in the less effective PCN implementation case, Case 5, unlike in the more effective case, Case 4.

In the within-group analysis of the mental health clinic group of cases, high workload was identified as principally the reason for:

- Leadership in the clinic of the less effective implementation case, Case 2, not utilizing data collected through the Advanced Access element of measurement and data collection to improve the clinic. This in turn being primarily responsible for comparatively lower beneficial Advanced Access implementation outcomes when compared to the more effective implementation case, Case 1.

In the remainder of this section, I elaborate on my findings on workload. I elaborate on:

1. Its being an Advanced Access implementation barrier
2. Its alternative conceptualizations
3. Its sources
4. Its relation to different levels of analysis
5. Its properties

In other sections of this chapter, I discuss factors influencing the impact of workload, and some other related theoretical phenomena. In the next chapter, “Theoretical Abstractions”, I integrate all the findings in this section on workload as well as how they relate to other findings in this dissertation, into a coherent theoretical frame for understanding, predicting and enhancing OIs when viewed in the lens of workload or effort. I propound this as the Effort Satisficing Theory (EST).

5.3.6.1 High workload as an Advanced Access implementation barrier

High workload manifested as a major implementation barrier in Case 2, Case 3, Case 4 and Case 5. In the remainder of this section, I elaborate on:

- High workload as an implementation barrier within the PCN clinic group - Case 5 and Case 4
- High workload as an implementation barrier within the Mental health clinic group - Case 2 and Case 1

In the PCN clinic group, workload was an implementation barrier. High workload manifested as a barrier to Advanced Access implementation from both the office staff and physicians in Case 5, a less effective PCN clinic AA implementation. Its impact on office staff almost caused the clinic to dismiss Advanced Access implementation altogether during the implementation of the measurement and data collection element. The clinic of Case 5 was the only clinic in the recruited sample to voice out to its Advanced Access implementation facilitator that it wanted to quit the implementation.

For the office staff in Case 5, the impact of high workload as an implementation barrier began right from the time when the decision to adopt Advanced Access was being made. An interviewee illuminated this as follows:

> "I think the first challenge that I remember as we sat at the – the initial meeting was resistance from staff, because they all were feeling fairly overwhelmed in terms of the workload that they were carrying initially anyways. And I think they were all very reluctant to have anything else added onto their plates, that they perceived as adding more work to their day."
>
> *Quotation 38: Workload*

For the physicians in Case 5, the impact of high workload as an implementation barrier was felt in the choices physicians had to make, the choice of implementing Advanced Access given all the other things they had to do or foregoing Advanced Access. High workload caused low engagement from physicians at the time of implementation. At the time of interviewing, its impact could still be felt as some of the physicians who did not adopt Advanced Access were looking for avenues to reduce the workload involved on their part in Advanced Access implementation. An interviewee describes the situation in more detail:

> "I think for [Dr. D, a doctor who was part of the majority physicians who did not implement Advanced Access in the clinic], the time that we were doing Advanced Access implementation was also part of the time that he was sitting on the PCN board, which was a draw on his time as well. And – you Yeah – I've forgotten for myself [who was very keen on Advanced Access implementation but ended up as part of the majority physicians who did not implement Advanced Access in the clinic] at the same point in time when we joined the PCN, I was sitting on the Tailored Services Committee as well, so those were other time consuming things. …. [Dr. F, another doctor who was part of the majority physicians who did not implement Advanced Access in the clinic] is one of the

> physicians who joined us, she's the one who had to convert all of her charts over [from paper to electronic during the Advanced Access implementation period and this was a huge task]; and she had participated in Advanced Access implementation previously. So I was actually just talking to her downstairs, she would still – she's sort of in the same boat that I am where she would really like to have kind of a refresher. It would take a lot of time to be motivated to go back through all the binders and the information and to start over; but it would be kind of nice to have, I guess a course notes version. Something to go back to"
>
> *Quotation 39: Workload*

High workload was a major implementation barrier for Case 5. During the initial stages of implementation in Case 5, specifically the implementation of the measurement and data collection element of Advanced Access, the impact of high workload as an implementation barrier was also felt strongly as the tendency for a staff walkout increased. At this point, the clinic voiced out to its Advanced Access implementation facilitator its intent to quit the entire implementation. A physician interviewed elaborates on this:

> "It was like within a couple of days of starting to collect data, and it was very very fast. It wasn't the usual adjustment time that people would say, okay this might settle down. It just was there, and it [the stress] was very high. And they were ready, we have wonderful staff, really, really good staff and if they are ready to quit working as a result of it, we're not doing it anymore. Not worth losing staff over."
>
> *Quotation 40: Workload*

An office staff interviewed also elaborated on this event and how the clinic resolved it to eventually enable Advanced Access implementation:

> "Yeah, we almost had a staff walk out. … Because it was just too much pressure trying to keep track of all the forms and yeah we just had to draw a line.… That [referring to activity tracking sheets also known as measurement flow sheets] was a huge challenge. We are a very busy clinic and we were having a really difficult time adding that onto the workload. So eventually we didn't do it because it was just, it was too much and the staff was overwhelmed. What had happened is we put that responsibility onto the physicians and they kept track of it which seemed to be easier for them."
>
> *Quotation 41: Workload*

It is clear that the clinic overcame the adverse effects of high workload on office staff by seeking other avenues to offload the work of staff. Specifically, collaboration between physicians and office staff was used as a channel to offload some of the workload of staff in order to proceed with the Advanced Access implementation.

In contrast to the less effective PCN Clinic Advanced Access implementation in Case 5, Case 4 the more effective PCN clinic Advanced Access implementation, did not report experiencing such magnitude of workload challenges. The workload involved in implementing Advanced Access was reported as a challenge but unlike Case 5 where the clinic was already very busy prior to Advanced Access implementation, Case 4 did not report being comparably busy and did not report experiencing workload challenges to the point of quitting the implementation. Interviewees did not report the measurement and data collection element of Advanced Access as

influencing them to consider quitting but they did report that it was tiring, as one interviewee describes:

> "it [measurement and data collection] was more tiring for the staff because every occasion they'd have to explain why we were doing this and some people [patients who were asked to fill time surveys] said no, we were just blank. You know, we can't make anybody do it. … the measuring was tiring, at times horrible for the staff but in the long run, it did bring a lot of things to light that you never thought about before."

Quotation 42: Workload

In summary, although workload proved to be a barrier in both the more effective and less effective PCN clinic implementation cases, its impact was more pronounced in the less effective case. This is partly due to that less effective case's clinic being a very busy clinic and partly due to other factors that I will elaborate later in section "5.3.7 Factors Influencing the Impact of Workload as an Implementation Barrier".

- ❖ High workload as an implementation barrier within the mental health clinic group - Case 2 and Case 1

Similar to the PCN clinic implementation cases, high workload also proved to be an implementation barrier in the mental health clinic implementation cases. In Case 2 that was a less effective AA implementation, the impact of high workload as an implementation barrier was on leadership, specifically management. Management had a high workload and consequently could not devote attention to the Advanced Access implementation. This threatened the sustainability of the Advanced Access implementation and bred negative emotional outcomes. An interviewee elaborates on this:

> "Over time I never had a manager involved on the core implementation team so I'm a frontline staff person. My [Care] manager wasn't -- We didn't have a manager at that time and so my manager recently came on board and he's been so busy that he hasn't been to the meetings and he hasn't taken it on to use the information that we're collecting with the staff. So it's been very frustrating over the past year not having information [on how the measures gathered by staff was being used managerially for improvement work] to bring back to the staff. … They're [referring to institutional program managers] assigning him [the clinic care manager] this huge portfolio [of work responsibilities] and there's obviously no time to focus on Advanced Access … People are now really discouraged about Advanced Access and they have a bad taste in their mouth about Advanced Access. So it would take a lot of rebuilding now."
>
> *Quotation 43: Workload*

In contrast, the case of the more effective mental health clinic in the same location, Case 1, where the care manager was responsible for roughly half what the care manager in the less effective implementation case, Case 2, was responsible for did not experience this. The manager in Case 1 was utilizing the measurement information collected in Advanced Access to make improvements in the clinic. The extent of reported negative emotions about Advanced Access was much less in Case 1 than in Case 2 and the Advanced Access implementation in Case 1 seemed much more sustainable.

In summary, it is evident that workload is an important implementation barrier and it has impacted both PCN and Mental health clinic Advanced Access implementation cases in this research in different degrees. With such an importance, even having the potential to cause a PCN

clinic to consider quitting Advanced Access implementation altogether, it deserves some scrutiny. One asks a series of questions:

- Are there alternative conceptualizations of workload?
- What are some sources of high workload in the cases?
- Are there any levels of analysis from which high-workload is generated?
- Are there any theoretically relevant properties of workload?
- Are there any theoretically relevant dimensions of high workload for use in explaining its impact on OIs?
- Are there any factors influencing the impact of high workload as an implementation barrier?
- What theoretical insights can we develop from high workload as an implementation barrier as manifested in this research?
- What theoretical frames of explanation and prediction can we use to explain and predict events associated with high workload as an OI barrier?

In this and subsequent sections, I delve for answers to these questions from a theory building perspective. The ultimate goal is to identify or formulate a theory with a high generalizability that is both useful for explaining and predicting workload related OI outcomes as well as other phenomena that lie outside the immediate realm of this dissertation.

5.3.6.2 Alternative conceptualizations of workload

Effort was an alternative conceptualization of workload identified in this research. The effort required to perform an activity was the workload associated with that activity. An interviewee uses this conceptualization as she elaborated on why the majority of physicians in Case 5 did not adopt Advanced Access when it was being implemented:

> "I don't think they looked at it like it didn't work. I think the effort was too much at the time."

Quotation 44: Workload

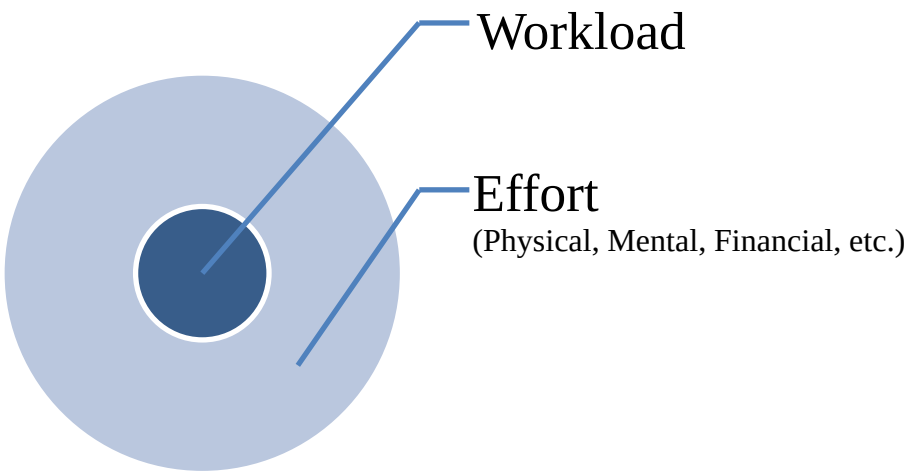


Figure 11: Illustration of high workload as an instance of high effort requirements

In subsequent sections, I use the effort conceptualization of workload significantly for theory building. This is because from my theory building perspective, effort has much more breadth than workload as effort can be conceived in several dimensions such as: physical effort which could qualify as workload, mental effort which could qualify as workload, financial effort which would not qualify as workload, etc. The wider breath confers the virtue of increased scope upon

a theory based on it, one of the virtues of good theories as per Kuhn (1998: 436) and McMullin (1998: 527-528). In this chapter however, I do use the term effort quite interchangeably with workload because I conceive high workload as one manifestation of high effort requirements since in this particular multiple case study that is the case. I however use effort in its broader conception in the Effort Satisficing Theory (EST) in the "Theoretical Abstractions" chapter.

5.3.6.3 Sources of high workload

The high workload that became a barrier to implementation was found to emanate from several sources. Two of these sources namely coordination demands and scope of implementation activity were notable from a theory building perspective.

High coordination demands were a source of high workload. It seemed the task of coordinating activities was work in itself. One interviewee elaborates on this for the less effective PCN clinic, Case 5, regarding the task of measuring appointment demand via incoming calls for appointments done in the measurement and data collection element of Advanced Access:

> "Yeah, and every phone call, and our phones can be pretty busy some days. So yeah, they're just trying to remember and they [office staff] were getting worried about, did I forget to mark down a phone call and; they were really worried about, were they doing it properly and, I think it wound up being a big job."
>
> *Quotation 45: Workload*

The coordination effort required to document phone calls and distinguish between phone calls that had been properly documented and phone calls that had not been properly documented

seemed high for office staff. Though this effort may not be so conspicuous to observers, to the office staff who were exerting it, it seemed much like handling a big workload.

Another source of high workload was found to be the scope of implementation activity. A large scope of implementation activity resulted in a high workload for those implementing Advanced Access. “Large” in this case is relative but it did hold that the scope of implementation activity contributed to high workload for the less effective PCN clinic implementation case, Case 5, and without sizing back on the scope of implementation, the clinic might have forgone Advanced Access altogether. The Advanced Access implementation facilitator whose role was to assist the clinic in its implementation of Advanced Access, a kind of consultant role, described this:

> “I think the problem upon reflection even at the time was that we probably started too big and I might have been able to help them a little more in trying to scope down their ideas so they didn’t get overwhelmed to begin with. That we would do a very scoped down version of it, that still required some participation from the office and managers. We had to do some discussion there on how this could still fit for them without feeling overwhelming.”
>
> *Quotation 46: Workload*

5.3.6.4 High-workload and levels of analysis

High-workload was found to emanate from different levels of analysis. The impact of high workload was also identified at different levels of analysis. These included the individual, organizational and institutional levels. In the cases studied, workload could be concluded as a multi-level phenomenon as it was found in different levels of analysis.

In the remainder of this section, I elaborate on:

- Workload at the individual level of analysis
- Workload at the organizational level of analysis
- Workload at the institutional level of analysis

At the individual level, the impact of high workload was felt. Individual context had an impact on what was regarded as high-workload. An interviewee elaborates on this:

> "One of the staff who was here at that point in time was – who was probably the least involved was one who had just gotten married, and in that time frame, was pregnant, left. So I could understand her not really wanting to tackle much more."
>
> *Quotation 47: Workload*

It is clear that workload is individual-context dependent. The impact of a given amount of workload felt by a pregnant employee might be different from that felt by someone else who is not pregnant, and this results in different behavioral responses such as quitting or not quitting. Quotation 47 gives theoretical insight at the individual level in that it highlights that the states of “being recently married” and “pregnancy” increased the tendency of this individual dismissing the implementation, even if that meant her quitting the organization. This is theoretically important because it points out how people’s private lives have an effect on the impact of workload on them, which in turn impacts their behavioral responses and eventually organizational OI outcomes. In the case above in Quotation 47, the ultimate behavioral response by the individual was to quit the organization and that resulted in organizational turnover.

Of fundamental importance from a management theory building perspective is the impact of an aggregation of such individual behavioral responses. If other individuals in the organization are exhibiting such a response, then the amount of turnover in the organization as a consequence of the implementation increases. Turnover results in tacit knowledge drain from the organization and it also comes with hiring and training needs and reprioritizations which impact the organization as well, so it is important as one interviewee speaks to:

> "They don't have a lot of turnover staff in this clinic, like other clinics. That was a big, big, big – that's huge. Because in the other clinics, the turnover doesn't help…If it's a clinic where there's turnover in doctors, they don't give each other opportunity to implement anything. And when the managers have turnovers, and front staff have turnovers, nothing gets done; things fall along the way side."

Quotation 48: Workload

The impact of phenomena in the individual level of analysis influencing OIs at the organizational level of analysis is not just limited to turnover. It has wider organizational implications as an interviewee eloquently emphasized it below:

> "Anybody who is doing a job has many things going on in their life. They have their work. They have their home life. They have all sorts of relationships going on. So any time you take them through a fairly profound change, you will trigger a lot of these elements amongst people. You will find resistance. You will find acceptance. You'll find the full gamut."

Quotation 49: Workload

In summary, individual context influences the impact of workload on OI outcomes. Phenomena in the individual level of analysis interact with those in the organizational level of analysis in determining OI outcomes at the organizational level of analysis.

- ❖ Workload at the organizational level of analysis

The impact of high workload was felt at the organizational level too. Organizational context had an impact on the level of workload felt by people within the organization. An interviewee describes how the organizational context impacted the level of workload felt by people in the organization that in turn led to reprioritization:

> [Regarding what she would do differently if she were in charge of the Advanced Access implementation and were to start again]: "I think I would have done it at a different time. It would have been the first thing that I would have done. We had, like I said, a number of different things that were all happening at the same time, so adding a new physician to the mix, adding a PCN nurse to the mix; being very tight on space; trying to move out charts; trying to design a new office. I think there were too many things happening in our office all at once, for us to be able to focus on this program as much as we would have liked to."
>
> *Quotation 50: Workload*

Adding a PCN nurse and being tight on space as in Quotation 50 may not be that conspicuous as factors which increase workload but they do, especially with the effort conceptualization of workload. This quotation, Quotation 50, points out the need to consider all the effort being expended by individuals as a consequence of all events happening in an organization at a given period when evaluating their workload and its impact on OIs.

In an attempt to explain this reprioritization theoretically, we can consider the following theoretical terms that are fundamental to the Effort Satisficing Theory (EST) that I am proposing:

- *Internal Effort*: It refers to all the effort exerted by a volitional entity, in this case people in the clinic, whether observable or not in the course of an event.
- *Strain*: It is the consequence of effort exertion by volitional entities, in this case people in the clinic, which volitional entities react to and which volitional entities believe when in large amounts to signal a threat to their self-preservation. It manifests in different dimensions depending on the domain of application of the theory. For instance, it may manifest as: biological strain, financial strain, etc. At the human biological individual level, it may be visualized in terms of observables such as tiredness, physical pain and illness.
- *Satisficing Threshold*: It is the threshold of strain beyond which a volitional entity, in this case people in the clinic, tends to strongly consider satisficing (Simon, 1997: 295; Barros, 2010: 46) on efforts for the sake of self-preservation by not exerting the optimal effort needed, in this case the ideal effort needed in the clinic to implement Advanced Access, while following through with all the other things happening in the clinic.

With reference to such a theoretical frame comprising internal effort, strain and satisficing threshold the reprioritization on Advanced Access can be explained as follows. A lot of internal effort was being expended as the people in the clinic tried to cope with the many things that were concurrently happening in the clinic. As a consequence of this exertion of significant internal effort, a significant amount of strain was incurred. The goals of the people in the clinic included self-preservation. They believed that large amounts of strain incurred would threaten their self-preservation imperative. They deemed the amount of strain they would incur as a result of

implementing Advanced Access alongside all they were already doing as too much strain. With this "too much strain" exceeding their satisficing thresholds, they cut back on internal effort exertion by satisficing on efforts. They chose to dismiss at least one effort-requiring activity, dismissal being one of the possibly many manifestations of reprioritization. Unfortunately Advanced Access implementation, that was quite the most recently proposed initiative at the time, was that dismissed activity. With this dismissal, an organizational OI outcome was affected as this PCN clinic's Advanced Access implementation, Case 5, became less effective with an adoption rate of 33% compared to 100% in the other PCN clinic, Case 4.

This theoretical explanation seems perfect except for one problem. People in the clinic could have chosen to cut back on efforts by dismissing some other activity other than Advanced Access so why was Advanced Access the unfortunate activity which had to be dismissed? In other words, the explanatory frame above can be turned into a theoretical predictive. It predicts that due to self-preservation and volition, people would tend to satisfice on efforts and they could do that by dismissing effort requiring activities. However, it doesn't tell as which activities are likely to be dismissed when people begin exhibiting effort-satisficing behavior. To answer the question of which activities are likely to be dismissed as people effort-satisfice in an organization, we would need to elaborate this explanatory frame further with the "Satisficing Threshold Determinants". These "Satisficing Threshold Determinants" are another aspect of the Effort Satisficing Theory (EST) that I would begin introducing in a sub-sequent section titled "5.3.7 Factors Influencing the Impact of Workload as an Implementation Barrier". The "Satisficing Threshold Determinants" is the crucial part of the Effort Satisficing Theory (EST) as applied to OIs that makes it a multi-level theory that links phenomena in the individual,

organizational and institutional levels of analysis. However, for now, perhaps it is as important to ask what was found regarding workload at the institutional level of analysis.

- ❖ Workload at the institutional level of analysis

The impact of high workload was also felt at the institutional level. Work could emanate from the institutional level and this had an impact on people in organizations that were within the institution. An interviewee describes the institutional context in regards to workload:

> "The climate within the provincial health sector at that time, the staff felt like they were being asked to do more with less. We really resented that."

Quotation 51: Workload

This had an emotional impact. The resentment, suspicion and fear associated with high workload emanating from the institutional level to the organizational level can act as an implementation barrier. If people perceive that upon implementation of Advanced Access they would be asked to do more OIs, then their future workload expectations increase. With expectations of too high future workload, their tendency to resort to effort-satisficing behavior increases as they try to ensure self-preservation by preventing what could in the first place give rise to that "too high future workload".

In summary, workload or effort, has a multilevel character. The implication of this for theory building is that any theory developed to explain or predict the impact of workload on OIs may need to take on a multi-level character. It may need to be applicable at different levels of analysis and it may need to integrate phenomena at different levels of analysis as it explains or predicts

the impact of workload on OIs. I formally propose one such multi-level theory, the Effort Satisficing Theory (EST), in the “Theoretical Abstractions” chapter.

5.3.6.5 Properties of workload

Workload was found to exhibit at least two properties namely resource dependence and temporal dynamism. Both properties are quite obvious however one, temporal dynamism, is of prime interest since it is of theoretical importance in this dissertation. The dynamism property yields two important dimensions for explaining and predicting OI outcomes: existing workload perceptions and future workload expectations. Both dimensions are relevant in applying the Effort Satisficing Theory (EST). In the remainder of this section, I elaborate on:

- Resource dependence property of workload
- Temporal dynamism property of workload

Workload exhibits resource dependence in that it can vary with resources. An Advanced Access implementation that may present itself as a low workload activity in one clinic may very well be perceived as a very high workload activity in another clinic due to the difference in the resources of the clinics. An interviewee highlights this as she describes their measurement and data collection Advanced Access element implementation:

> "[Regarding the different forms], Well there was some daily ones, there was a weekly one, there was one that you - you know, there was probably three or four different forms that had to be filled out per doctor. So yeah, it was just too overwhelming. I can see it if you only had a clinic of two or three doctors. It may not be but we run very minimum staff here and when you have anywhere from – at that point five to seven doctors. It was just too much. And our staff is very

multitasking whereas some offices, their staff doesn't do as much as we have our staff do on a daily basis."

Quotation 52: Workload

- Temporal dynamism property of workload

Workload exhibits a temporal dynamism property because an OI that may present itself as requiring high efforts at one point in time may present itself as requiring low efforts at another point in time. *Quotation 50* suggests this. Two dimensions of workload relate to this temporal dynamism property and influenced Advanced Access implementation. In the remainder of this section, I elaborate on these:

- Existing workload perceptions
- Future workload expectations

Existing workload perceptions is a dimension of workload that proved to be a barrier to Advanced Access implementation. Theoretically, high existing workload influences effort satisficing behavior by increasing the tendency of an implementation activity to be dismissed, a situation which calls for modes of reducing effort satisficing tendency such as cutting back on internal effort exertion. In the less effective PCN clinic implementation case, Case 5, the level of existing workload caused office staff to dismiss the measurement and data collection element of Advanced Access. This element is fundamental to Advanced Access implementation and without scope reduction and physician collaboration, Advanced Access implementation could have discontinued. An interviewee describes this in more detail in Quotation 41 repeated below:

"Yeah, we almost had a staff walk out. … Because it was just too much pressure trying to keep track of all the forms and yeah we just had to draw a line.… That [referring to activity tracking sheets also known as measurement flow sheets] was a huge challenge. We are a very busy clinic and we were having a really difficult time adding that onto the workload. So eventually we didn't do it because it was just, it was too much and the staff was overwhelmed. What had happened is we put that responsibility onto the physicians and they kept track of it which seemed to be easier for them."

Quotation 41

- Future workload expectations

"Future workload expectations" is another dimension of workload that also proved to be a barrier to Advanced Access implementation. Theoretically, high future workload expectations influence OI outcomes in a manner similar to the influence of high existing workload. When people are already working hard and they perceive that by embarking on an activity such as Advanced Access implementation too much workload will be assigned to them in the future, they become afraid. With this comes effort satisficing tendencies. An interviewee elaborates on their AA measurement and data collection element:

"It [Advanced Access implementation] was incredibly onerous in terms of measurement in and of itself. We already measure and report to two databases. So this was now, "Staff you need to do it three times," and staff were saying, "Well, why can't we just use the information that we've already got, that we're gathering?" No, that doesn't fit with Advanced Access. You've got to gather the data in a different way, you've got to record it, you've got to submit it. So it didn't fit comfortably with our way of being in the world,

> because we're clinical, not statistical. It felt like it was one more demand of the employer. They were suspicious of if we accomplish more they're going to make us do even more. There was a lot of suspicion and fear around that."
>
> *Quotation 53: Workload*

The suspicion and fear seemed reasonable given the institutional climate of increasing workload (see *Quotation 51*) and an interviewee's highlight below on her perceived workload at the time of implementation, when she was asked to tell how the provincial health authority could help with better implementation outcomes:

> [Regarding how the provincial health authority could help with better implementation outcomes in the future, this response was given]: "recognizing that one could only go so far with resources, that you can't just get more and more and more out of staff. I think honoring and respecting staff more, providing the time. We all did Advanced Access on top of everything else, and Advanced Access probably added 20% to my workload that was already at 110% capacity."
>
> *Quotation 54: Workload*

To summarize, both existing workload perceptions and future workload expectations influence OI processes and outcomes. High existing workload and expectations of high future workload can increase effort satisficing tendencies and render OIs less effective.

5.3.7 Factors Influencing the Impact of Workload as an Implementation Barrier

In the previous section, "5.3.6 Workload", high existing workload and expectations of high future workload were identified as barriers to Advanced Access implementation. A theoretical frame was proposed in a sub-section on high workload and levels of analysis to explain this and the theoretical frame drew upon concepts and theoretical terms including:

- Self-preservation
- Volition
- Internal effort
- Strain
- Satisficing threshold
- Effort satisficing behavior.

A fundamental assertion of the theoretical frame is that even when it is clear that for an organization to function optimally and high effort exertion is the ideal needed for the organization; people sometimes choose not to exert this effort. In other words, they satisfice (Simon, 1997: 295; Barros, 2010: 46) on this optimal effort, the ideal effort needed by the organization, due to their volitional capacity, their self-preservation imperative and their belief that high amounts of strain would be incurred upon the exertion of the optimal effort and their self-preservation may be compromised. In this theoretical frame, strain is a principal signal by which the volitional entity assesses threats to its self-preservation and at a threshold of strain incurred as a result of "internal effort" exertion, the satisficing threshold, and the volitional entity satisfices.

I mentioned that this theoretical frame predicts that due to self-preservation and volition, people would tend to satisfice on efforts and they could do that by dismissing effort requiring activities. However, I also mentioned that the theoretical frame as built at that point was quite weak in that it didn't tell us which activities are likely to be dismissed when people begin exhibiting effort-satisficing behavior. I mentioned that to answer the question of which activities are likely to be dismissed as people effort-satisfice in an organization, we would need to elaborate this explanatory frame further with the "Satisficing Threshold Determinants". These "Satisficing Threshold Determinants" I mentioned are another aspect of the Effort Satisficing Theory (EST) which I begin introducing in this section.

I highlight answers to certain questions relevant to a theory that could help explain and predict why Advanced Access implementations may vary in implementation outcomes as per an effort exertion or workload point of view. In particular, why does the volitional entity, in our case people in clinics, choose to dismiss Advanced Access rather than the other tasks requiring the exertion of "internal effort"? What determines which task is likely to be dismissed as the volitional entity tries to ensure self-preservation via effort-satisficing in the event of increased workload? Is the threshold strain at which the volitional entity satisfices fixed or are there factors which influence the volitional entity to change the threshold? In other words is the satisficing threshold's value fixed or are there some factors that determine its value? What factors are these if it is the case that the threshold is not fixed?

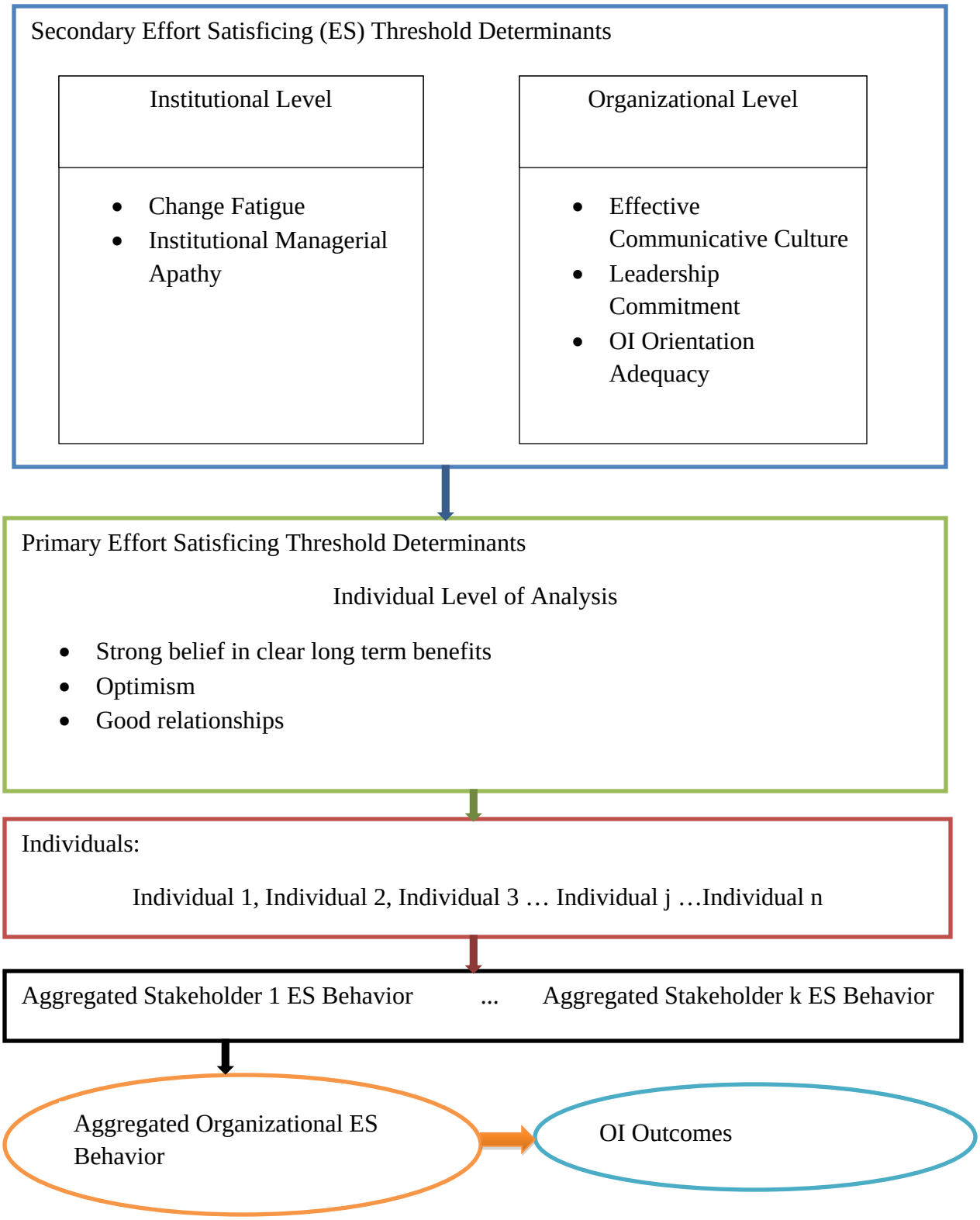


Figure 12: A simplistic cross-level model of the Effort Satisficing Theory in OIs from a Satisficing Threshold Determinants perspective

I explore the findings on these next as I present factors influencing the impact of workload as an Advanced Access implementation barrier and build theory to explain OI outcome variation from an effort exertion point of view. An overview of the interrelationships between the various factors, also referred to as Effort Satisficing Threshold Determinants, is as in Figure 12. The secondary factors in Figure 12 are at the institutional and organizational level and these influence primary factors at the individual level. People then act upon the primary factors as they effort satisfice. Influenced by the primary factors:

- They make decisions as to whether to increase the value of the satisficing threshold and implement Advanced Access, a theoretical phenomenon that empirically manifests as perseverance for Advanced Access implementation in spite of high workload.
- They also assess effort-requiring activities on the primary factors and make decisions regarding which effort-requiring activities to prioritize as they effort satisfice. This may empirically manifest as dismissal of Advanced Access implementation if Advanced Access is not prioritized due to it scoring low on the primary factors that influence the prioritization.

Effort satisficing behavior aggregated across people in the organization manifests as organizational effort satisficing behavior that in turn influences OI outcomes such as those of Advanced Access implementation.

The factors presented here are in no way exhaustive of all factors that could be elements of the set of primary factors influencing effort satisficing behavior or the impact of high workload for

all OIs. What is presented here is as found in the data I gathered and it is a starting point for future research which may further identify new factors, elaborate on the factors and refine them.

5.3.7.1 Belief in clear long term benefits

The extent to which the benefits of implementation were clear and believed by those required to exert the effort to implement Advanced Access was found to influence implementation outcomes. A belief that the Advanced Access implementation would clearly benefit those exerting the effort to implement it led to better implementation outcomes with individuals persisting through even though the workload was high. Theoretically, it seemed to raise the threshold at which they would satisfice on the Advanced Access implementation. However, multiple phenomena from the institutional and organizational levels of analysis influenced that belief. In the remainder of this section, I elaborate on these namely:

- Change Fatigue
- OI Orientation Adequacy
- Effective Communicative Culture

In simple language, change fatigue is said to exist in an institution or organization when too many changes are introduced and people become tired of change. When too many changes are introduced in an organization and the changes are not followed through, people tend not to believe that any change further introduced would have a long term benefit. An interviewee elaborates on change fatigue originating from the institutional level, specifically the Provincial Health Authority, and its potential impact in the Advanced Access implementations of the mental health clinics:

> "The biggest challenge was change fatigue [Chuckle]. We had to persuade the staff that these changes were not just temporary and that they were ongoing, that they were beneficial to begin with. Because staff were tired of many changes happening in this workplace at the same time as Advanced Access changes were

> being implemented. So we were conscious; we were aware of the risk of change fatigue. People just throwing their arms in the air and saying, "This is too much change." So change fatigue was one challenge. … Within the organization, changes were being implemented that were prescriptive in nature. In other words, they're going to be done. They're going to have to make these changes. These are changes that are implemented by management [of the Provincial Health Authority] and you can't avoid them."

Quotation 55: Factors influencing the impact of workload

There is a risk of despair when change fatigue exists within an institution. This in turn influences people to doubt any argued long term benefits of future changes. Another interviewee elaborates on this regarding the Advanced Access implementation in their PCN clinic, the less effective implementation case, Case 5:

> "We had been involved in another program a year prior to – that involved the primary care network that we're in and the Provincial Health Financing Authority; where they were trying to develop a roster for patients. And like, to assign every patient to a particular physician; and that was a tremendous amount of work for our staff, as well and hiring additional students. And ultimately, that whole program was scrapped. So they [office staff] were coming off of that, and it was kind of a bit of – you know – okay, what else are we getting involved in that may or not have any long term benefits for them."

Quotation 56: Factors influencing the impact of workload

Although change fatigue can be an organizational level phenomenon, in the context of this specific research, change fatigue in the clinics was an institutional level phenomenon. The provincial health authority was reported to have introduced too many changes and now people did not strongly believe that any advocated change, such as Advanced Access implementation would have any significant long term benefits. An interviewee in the hold-out sample of cases summarizes the impact of change fatigue:

> "if we turn to specialty care program, the challenge around access is again there are buy-in issues, competing priorities sometimes and causing everyone -- there's a little bit of change fatigue, and I say a little bit because -- and I laugh because really within healthcare in these provinces, you're probably aware of, we've had so much change. We've had so much restructuring. We've had so many false starts in terms of similar kinds of improvement initiatives. The people are doubtful and they're fatigued. They think, "Oh, this is just a flavor of the month and maybe it will go away if we just ignore."

Quotation 57: Factors influencing the impact of workload

In summary, increased change fatigue decreases the strength of the belief people have in the long term benefits of any suggested change such as Advanced Access implementation. By reducing their belief in the long term benefits of Advanced Access, it increased the likelihood of their choosing Advanced Access implementation as the effort-requiring activity to dismiss given their high workload. In other words, it lowered the threshold strain at which they would satisfice on efforts by dismissal of any new initiative in the clinic such as Advanced Access. Change fatigue is consequently a Satisficing

Threshold Determinant. High change fatigue yields low satisficing thresholds ceteris paribus. It contributes to predicting which effort requiring activities would be dismissed during effort-satisficing. It generates a basis to predict that the newly proposed initiatives, in our case Advanced Access implementation, would be dismissed because people will perceive them as a fad.

- OI Orientation Adequacy

The adequacy of the orientation and preparation on Advanced Access implementation given to a clinic just prior to the implementation influenced the extent to which they believed the implementation would result in long term benefits to them. This in turn influenced the implementation process and outcomes. An interviewee elaborates on this and how turnover, an effort satisficing behavior used to escape high workload, resulted:

> "we felt like we were thrown into it without the preparation that would have been helpful to us. … We had a difficult time seeing the benefit, again, because we weren't given the proper orientation, I would say, or pre-work. So it was very, very difficult. Morale suffered greatly during the Advanced Access implementation process. But the group of us, the core Advanced Access implementation team, stayed focused and determined, at the same time empathetic to the larger group and sojourned on very difficultly. It was very difficult. I lost staff over it, feeling again that the demands were just unmanageable. "
>
> *Quotation 58: Factors influencing the impact of workload*

OI orientation adequacy is a Satisficing Threshold Determinant in that with adequate orientation, the likelihood of people believing in the long term benefits of the

implementation increases ceteris paribus. This in turn increases the likelihood that they would raise the threshold at which they would satisfice on efforts. In other words, it raises their tendency to persevere on effort exertion for the OI in spite of the high strain they would be incurring as a consequence of it, ceteris paribus. When the orientation on the OI is inadequate, people do not tend to strongly believe in the long term benefits of the OI. Consequently, in high-workload situations, they become unwilling to allow their self-preservation to be threatened so they effort-satisfice, for instance, by dismissing the OI or escaping from the implementing organization altogether, a phenomenon manifested as organizational turnover.

- Effective Communicative Culture

Effective communicative culture also influences belief in long term benefits of an OI. The extent to which communication was kept ongoing in the clinics in the Advanced Access implementation influenced people's belief in the long term benefits of Advanced Access implementation process outcomes. Effective communicative culture was an enabler in Advanced Access implementation. However, what is an effective communicative culture in this case? An interviewee describes that of the clinic of the more effective mental health case, Case 1:

> "communicating with staff, what we're doing, why are we doing it, keeping the staff informed, updated about implemented Advanced Access elements and whatever."

Quotation 59: Factors influencing the impact of workload

A dimension of effective communicative culture that was an enabler to Advanced Access implementation was described as collaborative discussion and joint decision making. This was reported to have helped the clinic of the less effective PCN Advanced Access implementation pull through. An interviewee elaborates on this:

> "The managers communicate and they explain it and get the staff to buy in. And then together with the staff, they decide how the change is going to be implemented. I noticed the managers don't just say you're going to do this and that's it. They meet with the front staff often, and if there's going to be any change between them and the ones at the front desk, they decide how best to change it. And that has been some very good morale that they already had even before I joined. So it helped them."

Quotation 60: Factors influencing the impact of workload

To elaborate on effective communicative culture within AA implementation, I turn my attention to elaborate on the following:

- A culture of communicating expected results
- A culture of communicating realized results
- Mitigating the impact of change fatigue by communicating results

A culture of communicating expected results is one of the dimensions of effective communicative culture in an OI. The extent to which the people required to expend effort to implement the OI were shown what the results of their expended efforts would be in the future in terms of their values, influenced their belief in the long term benefits. Theoretically, this raised the satisficing threshold at which they would dismiss the

implementation as they effort-satisficed for self-preservation. In simple language, this made them keep expending effort on the implementation in spite of the increased strain that they were incurring as a consequence of the effort expense. In this communication of results, the framing of the rhetoric mattered, the results had to be communicated in terms of the values of the people required to expend effort to implement the OI. An interviewee elaborates on how they did this at the more effective mental health implementation case, Case 1:

> "it's one thing to explain Advanced Access but you got to show people why it's a good idea. You got to show results, right? There has to be a payback for the staff. And I always keep saying that to our team. There's got to be a payback to the team with Advanced Access implementation. They got to see it as it benefitting them otherwise how would you be able to convince people Advanced Access is a good thing? You're not getting anything out of it as a staff, right? So one of the things is showing that they'll have more time for themselves if somebody else controls their schedule. They have more time after a client leaves."

Quotation 61: Factors influencing the impact of workload

- A culture of communicating realized results

A culture of communicating realized results is another dimension of effective communicative culture in an OI. The extent to which the people already expending effort to implement the OI were clearly shown what the results of their expended efforts have been up to date in terms of their values influenced their belief in the long term benefits. Utilizing the data gathered through the measurement and data collection element of

Advanced Access as well as simple visual communication were deemed to facilitate Advanced Access implementation. An interviewee elaborates further on this:

> "You got to have that. How else would you motivate your staff? There's got to be something and you got to show results. You got to show the results with the data. So you got to use data on a regular basis to show the results, the impact that Advanced Access implementation is having. So the reduction in delay, the reduction in no-shows, and you show that data consistently, "Look, it's working. What you're doing is working. You're filling up these demand sheets. Look, their delay is going down," or "Supply is good." You show the result. You show graphs. People are very visual. And you show graphs that are readable, not the squiggly lines. You got to show things that are very simple."

Quotation 62: Factors influencing the impact of workload

- Mitigating the impact of change fatigue by communicating results

Communicating results was also used to mitigate the impact of change fatigue as well as to reduce the tendency for senior management to reprioritize on Advanced Access implementation. It was used to strengthen belief in the long term benefits of Advanced Access implementation. The communication of expected and realized results was not a one-time event but rather it was continually sustained as part of the organizational culture at the time. Through this, the adverse impact of change fatigue on the implementation was mitigated as people began believing that Advanced Access was beneficial and it was in the clinic for the long term. An interviewee describes in more

detail what happened at the more effective mental health clinic Advanced Access implementation case, Case 1:

> "When people started asking questions, "Why is this necessary? Why have so many changes?" There's a resistance. Naturally, there'll be a resistance if it's new and they don't think this is going to last. It is going be "how many months are we going to have to go through this before another project comes along?" So that was a challenge. Most people agreed that it was necessary to do this. They agreed to go along with it and we just kept explaining. How we met that challenge? -- We just kept explaining why Advanced Access implementation was important. We had a presentation from our facilitator, [our] Advanced Access implementation facilitator. He came to explain it. We made a presentation to senior management so they know what we're doing. We kept them up-to-date. And we showed the results of the implemented Advanced Access elements. Yup."
>
> *Quotation 63: Factors influencing the impact of workload*

The case of showing results presented in Quotation 63 can be contrasted with Quotation 43 re-pasted below which indicates no results were shown after one year of data collection, which resulted in a less effective Advanced Access implementation in Case 2:

> "Over time I never had a manager involved on the core implementation team so I'm a frontline staff person. My [Care] manager wasn't -- We didn't have a manager at that time and so my manager recently came on board and he's been so busy that he hasn't been to the meetings and he hasn't taken it on to use the information that we're collecting with the staff. So it's been very frustrating over

> the past year not having information [on how the measures gathered by staff was being used managerially for improvement work] to bring back to the staff. … They're [referring to institutional program managers] assigning him [the clinic care manager] this huge portfolio [of work responsibilities] and there's obviously no time to focus on Advanced Access … People are now really discouraged about Advanced Access and they have a bad taste in their mouth about Advanced Access. So it would take a lot of rebuilding now."
>
> *Quotation 43*

The importance of an effective communicative culture in which expected results and realized results are continually communicated in a simple format in Advanced Access implementation or any OI cannot be over stressed. It is an implementation enabler. It strengthens belief in the long term benefits of Advanced Access and this influences people to persevere in effort-exertion even when the level of strain they are incurring is already high. In other words, theoretically, it influences them to raise their satisficing threshold.

5.3.7.2 Optimism

Increased optimism also played a role in people not giving up on the implementation even though the workload was high. Reduced optimism had the reverse effect of increasing the tendency of people giving up on the Advanced Access implementation. A phenomenon that influenced optimism is Institutional Managerial Apathy.

Optimism manifested at the individual level as a phenomenon that influenced people to view the implementation with an instrumentality logic, viewing the implementation as an instrument to

achieve an end. The implementation was viewed as an instrument to an end, an end beneficial to the people required to exert effort to implement Advanced Access. Belief in a long term benefit for individuals was strengthened even though there wasn't much evidence yet to prove that for the case of those specific individuals as the implementation had not yet matured. With the influence of optimism, individuals perceived Advanced Access implementation as an instrument for the future reduction of daily expended effort, as opposed to another task requiring efforts to be expended. It was a case of competing logics and the level of optimism in an individual influenced which of the competing logics she aligned with. An interviewee who was central to one of the less effective implementation cases pulling through their challenges elaborates on how optimism influenced during the implementation:

> "I thought that there was hope; like I could see that there was hope; that I was going to get control of my life; that I wasn't going to be feeling overwhelmed constantly. So there was hope for me personally … I just – I looked forward to Advanced Access implementation. I think the people who were feeling overwhelmed – Other people who were feeling overwhelmed [referring to the majority of physicians who did not implement Advanced Access in the clinic] saw Advanced Access implementation as just another task to add to on top of everything else they were already doing. And so I think that was probably why they didn't want to go. They didn't want to commit the time and the energy when they were already feeling stretched to the limit."

Quotation 64: Factors influencing the impact of workload

- Institutional Managerial Apathy

Institutional managerial apathy originating from the provincial health authority broadly influenced the level of optimism at the institutional level of analysis. Some people were reported to have lost hope in the overall effective functioning of the provincial healthcare system. Consequently, their belief in any communicated long-term benefit of their effort-exertion for Advanced Access implementation within the system is dampened. An interviewee in the hold-out sample elaborates on this optimism-dampening effect of institutional managerial apathy:

> “The other pushback that we often get from all participants is, "That's really great [Madam]. If we fix our small corner of the world, that's fabulous. However, when we move onto the next step or the step before us it's broken, so what's the point?" There's a sense of futility that way as well because it's a large, large system and people think, "I'm only a small voice in the darkness," so to speak.”

Quotation 65: Factors influencing the impact of workload

5.3.7.3 Leadership commitment

The extent to which leadership was committed to the OI also influenced the implementation in spite of the high workload. Theoretically, high leadership commitment to Advanced Access raised the threshold strain at which the organization as a whole considered satisficing on efforts by dismissing the Advanced Access implementation. In terms of effort satisficing via dismissal of competing alternative effort-requiring activities, it can be reasoned that ceteris paribus, the effort-requiring activities to which leadership is least committed to would tend to be dismissed as people in the organization satisfice on efforts for self-preservation.

Leadership commitment is in itself influenced by belief in clear long term outcomes, a factor I have already elaborated. Theoretically, leadership commitment could impact effort satisficing in an organization via multiple modes, for instance:

- It obviously raises the threshold at which the leader satisfices. The more committed one is to a cause, the less likely one would give up the cause, ceteris paribus.
- It communicates belief in implementation outcomes to the other members of the organization and this, ceteris paribus, influences those other members to believe the implementation may be worthwhile. This in turn enhances engagement from those other members that in turn reduces their tendency to satisfice on "internal effort" by dismissing the implementation.
- It raises the threshold at which the organization itself satisfices on efforts if that leader has the authority or influence to decide whether or not the organization as a volitional entity should pursue the implementation in spite of the strain it would incur.
- It also raises the threshold at which the organization satisfices on efforts as it generates a satisficing threshold reference to which other members of the organization compare and adjust their satisficing thresholds. People are social and they compare their actions and commitments with those of others, a form of benchmarking. Organizations in an alliance or in a common institutional environment, such as clinics under the same provincial healthcare authority, may behave similarly too as they look at other organizations to adjust their satisficing thresholds. The satisficing threshold reference is also generated when the committed leader models for the implementation team how they should handle concerns and behaviors resulting from the high workload situation.

In the remainder of this section, I turn my attention to elaborate on the following:

- Clinic Leadership Commitment
- Advanced Access Implementation Leadership Commitment

Clinical leadership commitment was found to influence implementation outcomes by raising the threshold at which the organization as a whole satisfices on efforts. It enhanced some engagement. An interviewee highlights this:

> "I have to give kudos to [Dr. A's] leadership around deciding that she wanted to keep going [at the time the clinic considered quitting the Advanced Access implementation] and kind of being that champion of change in the office."

Quotation 66: Factors influencing the impact of workload

By [Dr. A] championing the Advanced Access implementation, the clinic as a whole was kept from quitting Advanced Access implementation as she kept going and kept a communicative culture on the Advanced Access implementation alive. Another interviewee highlights this about [Dr. A]:

> "[Dr. A, the Lead Physician] is a very committed doctor so I think when she sets her mind to doing something she's going to complete it.… [Dr. A] was probably the biggest advocate and the one that worked the hardest at Advanced Access implementation. And she did try to you know, share her ideas and what was going on and communicate to everybody what was and wasn't working."

Quotation 67: Factors influencing the impact of workload

- ❖ Advanced Access Implementation Leadership Commitment

Advanced Access implementation leadership commitment was also found to influence implementation outcomes. Advanced Access implementation facilitators who took on a leadership role in the implementation, teaching and modeling for clinics, influenced implementation outcomes positively. An interviewee elaborates on one such case in the sample:

> "Our Advanced Access implementation facilitator was key to our success. He helped us understand as best we could. He taught and taught and taught, and supported and supported and supported, and modeled, I think for the rest of us, that that was our role in implementing this. We needed to be supportive and empathetic, and we needed to stay focused. He modeled that for us and helped us to achieve that goal."

Quotation 68: Factors influencing the impact of workload

The impact of Advanced Access implementation facilitators who took on a leadership role in the implementation was not just limited to their impact on supporting people not to give up under situations of high strain. They also provided the foundation needed for the Advanced Access

implementations to be sustainable. For instance, in other mental health cases in the holdout sample, it was found that cases involving Advanced Access implementation facilitators who did not take on an active leadership role in the implementation but rather took on much more passive facilitator role were less effective.

5.3.7.4 Good relationships

Good relationships were found to mitigate the impact of high workload in Advanced Access implementation. It mitigated the impact of high workload through trust even when people did not perceive the Advanced Access implementation as having clear long term benefits. An interviewee elaborates further on this regarding the measurement and data collection element of Advanced Access in Case 2, the less effective mental health case:

> "Now, that [referring to measurement, data collection and forecasting element of Advanced Access] was a big project and the only reason I believe that people agreed to do it was because of my personal relationship with my team. I think that if someone came in and told them to do it and didn't have that connection or that relationship with them, -- my team is a very strong willed and sometimes a very difficult team. They're just very experienced, strong people. So I think we might have had more resistance but because I came about it in a maybe softer way and they trusted me personally, they agreed to -- "Okay, fine. We'll just do it because we don't really know why but we'll try it." So they populated their calendars and filled out the demand sheets. That was extra work for them to do the tick-sheets, but they did it."

Quotation 69: Factors influencing the impact of workload

The elements of trust, approaching people in a softer way as well as credibility are central to this. Measurement and data collection is one of the most effort-requiring elements of Advanced Access, the element that nearly wrecked the implementation in the PCN clinic of Case 5. Good relationships therefore acted as an implementation enabler by raising the satisficing threshold of people during the implementation for people to take on the extra workload of implementing Advanced Access. It mitigated the impact of a weak belief in the outcomes of implementation through trust. Another interviewee from the more effective mental health implementation case, Case 1, elaborates further on this effort satisficing determinant by emphasizing the importance of credibility and trust at the individual level, the prime means by which it acts as per the data:

> “more importantly, it was the team leaders that made the difference. It was the individual team. The representative from each team [referring to the professional groups, employee stakeholder groups] went back to their teams. That's what sold Advanced Access implementation, I believe, not the team itself. I'm convinced with that. It was because of their leadership within the team. They had credibility. What I call "credibility credits." They had credibility within their team and they were able to engage other people because of their position within that team, of trust, right? I call it "trust bank," which, to me, it totally makes sense. I'm convinced with that. I'm convinced that was the key. Yup. I don't think we would have been able to achieve what we achieved without them.”

Quotation 70: Factors influencing the impact of workload

Good relationships did not influence just in the mental health clinics. It also influenced in the PCN clinics by facilitating engagement. Even when habits had been formed, resulting in people being set in their ways, good relationships enabled implementation by giving them a basis to try

to move out of their comfort zones. The effect was not instantaneous though at least for the more effective PCN clinic implementation, Case 4 that had a 100% Advanced Access adoption rate among physicians. An interviewee highlights this:

> "I guess the biggest thing when we started, was getting all our Doctors, here we have six involved, at that time, five Doctors, on board. Some had been in practice more than twenty five years and making changes was a difficult thing to present. … They're a pretty good team group. They've worked together long enough that it's like 'well okay if you want me to try this I'll try it' and they did. But I hate to say, it took a little while. … It took I guess, like say a good year for all the Doctors to get on board - on the big picture"

Quotation 71: Factors influencing the impact of workload

5.3.7.5 Scope reduction

Scope reduction facilitated implementation of Advanced Access in the presence of high workload. It did not act as an effort Satisficing Threshold Determinant. However, it did enable implementation in another way by impacting workload. Specifically, it cut back on the required effort for implementing Advanced Access.

Theoretically, "internal effort" is required for implementation and the required "internal effort" is the sum of the "internal effort" expended on non-implementation phenomena and the "marginal internal effort" required for implementation-related phenomena. When the "internal effort" required for an implementation is high, generating strain at a high level at which the volitional entity, in our case people in a clinic or the clinic as a whole, would tend to satisfice on efforts for self-preservation, scope reduction helps. Reducing the scope of the implementation reduces the "marginal internal effort" required for implementation-related phenomena thereby

reducing effort satisficing tendency as the required "internal effort" for implementation falls below that which generates the satisficing threshold of strain. Scope reduction thus reduces the dismissal of an Advanced Access implementation by cutting back on required effort and the associated strain. An interviewee elaborates on how scope reduction helped enable the Advanced Access implementation of the clinic of the less effective PCN case, Case 5, at the time that the clinic was considering quitting Advanced Access implementation altogether:

> "they [referring to people in the clinic] had tons of ideas [at the pre-learning session] and really excited and everything looked to be on track. And then not long afterwards, I got a call from the [then] clinic lead physician, indicating that they probably want to pull out of Advanced Access implementation entirely. That basically, one or both of the office managers had said they [referring to office staff and not the office managers] would quit if they had to do, what they thought would be required as part of Advanced Access implementation. And they didn't want to lose those staff obviously, so they thought they might need to back out of the collaborative. So I came and visited the clinic that day and met with [Dr. A] and [Dr. B] and [Dr. C]. And there was just some indication, particularly from [Dr. C] and [Dr. A] that they wanted to keep going. And so we started off trying to size it back down. I think the problem upon reflection even at the time was that we probably started too big and I might have been able to help them a little more in trying to scope down their ideas so they didn't get overwhelmed to begin with. That we would do a very scoped down version of it, that still required some participation from the office and managers. We had to do some discussion there on how this could still fit for them without feeling overwhelming. And some front end staff and then their PCN nurse

as well. And so once we got through that kind of huge hiccup. I mean, the participation was a little more typical"

Quotation 72: Factors influencing the impact of workload

Quotation 40 also resonated this same event in Case 5 illuminated in *Quotation 72* in which the clinic almost gave up due to the high workload. Scoping the Advanced Access implementation down resolved it by reducing the effort exertion which was causing the strain and which was in turn causing people to be cautious, to even consider quitting implementation altogether.

In summary, as mentioned at the start of this section, scope reduction is not a Satisficing Threshold Determinant but theoretically, it enables implementation in times of high workload by cutting back on required effort. It does this so that the resulting effort is at a level below that which generates the satisficing threshold strain at which people effort-satisfice by dismissing the OI. That is how it helps explain variance in implementation outcomes in the Effort Satisficing Theory (EST).

5.3.7.6 Workload offloading channels

Similar to scope reduction, the availability of channels to offload workload also mitigates the impact of high implementation workload although these channels may not be Satisficing Threshold Determinants. Similar to scope reduction, theoretically, these channels enable implementation when the workload is high by cutting back on internal effort. In the remainder of this section, I elaborate on such channels namely:

- Collaboration
- Technology

Collaboration was used as a channel to offload work when the people from whom effort exertion was required for implementation were already incurring strain close to their satisficing threshold. An interviewee describes this situation in Quotation 41 re-pasted here:

> "Yeah, we almost had a staff walk out. … Because it was just too much pressure trying to keep track of all the forms and yeah we just had to draw a line.… That [referring to activity tracking sheets also known as measurement flow sheets] was a huge challenge. We are a very busy clinic and we were having a really difficult time adding that onto the workload. So eventually we didn't do it because it was just, it was too much and the staff was overwhelmed. What had happened is we put that responsibility onto the physicians and they kept track of it which seemed to be easier for them."
>
> *Quotation 41*

Specifically, physicians collaborated with staff to reduce the workload impact. Offloading work through collaboration led to better Advanced Access implementation outcomes. Different stakeholders collaborating with one stakeholder and accepting for work to be offloaded to them improves OIs and leads to better implementation outcomes when the impact of high workload is strong on the work-offloading stakeholder. Another interviewee highlights the enabling impact of collaboration during the implementation of the measurement and data collection element of Advanced Access in Case 5 highlighted in Quotation 41:

> "We [referring to physicians] made those adjustments [referring to physicians directly tracking their activity to measure their patient processing time, rather than staff using time surveys filled by patients to measure patient processing time] and kind of kept the

staff mostly out of it by doing that and it made things go a lot smoother. And we were able to get a lot of the information that we wanted to know from it."

Quotation 73: Factors influencing the impact of workload

- ❖ Technology

Technology, similar to collaboration, was also used as a channel to offload work when the people from whom effort exertion was required for implementation were already incurring strain close to their satisficing threshold. Electronic Medical Record (EMR) technology was harnessed to reduce the workload of staff as one interviewee points out:

"We also were able to figure out how you could use the EMR to look at no-show records. … We were able to pull that off with a computer for each physician so we could see that."

Quotation 74: Factors influencing the impact of workload

Technology was not just used here for its own sake but rather it was used to solve a problem, the problem of staff workload being very high to the point that they could dismiss the implementation if it required them to do significant extra work. In the less effective PCN implementation case, Case 5 where the workload on people was a huge barrier, technology was harnessed as a workload offloading channel to reduce effort satisficing tendency. An interviewee elaborates further on this regarding the no-show reduction process within the service agreement element of Advanced Access implementation in the clinic:

"That’s one other form I forgot about [the form to measure and monitor no-shows]. At the end of the day, they [office staff] also had to look at everybody’s day and look and

see, were the appointments booked in advance? Were the appointments booked by a physician? So meaning, the patient was sitting in front of you and started talking to you about something, so you added them on to the day. Did somebody not show up; and so they had to record all that for all of us [physicians] as well. And so – and that was not satisfactory for them either, they just have too many other things to do to have – to look back at every seven of our schedule's days and determine who no-showed, who was an extra add-on; who was booked at the beginning of the day; how were they added on? And so because that wasn't satisfactory, but we also sort of wanted to know how many no-shows we had, the EMR was a good alternative to look at without making anybody else have to do extra work."

Quotation 75: Factors influencing the impact of workload

To summarize, theoretically, workload offloading channels reduce the "marginal internal effort" required for implementation-related phenomena from people whose "internal effort" exertion and incurred strain is already high due to high workload. It reduces effort satisficing tendency by this means. This is contrary to the Satisficing Threshold Determinants that reduce effort satisficing tendency by increasing the satisficing threshold.

5.3.7.7 A summary

This chapter has elaborated on key findings which sparked the creation of EST, and I have also focused on explaining variance in OI outcomes. The factors generally vary in a continuum, as opposed to a binary present, or not present, state. In particular, I have shown that:

1. High workload, including high existing workload and future expectations of high workload, can be a barrier to Advanced Access implementation.

2. There are factors aside high workload itself, which I have referred to as Satisficing Threshold Determinants, which influence the impact of workload in two specific ways:

    2.1. In simple language, they influence its impact by influencing the threshold at which people say “enough is enough, we can’t take it anymore”.

    2.2. They also influence by serving as factors on which each alternative effort-requiring activity is assessed and prioritized, thereby serving as factors which distinguish between what activity should or should not be dismissed as people effort satisfice in OIs. In other words, if people are in a state of “enough is enough, we can’t take it anymore”, would they tend to dismiss the OI being implemented or would they rather tend to dismiss some other activity they have been exerting effort on? An assessment of the levels of the Satisficing Threshold Determinants for each potential effort-requiring activity for dismissal significantly influences the prioritization of that potential effort-requiring activity for dismissal. Activities ranking low on the overall set of Satisficing Threshold Determinants are more likely to be dismissed, ceteris paribus.

3. Cutting back on required internal effort is another means by which the impact of high workload can be influenced. This involves other factors aside high-workload itself and the Satisficing Threshold Determinants. Other factors such as scope reduction and workload offloading channels. In simple language, they provide an avenue through which people who are at the state of "enough is enough, we can't take it anymore" can reduce the work on which they would have otherwise exerted effort. These factors simply enable people who are under high strain from work to cut back on efforts to reduce the strain. Three of these factors have been discussed: scope reduction, technology and collaboration.

It is important to note that the factors specified so far as Satisficing Threshold Determinants and workload offloading channels are in no way exhaustive and future research would need to identify other potential factors and elaborate on them in accordance with the spirit of research.

So far the proposed theory built enables us explain and predict when OIs would be dismissed under situations of high workload and modes of preventing this. However, there are some interesting events in the Advanced Access implementation cases in my data associated with workload and OIs that the proposed theory so far cannot adequately explain. Most particularly, why would one stakeholder voice workload-related Advanced Access implementation concerns only for another stakeholder to dismiss them?

An elaboration of the theory to explain this may help us to understand high-workload related OI outcomes better. I turn my attention to this in the next section as I elaborate the theory proposed so far to help explain such phenomena as well so that the theory would be broader in scope.

5.3.8 Further Theoretical Constructions

In the summary given in the previous section, "5.3.7.7 A summary", I stated that the theory built so far could not explain why one stakeholder would voice workload-related Advanced Access implementation concerns only for another stakeholder to dismiss them. I also stated that an elaboration of the theory to explain this might help us to understand high-workload related OI outcomes better.

If through theory construction, we could elaborate the theory at a level of abstraction such that the explanation to this could be applied to questions such as:

- Why could it be easy to misjudge the level of strain a stakeholder in an OI may incur if the implementation proceeds in a certain planned way?
- Why are there sometimes workload related stakeholder crisis or conflicts, for instance, staff almost walking out such as that which occurred in the less effective PCN implementation case, Case 5?
- Why would stakeholder A misjudge the level of strain stakeholder B in an OI may incur, and advocate for and expect the OI to be implemented by stakeholder B, when in reality stakeholder B who is required to exert the effort to implement it would dismiss the implementation on the basis of workload?

I turn my attention to these phenomena as I elaborate the theory built so far to help explain them so that the theory would be broader in scope and be more useful for deducing modes of enabling OIs in high workload circumstances. The problem is that there isn't much directly in the data to enable easy theory elaboration. However, Popper (1998: 45) gives us a solution to this problem, conjectures, and Miles and Huberman (1994) gives us a test for the solution, the test of

plausibility. If an initial plausible conjecture of a theoretical frame is made and applied to the phenomena, then in the interim, we can elaborate the theory built with that. It would then be up to future research to refute that initial plausible conjecture, an event which would not lead to a refutation of the theory but rather a refinement, elaboration or replacement of the initial plausible conjecture with another conjecture which both explains the anomaly which refuted the initial plausible conjecture and explains the events which our original plausible conjecture did.

Next, I present the event I wish to elaborate the proposed theory so far to explain and the evidence on it in the form of a quote. I then present evidence that refutes trivial explanations. After this, I present a set of concepts that form the theoretical frame of the initial plausible conjecture. I then present this plausible conjecture and apply it to explain the event.

5.3.8.1 The event

The event I am interested in explaining occurred in the less effective PCN implementation case, Case 5, the case in which high existing workload emerged as the greatest barrier to Advanced Access implementation. During the initial learning session just before the clinic began implementing Advanced Access, office staff stakeholders voiced a concern to physician stakeholders. The concern was that office staff had a high workload and the effort that was needed from office staff to implement Advanced Access as advocated by the provincial Advanced Access program at the time was too much, and office staff might not be able to cope with it. Physicians thought it as trivial and went ahead with the implementation. The Advanced Access implementation process was almost wrecked as a result of physicians taking this concern lightly and not acting on it. It backfired as the clinic almost had a staff-walkout. Had it not been their Advanced Access facilitator's skill in navigating the high workload problem through scope

reduction, basically collaboration and technology, the clinic might have pulled out of Advanced Access implementation altogether. An interviewee describes the event:

> "Two or three of them were there at the initial one [referring to staff at the initial learning collaborative]; and I remember [an Office Manager] saying, I don't know if we can do this. And I picked up on it and said, why; and she said, probably because of this and this, and to me, I thought, well that's not a very big reason. We're talking about a very little thing here, we'll just have them do it – I just kind of run – although I picked up, I think I was the only who picked up that there was a problem. … I thought that, oh, well we can overcome that, without giving it enough thought, and it backfired."

Quotation 76: Further theoretical constructions

Theoretical elaboration questions emerging in relation to this event are: theoretically, why did the physicians misjudge the magnitude of the high-workload concern, an important concern of staff that almost wreaked the process, as being a very little thing? Alternatively, why did such a little thing in the physician's perspective be big enough to almost wreak the implementation process? If a theoretical frame could be developed to answer these questions, it could pave the way for answering questions about why stakeholders may misjudge the magnitude of the strain other stakeholders may incur during periods of high-effort exertion.

5.3.8.2 Evidence refuting trivial explanations

In seeking to explain this event, a trivial explanation could be given that office staff were lazy and just didn't want to implement Advanced Access so the magnitude of the concern was not really great and the physician stakeholder correctly assessed the magnitude. This explanation of office staff being lazy and the physician stakeholder having not misjudged the magnitude of the

strain they would incur is trivial and refuted by the data. An interviewee highlights that these particular office staff were not lazy:

> "Yeah, they work very hard; they're very good staff. We think we have the most wonderful staff there can be. You hear horror stories from other doctors' offices about conflicts and then I'm just so glad that we work here; everybody is happy."

Quotation 77: Further theoretical constructions

Evidently, the trivial explanation of the staff being lazy is disconfirmed by the data. Consequently, with respect to the theory that I have been building in regards to the impact of high-workload, a theoretical explanation that the effort-satisficing threshold of the office staff is significantly lower than that usually expected of people does not hold. The question on why the physician stakeholder misjudged the strain concerns of the office staff stakeholder remains.

5.3.8.3 Concepts for a theoretical frame

In our attempt to conceive a theoretical frame to understand why the event happened, a clue pointing to the class of concepts we should be thinking of emerges from the data:

> "I think we [referring to physicians] needed more understanding of what it [referring to the Advanced Access implementation] involved for the staff, before we threw it on them."

Quotation 78: Further theoretical constructions

Could it be that the physician stakeholder group did not understand what it involved for the office staff stakeholder group? Could it be that the physician stakeholder group who dismissed the staff stakeholder group concern underestimated the workload or strain involved for staff?

Why did they underestimate it? In theoretical terms, what could have made them underestimate the effort required from staff and the strain they could incur from implementing Advanced Access in its full scope as advocated by the provincial Advanced Access program?

To answer the question, in addition to concepts such as internal effort, strain and satisficing threshold in the theory so far developed in this chapter, let us conjecture an extra set of concepts. The set of concepts we need for the extension of the theoretical frame that I have been developing so far to enable it explain the event are the concepts below:

- Information asymmetry: differences in the information different people or groups have about a phenomenon. This concept is borrowed from extant management fields such as supply chain management.
- Individuality: the phenomenon of a person being distinct from others and also not hard-wired to the nervous systems of others to perceive everything they perceive. To elaborate this concept, a member of a pair of conjoined twins whose nervous systems are joined and who know what the other of the pair is thinking and feeling do not exhibit individuality with respect to each other but rather, a commonality. Individuality is an individual level phenomenon that has implications for phenomena involving entities at other levels of analysis.
- Imperfect communication: A state of communication where all knowledge, emotions, etc. cannot be fully communicated.

- Context-specificity: The situating of entities in different contexts.

- Job-context specificity: It is the situating of entities in different job contexts. It is a consequence of division of labor and specialization that results in different people being embedded in specific job roles with specific contexts.
- Observer perceived effort: This is the effort generally perceived by an observer as being the effort exerted by the effort-exerting entities, the people exerting the effort, as opposed to the internal effort being exerted by the effort exerting entity. The marginal observer perceived effort is the effort generally perceived by an observer as being the effort exertion required for a phenomenon such as Advanced Access implementation. It can be viewed to an extent as an inter-subjective measure of the effort required for the phenomenon.

The concepts above enable us explain the event in terms of information asymmetry. I now turn attention to presenting the plausible conjecture to explain the focal event of this section, physicians misjudging the magnitude of the high-workload concern of office staff. In essence, a conjecture to explain why a group of stakeholders may misjudge the magnitude of the high-workload concern of another group of stakeholders in an OI and by so doing, set the stage for later OI problems.

5.3.8.4 A plausible conjecture

Our conjecture is that imperfect communication due to both job context specificity and individuality causes information asymmetry about the existing workload effort requirements to arise between observers and the effort-exerting entity. It also causes information asymmetry about the marginal internal effort required for an implementation activity and the marginal strain to be incurred as a result of the implementation.

Consequently, the effort perceived by the observer as being required for the implementation activity, the marginal observer perceived effort, is different from the marginal internal effort to be exerted by the effort-exerting entity. Likewise, the strain perceived by the observer as the strain to be incurred by the effort-exerting entity for the implementation activity, the marginal observer perceived strain, is different from the marginal strain to be incurred by the effort exerting entity.

Information asymmetry arising due to imperfect communication as a consequence of individuality and context specificity distorts both the marginal effort and marginal strain to the observer. It as well distorts the internal effort and strain incurred by the effort-exerting entity from all effort-requiring activities to the observer. These distortions, under conditions of high effort exertion by the effort-exerting entity, can result in underestimation by the observer of the internal effort and strain of the effort-exerting entity. This manifests as observers misjudging the magnitude of the strain to be incurred by the effort exerting entity. If the strain to be incurred by the effort exerting entity is above its satisficing threshold at that time, and the values of the Satisficing Threshold Determinants associated with the OI are not high enough to ensure prioritization of the OI, then the stage is set for the effort-exerting entity to effort-satisfice by dismissal of the OI. When this happens, if the observer is an entity advocating the OI, then there is a tendency for implementation conflicts and unexpected OI dismissals as the effort-exerting entity satisfices for self-preservation while the entity advocating implementation pushes against effort-satisficing.

I turn attention next to applying the conjecture to explain the focal event of this section, physicians initially misjudging the level of strain office staff would incur in the implementation of Advanced Access in Case 5.

5.3.8.5 Applying the plausible conjecture to explain the event

Physicians are the observer entity while office staff are the effort-exerting entity in the event. I re-paste the quote on the event here:

> "Two or three of them were there at the initial one [referring to staff at the initial learning collaborative]; and I remember [an Office Manager] saying, I don't know if we can do this. And I picked up on it and said, why; and she said, probably because of this and this, and to me, I thought, well that's not a very big reason. We're talking about a very little thing here, we'll just have them do it – I just kind of run – although I picked up, I think I was the only who picked up that there was a problem. … I thought that, oh, well we can overcome that, without giving it enough thought, and it backfired."
>
> *Quotation 76*

Job-context specificity existed by virtue of physicians being in a different job role compared to that of office staff. Individuality had enabled imperfect communication between physicians and staff to exist as a consequence of job-context specificity. Imperfect communication resulted in information asymmetry between physicians and office staff about the internal effort and strain of office staff prior to Advanced Access implementation. Physicians did not fully know the level of strain that office staff were incurring in the execution of office staff duties. Consequently, physicians did not believe that the strain office staff were incurring was close to their satisficing threshold.

Information asymmetry also existed about the marginal internal effort and marginal strain of office staff due to Advanced Access implementation. The office staff had more information about their job and could better predict the effort requirements and strain from Advanced Access

implementation. The physicians on the other hand could not predict this as precisely, again due to job context specificity.

Physicians had a greater distortion of their predicted marginal office staff internal effort and marginal office staff strain for Advanced Access implementation. Consequently, physicians misjudged the magnitude of the strain resulting from whatever office staff were concerned about as a “very little thing”. As physicians pushed for implementation, it turned out that whatever office staff were concerned about was not a “very little thing” when the “marginal strain” due to that was added to the “office staff strain prior to AA implementation”. The resulting strain exceeded the then satisficing threshold strain. With the satisficing threshold exceeded and the values of the Satisficing Threshold Determinants associated with their AA implementation not being high enough to ensure prioritization of AA implementation above other office staff activities, the stage was set for dismissal of AA. Eventually, “it backfired” when the clinic was on the verge of dismissal of AA as an interviewee recalled in Quotation 40:

> "It was like within a couple of days of starting to collect data, and it was very very fast. It wasn’t the usual adjustment time that people would say, okay this might settle down. It just was there, and it [the stress] was very high. And they were ready, we have wonderful staff, really, really good staff and if they are ready to quit working as a result of it, we’re not doing it anymore. Not worth losing staff over."
>
> *Quotation 40*

5.3.8.6 A Summary

In this section, the explanation theoretically explains why one stakeholder may misjudge the effort requirements and incurred strain of another stakeholder during an OI, thereby setting the stage for OI conflicts and unexpected OI dismissals.

Why do organizations and individuals dismiss an activity such as an OI due to the effort involved, even when other organizations and people expect them not to? Why do people effort-satisfice? So far, I have been building theory about this as I developed theoretical explanations in this chapter. I integrate these together in the theoretical abstractions chapter, as I propose the Effort Satisficing Theory (EST). I abstract the theory developed here and formalize it for application in a wide range of problem domains by relaxing some of the terms I have been using. For instance, instead of using the term “people”, I use “volitional entities” and instead of restricting to “Advanced Access” or OI, I rather restrict to domains characterized by volition in entity action and self-preservation in entity goals. As a consequence of those abstractions, I prevent the theory from being artificially limited by terminology when in reality it could be applied in many diverse domains, including those of general management and economics, to explain effort-satisficing related phenomena.

6 Theoretical Abstractions

In this chapter, the findings on “Ambulation”, “Workload” and other related findings in the “Main Thematic Findings” section, are generalized further into “Ambulation Contingency” and “Effort Satisficing Theory (EST)” respectively in this chapter. This has been done through inductive theoretical abstractions in which Miles and Huberman (1994) and the canons of philosophy of science as per Klemke et al. (1998) served as a guide. The theoretical abstractions in this chapter have been developed broadly to be capable of standing independent of:

- the peculiarities of the cases in this multiple-case study,
- the industry of research of this multiple case study namely healthcare,
- the management sub-disciplines that principally informed this research namely Operations Management and Strategic Management.

For the Ambulation Contingency, this was done by constantly subjecting the abstractions to the “If-Then” scenario analysis tests recommended by Miles and Huberman (1994) and refining them accordingly.

For the “Effort Satisficing Theory (EST)”, this has been achieved by analyzing the findings to identify general systemic regularities emanating from the institutional level, the organizational level and the individual human level with keen attention to the nature of man. The emerging theory developed from induction using the views of philosophers such as Carnap (1998), Cartwright (1998) and Hempel (1998) was constantly reviewed against the values of a good theory delineated by Kuhn (1998: 436) and McMullin (1998: 527-528) to enhance its scope and internal consistency.

The theoretical abstractions presented herein have been formulated at a level of abstraction such that other researchers can apply and elaborate the abstractions further in other management and economic problem domains and sub-disciplines.

6.1 Ambulation Contingency: An Elaboration of Contingency Theory

In this section, I extend contingency theory by propounding the ambulation contingency, a class of contingencies defined in terms of motion. Ambulation is a contingency in that it is a dimension of complexity that is in turn a core contingency underlying the contingency research program.

I propound one specific type of ambulation contingency, the task ambulation contingency, by analytically generalizing the findings in some of the cases in this research. I elaborate it by delineating the properties or factors and dimensions characterizing it as well as modes of coping with it during OIs. I present the remainder of the section predominantly through a series of questions and answers.

What is ambulation contingency? Ambulation contingency occurs when movement characterizes a domain of interest. Domains could be characterized by varying degrees of movement with higher degrees of movement presenting unique challenges in OIs. Ambulation contingency may manifest in different forms and one of these is task ambulation contingency.

6.1.1 Task ambulation contingency

What is task ambulation contingency? Task ambulation contingency is a type of ambulation contingency stemming from complexity in the task environment as a result of movement of the task domain. It is a phenomenon defined in terms of movement of the task to be performed. It is a contingency emanating from the mobility of the task to be performed due to factors including

the very nature of the task itself, the nature of the resources executing the task and the nature of the demand for the task. Tasks exhibiting high degrees of task ambulation contingency are often performed at more than one location with significant uncertainty regarding where and when they are to be performed and they pose unique challenges to OIs.

6.1.1.1 Characterizing task ambulation

What analytical properties characterize task ambulation? Task ambulation is characterized analytically by spatial and temporal properties. These properties give rise to analytical dimensions that characterize varying degrees of task ambulation.

What analytical dimensions characterize degrees of task ambulation? Degrees of task ambulation can be characterized at least by:

- Spatial quantity dimension: i.e. the question of - how many spatial locations does the task ambulate between?
- Spatial uncertainty dimension (also called locational uncertainty dimension): i.e. the question of - how far out in time do we know where the task ambulates to/from?
- Temporal frequency dimension (also called temporal quantity dimension): i.e. the question of - how often does the task ambulate?
- Temporal uncertainty dimension: i.e. the question of - how far out in time do we know when the task would ambulate next?
- Spatial quantity uncertainty dimension: i.e. the question of - to what extent does the number of spatial locations the task ambulates between changes?

- Temporal frequency uncertainty dimension (also called temporal quantity uncertainty dimension): i.e. the question of - to what extent does the frequency of ambulation change?

A key consequence of the analytic dimensions is that task domains which are characterized by high values on the dimensions present greater challenges to OIs (in terms of modes of coping with the contingency) than those characterized by low values on the same dimensions. Alternatively stated, modes of coping that are effective for high degrees of task ambulation are often effective for coping with low degrees of task ambulation but the converse is not true.

6.1.1.2 Modes of coping with task ambulation

Given that task ambulation presents challenges in OIs, in what ways can we cope with it? Modes of coping with task ambulation include:

- Scope limitation: In this mode, the OI is limited in scope to reduce the chances of ambulation or at the extreme, to circumvent the impact of task ambulation altogether. Scope limitation manifests in at least two related forms:
  - Task-type limitation: This is a form of scope limitation for OI effectiveness in which the types of tasks to which the OI is applied are delimited to reduce the chances of ambulation. Effective application of this mode of coping includes avoiding applying the OI to tasks with high degrees of ambulation and implementing the OI only for tasks which can be more geo-temporally restricted. It is effective if the OI is being considered for application to multiple tasks types with different task ambulation tendencies.

- Temporal scope limitation: This is a form of scope limitation for OI effectiveness in which the times at which the OI is applied are restricted to reduce the impact of ambulation stemming from the temporal uncertainty dimension of ambulation. This form of scope limitation helps with coordination. Effective application of this mode of coping includes applying it such that the ambulation occurs outside the temporal scope of the OI. It is more effective when the task ambulation is low on the temporal uncertainty dimension, particularly, if the task ambulation is or can be confined to specific time windows.

  Policy enactment can be used to render temporal scope limitation more effective. In this, policies are enacted in association with the OI to make firm the temporal scope limited times at which the OI is applied. Policies are enacted for instance to reduce discretion in changing any pre-determined times for the OI application. This reduces OI application temporal uncertainty and task ambulation temporal uncertainty that in turn reduce coordination problems in environments characterized by task ambulation, to render the OI more effective.

- Technology: In this mode, the OI effectiveness is enhanced by harnessing technology that enables the task ambulation to coexist with the implementation. Unlike scope limitation which seeks to reduce the OI exposure to task ambulation or circumvent the task ambulation altogether, the technological coping mode enables the OI to effectively withstand the task ambulation without seeking to reduce exposure to it or circumvent it.

I now turn my attention to elaborate on a framework for using technology to cope with task ambulation contingency. Using technology to cope with task ambulation contingency requires

insight into the nature of the contingency, as appropriate fit is needed. Insight into the degree of manifestation of the contingency is important when selecting technology in OIs for ambulatory tasks. There seems to be minimum levels of technology that are needed for appropriate fit to cope with the degree of manifestation of the contingency given a specific situation. Using some of the analytical dimensions characterizing task ambulation contingency stated above, I present a framework for coping with the contingency via the technological mode. The types of technology within the framework generally represent the minimum levels of technology required to cope with given degrees of task ambulation contingency present in an organization.

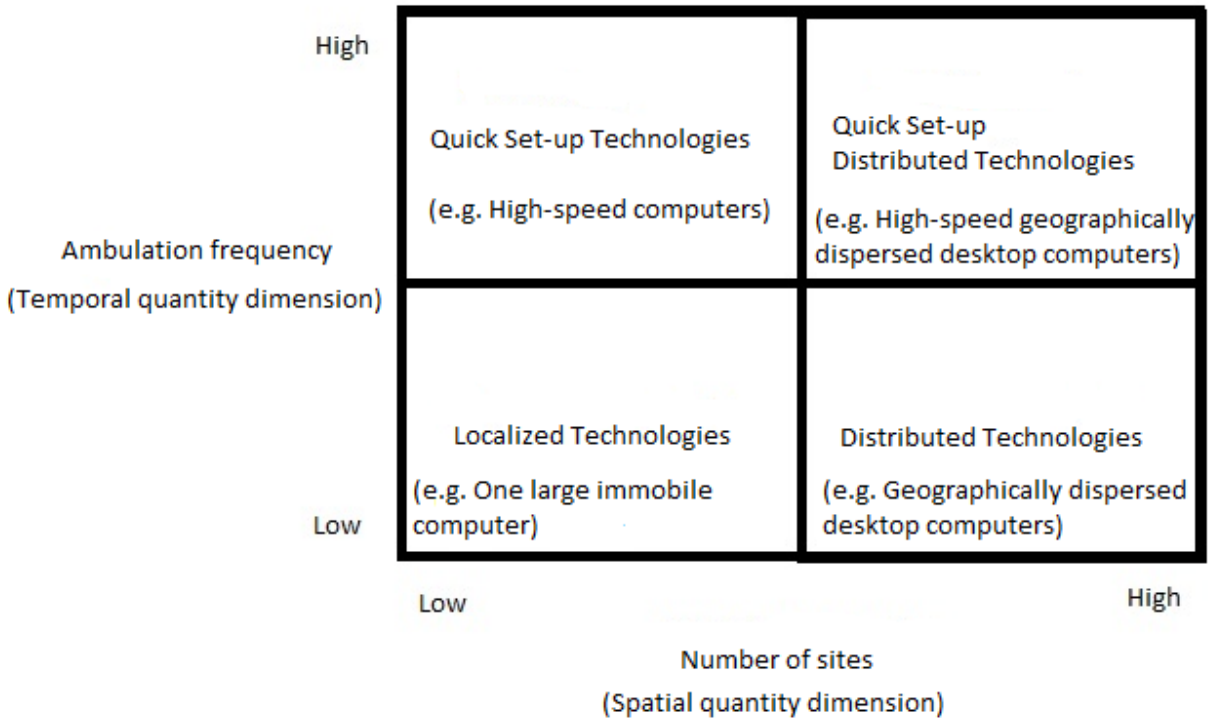


Figure 13: Quantity framework for minimum levels of technology for coping with different degrees of task ambulation contingency

In the framework in Figure 13, the larger the number of sites to which the task ambulates, the more the need for distributed technologies rather than localized technologies for the OI to cope with the increased degree of task ambulation. In this instance, the increased degree of task ambulation stems from the spatial quantity dimension of task ambulation. Moreover in the framework in Figure 13, the higher the task ambulation frequency, the more the need for quick set-up technologies for the OI to efficiently cope with the increased degree of the task ambulation contingency. In this instance, the increased degree of task ambulation stems from the temporal frequency dimension of task ambulation.

In summary, the framework in Figure 13 proposes fitting the type of technology employed with the degree of the task ambulation contingency (as characterized by the temporal quantity dimension and the spatial quantity dimension of task ambulation contingency) for more effective OI outcomes.

Dimensions				Temporal Uncertainty	
				Low	High
Nature of Task - Synchronization Requirements	High	Locational Uncertainty	High	Temporal Scope Limitation	Real-time Synchronized Mobile Technologies (e.g. Mobile phones on a synchronous network)
			Low	Temporal Scope Limitation	Real-time Synchronized Distributed Technologies (e.g. Geographically dispersed desktop computers on a synchronous network)
	Low	Locational Uncertainty	High	Temporal Scope Limitation	Mobile Technologies (e.g. Pen and paper)
			Low	Temporal Scope Limitation	Distributed Technologies (e.g. Geographically dispersed desktop computers)

Figure 14: Uncertainty framework for minimum coping strategy for coping with different degrees of task ambulation contingency

In the framework in Figure 14, while modes of coping with task ambulation such as temporal scope limitation can be effective when the degree of task ambulation is low on the temporal uncertainty dimension, the technological mode of coping becomes very crucial when the degree of task ambulation is high on that same dimension. The nature of the task, for instance the extent to which the task needs to be synchronized among multiple entities, also plays a role in determining the minimum level of technology needed for the OI to effectively cope with the degree of ambulation. When synchronization requirements are high such as when an OI requires multiple entities to schedule the same resource, real-time synchronized technologies are needed. Moreover, in the framework in Figure 14, when the degree of task ambulation is high on the locational uncertainty dimension, mobile technologies are needed to cope with the uncertainty.

To conclude, in the frameworks in both Figure 13 and Figure 14, the minimum levels of technology generally required to cope with a given degree of manifestation of task ambulation contingency have been presented. In the frameworks, a level of technology capable of coping with a higher degree of manifestation of task ambulation contingency can cope with a lower degree of manifestation of the contingency but not vice versa. For instance, for a task with low synchronization requirements, when temporal uncertainty is high, mobile technologies would generally be able to cope with the different manifestations of task ambulation contingency as both a high and low degree of locational uncertainty. However, distributed technologies which are not mobile would generally not be able to cope with a high degree of locational uncertainty even though they will generally be able to cope with a low degree of locational uncertainty.

In this section, I have elaborated contingency theory with the ambulation contingency of which I have focused on just one type of ambulation contingency, task ambulation contingency which I have propounded. I have argued that task ambulation is a contingency in that it is one of the

several manifestations of complexity, a core contingency underlying the contingency theory research program. I have pointed out some properties and dimensions of task ambulation and based on this, I have presented a contingency framework of the modes by which OIs can cope with task ambulation contingency.

6.2 Effort Satisficing Theory (EST)

The Effort Satisficing Theory is a theory whose core purpose is for understanding, predicting and acceptably influencing effort-satisficing behavior and its impact on phenomena such as operational outcomes, organizational performance and economic performance.

I present next the general theory applicable to diverse domains of interest after which I present a translation of the general theory specific to the domain of operational implementations. The findings in this research are most closely explained through the translation of the general theory to the domain of operational implementations, “Effort Satisficing Theory Applied to Operational Implementations”. However, outside the domain of operational implementations, the general Effort Satisficing Theory is the most analytically generalizable.

6.2.1 The General Effort Satisficing Theory

6.2.1.1 Domain of Applicability: The Universe of the Theory

The Effort Satisficing Theory (EST) is applicable in a domain only when both conditions of: volition and self-preservation are satisfied.

- Volition condition: Volition in entity action exists.
- Self-preservation condition: Self-preservation exists among the goals of the volitional entity.

For human action, this implies that the theory applies only when volition in human action exists, self-preservation exists among the goals of people and the activity for which effort exertion is required is beneficial. People who do not exhibit a self-preservation goal, such as people willing to die for a cause, would not satisfy the self-preservation condition. Consequently, their actions fall outside the domain of the theory.

6.2.1.2 Axioms and Postulates of the Theory

The axioms and postulates of the Effort Satisficing Theory are as follows:

1. Generally, people exhibit volition and are consequently volitional entities.
2. Generally, volitional entities tend to exhibit a self-preservation imperative.
3. The exertion of effort results in the incurrence of strain.
4. Volitional entities believe that large amounts of strain signal a threat to their self-preservation imperative.

Figure 15 below is a visual illustration of the core elements of the General Effort Satisficing Theory. The green layer represents very promising areas for future research and elaboration of the theory.

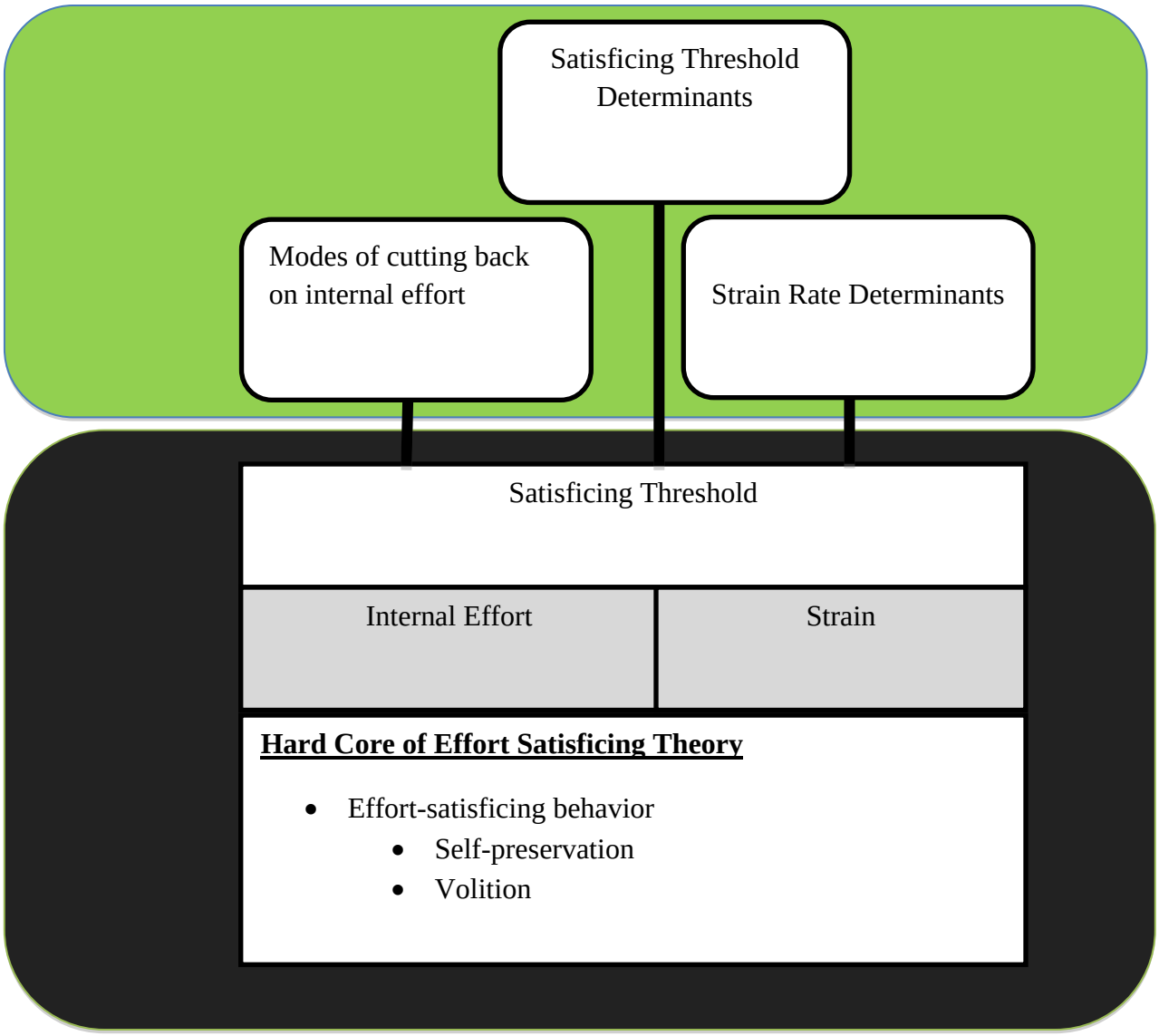


Figure 15: Building blocks illustrating core elements of the General Effort Satisficing Theory

6.2.1.3 Fundamental Proposition of the Theory

Fundamental proposition: Volitional entities tend to satisfice on efforts.

This fundamental proposition is the core of the theory. Satisficing on efforts is explained in the theory as arising as a consequence of the desire for self-preservation. In EST, the fundamental proposition above is regarded as a probabilistic empirical law which holds within the universe of the theory. This empirical law is grounded in the data in this case study, the work of Herbert Simon and the work done in the field of psychology. To falsify the theory, one would need to prove that in the universe of the theory, volitional entities do not tend to satisfice on efforts. For instance, experiments could be set up in multiple contexts bounded by the conditions delimiting the universe of the theory, presence of volition and self-preservation given above, in which high effort demanding tasks are progressively assigned to volitional entities. If the volitional entities tend to exert the ideal effort to accomplish the tasks irrespective of the effort demands and the strain they incur, the limit for people being effort exertion to the point of death and the limit for financial entities being effort exertion to the point of bankruptcy, the theory would have been refuted. If however, the volitional entities tend to satisfice, the theory would have been corroborated.

6.2.1.4 Level of Analysis of the Theory

The theory is transcendental across levels of analysis. It is a multi-level theory in that it applies to the organizational, individual and institutional levels of analysis. Its applicability is bounded by its universe rather than by a level of analysis.

6.2.1.5 Fundamental Theoretical Terms

The definitions of fundamental theoretical terms of the Effort Satisficing Theory (EST) are given next in this section.

6.2.1.5.1 Internal Effort (Ω)

Internal effort, represented by the Greek symbol capital Omega, Ω, refers to all the effort exerted by the volitional entity whether observable or not in the course of an event. It translates into different dimensions depending on the domain of application of the theory. For instance, in the domain of operational implementations, it may translate into biological internal effort that includes dimensions such as physical work internal effort and cognitive work internal effort. In domains such as finance, it may translate to financial internal effort that includes dimensions such as money spent.

6.2.1.5.2 Strain (γ)

Strain, represented by the Greek symbol small Gamma, γ, is the consequence of effort exertion by volitional entities which volitional entities react to and which volitional entities believe when in large amounts to signal a threat to their self-preservation. It manifests in different dimensions depending on the domain of application of the theory. For instance, in the domain of operational implementations, it may manifest in terms of biological strain such as tiredness and illness. In the domain of finance, it may translate to financial strain that can be assessed by financial health measures such as the current ratio. As a further example, when an investor represents the volitional entity, it may manifest as investment losses, low investment returns, effects of illiquid investments, etc.

6.2.1.5.3 Optimal Internal Effort

The optimal internal effort is the value of effort required to ensure the best outcomes in all effort-requiring activities. It is an ideal in that it is an internal effort exertion under conditions of no effort-satisficing behavior. The effort exerted under conditions of effort satisficing behavior is always below this optimal internal effort and is consequently referred to as a sub-optimal effort exertion in the Effort Satisficing Theory. Re-stated, absence of effort-satisficing behavior is a pre-condition for optimal internal effort exertion.

6.2.1.5.4 Satisficing

In EST, satisficing refers to a volitional entity not exerting the optimal internal effort, the effort required for the best outcomes in all effort-requiring activities. For an employee in an organization, with the organizational outcomes being the outcomes of interest in the analysis, this translates to the employee not exerting the ideal effort required for the best outcomes in all effort requiring activities in the organization. EST satisficing is sub-optimal effort exertion on effort requiring activities of interest in a given application.

6.2.1.5.5 Self-Preservation

Alternative versions of the concept of self-preservation exist. For instance, Hobbes seems to conceive it as the mere goal of living while Aristotle seems to look beyond the mere goal of living to an ideal of living well (Everson, 2002; Moschella, 2014). In the Effort Satisficing Theory (EST) however, self-preservation is conceived in terms of preventing degradation of a volitional entity's state of well-being, maintaining the volitional entity's health. For financial entities, this would translate to a desire to maintain financial health. It is not necessarily merely living as per Hobbes, a concept which may connote seeking only the avoidance of death or

extinction, and neither is it necessarily living to an ideal as per Aristotle, a concept which may connote a maximizing calculus on well-being, a quest for positive gains on well-being. In simple language, EST volitional entity desire for self-preservation is the desire of the volitional entity to avoid negative impact on its well-being. In EST, the desire for self-preservation can either increase or reduce effort satisficing tendencies. EST focuses on effort satisficing behavior as its core phenomenon of analysis and consequently draws on self-preservation to explain the tendency to satisfice. EST however also draws on self-preservation where appropriate, to elaborate on why effort satisficing behavior may not be exhibited in some circumstances due to the satisficing threshold being raised by satisficing threshold determinants.

6.2.1.5.6 Satisficing Threshold (Ⲝ)

The satisficing threshold, represented by the Coptic symbol capital Gangia, Ⲝ, is the threshold of strain beyond which the volitional entity tends to strongly consider satisficing on efforts. It is the limit on incurred strain beyond which the volitional entity chooses not to exert the optimal effort needed for all effort requiring activities. It is dynamic in the sense that its value can vary across volitional entities and even within the same volitional entity its value can change with changing values of the Satisficing Threshold Determinants.

6.2.1.5.7 Satisficing Threshold Determinants (ባ)

Satisficing Threshold Determinants, represented by the Ethiopian Amharic symbol Ba, **ባ**, are factors that influence the satisficing threshold in a volitional entity. They influence the volitional entity to raise or lower the satisficing threshold for the aggregate of all effort-requiring activities of the volitional entity. They are also used by the volitional entity to assess or prioritize which

effort-requiring activities are not to be dismissed as the volitional entity effort-satisfices. Effort-requiring activities scoring a relatively higher aggregate score on the Satisficing Threshold Determinants are prioritized higher. Lower prioritized effort-requiring activities tend to suffer from reduced effort exertion or outright dismissal during effort-satisficing by volitional entities. As implied, for the sake of having a common convention for the theory, the Effort Satisficing Theory is formulated with directionality such that increasing the value of the Satisficing Threshold Determinants raises the satisficing threshold, thereby reducing the tendency of the volitional entity to satisfice on efforts.

6.2.1.5.8 Strain Rate Determinants (θ)

Strain Rate Determinants, represented by the Greek symbol small theta, **θ**, are factors that influence the relationship between internal effort and strain. They increase or reduce the amount of strain incurred for a given internal effort exertion. Again, for the sake of having a common convention for the theory, the Effort Satisficing Theory is formulated with directionality such that increasing the value of the Strain Rate Determinants reduces the strain incurred from internal effort exertion and consequently, the tendency of the volitional entity to satisfice on efforts.

6.2.1.6 The relationship between internal effort and strain: A case of correspondence rules

The relationship between internal effort and strain given in this section is the basis for the "Strain Rate Determinants" defined in the previous section. Strain is a principal instrument by which internal effort is assessed by an effort-exerting entity. Internal effort is a theoretical term (Carnap, 1998: 318, 321; Putnam, 1998: 336) in the Effort Satisficing Theory and it

consequently requires a correspondence rule as per Carnap (1998: 321) to a more observable term. Strain often manifests in more observable forms. In the Effort Satisficing Theory, the relationship between effort and strain, the correspondence rule, is defined to be reasonably consistent with the standard usage of the constructs in mechanical engineering yet general enough to account for peculiarities that apply to the relationship in entities such as people in an organization or economic system. In the Effort Satisficing Theory, the basic correspondence rule derives from the very definition of strain and it is given by:

$$\frac{\partial \gamma}{\partial \Omega} = f(\boldsymbol{\theta})$$

$$\frac{\partial f(\boldsymbol{\theta})}{\partial \theta} < 0$$

Where:

$$f(\boldsymbol{\theta}) > 0$$

$f(\boldsymbol{\theta})$ represents the strain rate, for a linear relation between strain and effort, this will be the slope of the line. It is a function of $\boldsymbol{\theta}$.

$\boldsymbol{\theta}$ represents Strain Rate Determinants as a group, a matrix of Strain Rate Determinants.

θ represents a Strain Rate Determinant within the group, an element of the matrix of Strain Rate Determinants.

To re-state the mathematical relations above verbally, an increase in a Strain Rate Determinant results in a decrease in the strain rate which results in less strain being incurred for the same level of internal effort exertion. For people, the Strain Rate Determinants include factors that ease the

manifestation of strain (with strain manifesting in forms such as pain and tiredness). For people, empirical examples of these factors are analgesics, coffee for some people, music for others, and some exercise programs which increase the body's own pain killers. For financial systems, Strain Rate Determinants may include factors that increase access to low-interest rate long term capital. There is directionality in using the Strain Rate Determinants. Increasing the value of the Strain Rate Determinants reduces the strain incurred from internal effort exertion and consequently, the tendency of the volitional entity to satisfice on efforts. As mentioned previously, such directionality enhances internal consistency and application for prediction. Internal consistency and predictive accuracy are virtues of good theories (Kuhn, 1998: 436; McMullin, 1998: 527-528; Wacker, 1998).

6.2.1.7 Explaining and predicting effort-requiring activity outcomes with the Effort Satisficing Theory (EST)

Generally, volitional entities exhibit a self-preservation imperative. The exertion of effort results in the incurrence of strain. Volitional entities believe that large amounts of strain signal a threat to their self-preservation imperative.

Volitional entities expend effort on activities. When effort-exertion is needed to do an effort-requiring activity, marginal internal effort needs to be expended on that effort-requiring activity. Both the marginal internal effort expended on any other existing activities as well as relevant future marginal internal effort exertion expectations, influence the volitional entity's behavior in exerting that marginal internal effort needed for the effort-requiring activity. Other phenomena namely the "Satisficing Threshold Determinants" and the "Strain Rate Determinants" also influence the volitional entity's behavior.

The optimal internal effort considered by the volitional entity as required to accomplish an effort-requiring activity is a sum including:

i. the marginal internal effort needed to be expended on that effort-requiring activity
ii. the marginal internal effort expended on any other existing activities
iii. relevant future marginal internal effort exertion expectations

The value of the "Satisficing Threshold Determinants" influence the volitional entity as it determines a satisficing threshold at the time. If the volitional entity assesses that the strain it would incur in the exertion of the optimal internal effort would exceed its satisficing threshold at the time, the volitional entity tends to strongly consider effort satisficing behavior. It tries to cut back on internal effort exertion as a means to reduce the strain.

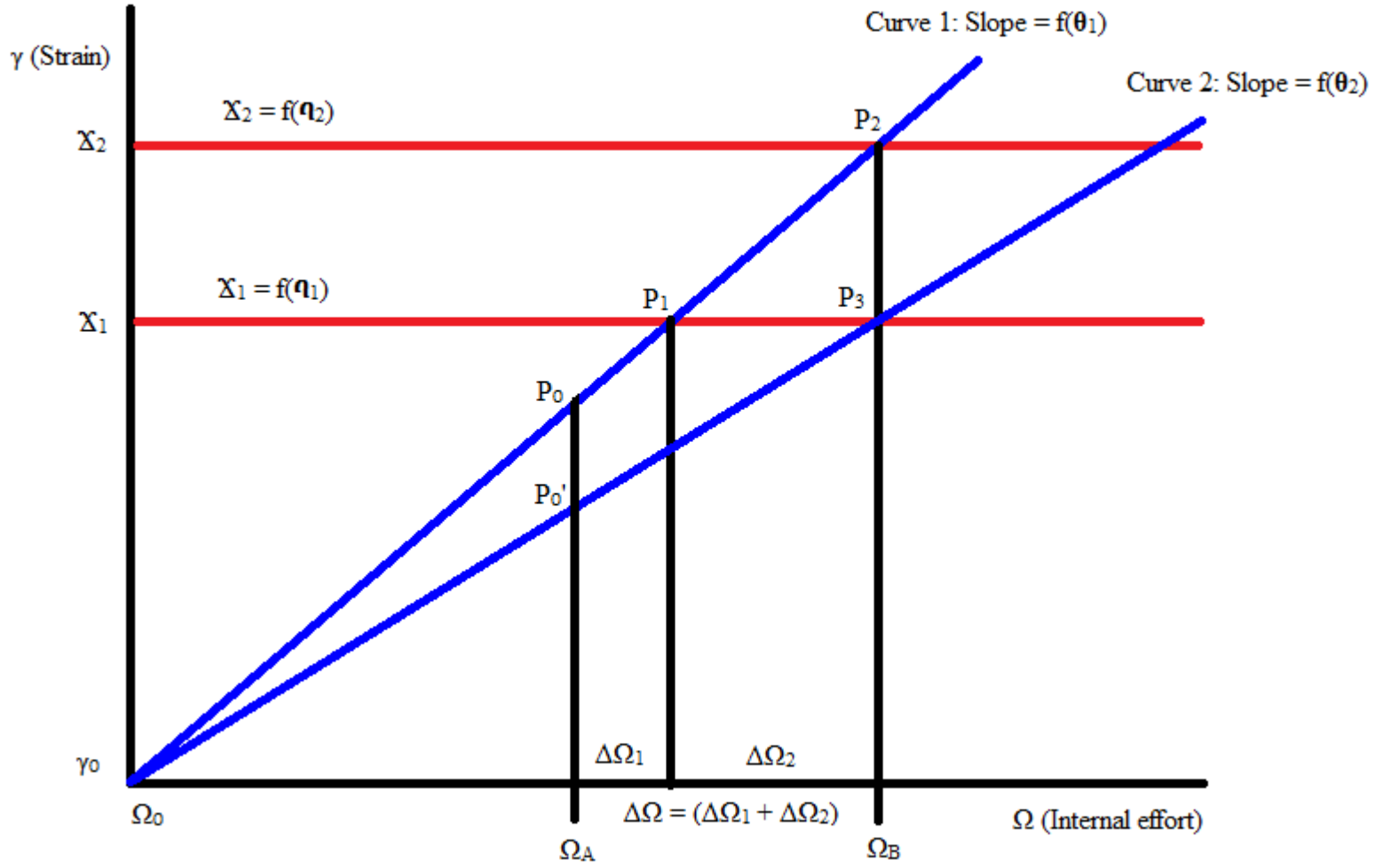


Figure 16: Effort Satisficing Theory Strain-Effort Curves

In considering effort satisficing behavior, the volitional entity evaluates effort-requiring activities on the values of their Satisficing Threshold Determinants. In this evaluation, if all effort-requiring activities evaluate as very high, the volitional entity prioritizes all the effort-requiring activities and it tends to strongly consider revising its satisficing threshold to a higher value to accommodate doing all the prioritized effort requiring activities. However, if in this evaluation, some effort requiring activities evaluate as very low, they are prioritized lower relative to other effort-requiring activities. Lower prioritized effort-requiring activities have a higher tendency to become targets for effort-satisficing as the volitional entity satisfices on efforts due to self-preservation. The volitional entity satisfices on internal effort by means such as not exerting the optimal internal effort needed for those activities or by outright dismissal of those effort-requiring activities as it tries to keep the strain incurred from internal effort exertion within the limit of the satisficing threshold.

Figure 16 is a graphical illustration of effort satisficing. Without loss of generality, a linear relationship between strain and effort is assumed for simplicity. Assuming that an effort-requiring activity has just been proposed to a volitional entity for execution and the relevant future marginal internal effort exertion expectations are negligible, then in Figure 16, $\Delta\Omega$ represents the marginal internal effort needed to be expended on that effort-requiring activity for the best outcomes while Ω_A represents the marginal internal effort expended on any other existing activities. Assume that the values of the Satisficing Threshold Determinants, $\boldsymbol{\eta}$, have currently influenced the volitional entity to set its satisficing threshold at $\mathfrak{T}_1$. Assume also that currently, the Strain Rate Determinants, $\boldsymbol{\theta}$, evaluate to give the strain-effort curve named Curve 1 with a slope of $f(\boldsymbol{\theta}_1)$. Then just prior to the execution of the proposed effort-requiring activity,

the volitional entity is at the point, P_0, associated with an incurred strain less than the current satisficing threshold, $\mathfrak{A}_1$.

However, executing the proposed effort-requiring activity will ideally require the exertion of a marginal internal effort $\Delta\Omega$, and this would result in an internal effort exertion during execution of the proposed effort requiring activity, of Ω_B. The volitional entity assesses that Ω_B would result in being in a position, P_2, associated with strain above its current satisficing threshold, $\mathfrak{A}_1$. Consequently, it proceeds to exhibit effort-satisficing behavior. If upon assessment of effort-requiring activities on their Satisficing Threshold Determinants, it assesses all but the proposed effort-requiring activity to be of high priority, it tends to strongly consider satisficing on efforts on the proposed effort-requiring activity by only exerting marginal internal effort of $\Delta\Omega_1$ on the execution of the proposed effort-requiring activity. It does this to bring itself to position P_1 associated with a strain of not more than the current satisficing threshold, $\mathfrak{A}_1$. This sub-optimal internal effort exertion of $\Delta\Omega_1$ rather than the optimal internal effort required for the accomplishment of the effort exerting activity, $\Delta\Omega$, gives poorer outcomes for the proposed effort-requiring activity. The greater the difference between $\Delta\Omega$ and $\Delta\Omega_1$, the greater the impact of the effort-satisficing behavior on the outcomes of the proposed effort-requiring activity.

However if upon assessment of effort-requiring activities on their Satisficing Threshold Determinants, the volitional entity assesses all including the proposed effort-requiring activity to be of high priority, the volitional entity tends to strongly consider going the extra mile. It tends to strongly consider revising its satisficing threshold up to $\mathfrak{A}_2$, a threshold at which in position P_2, it exerts the optimal internal effort required for executing all effort-requiring activities, Ω_B, while incurring a higher strain than in position P_1.

In the evaluation of effort-requiring activities on the values of their Satisficing Threshold Determinants, some effort requiring activities may be high prioritized while others are low prioritized. Simultaneously, the strain to be incurred from doing the highest prioritized effort-requiring activities could also exceed the satisficing threshold at the time. In this situation, the volitional entity tends to strongly consider both satisficing on the lower prioritized effort-requiring activities and revising its satisficing threshold to a higher value to accommodate the highest prioritized effort requiring activities.

The volitional entity's effort satisficing behavior, its choosing to exert less than the optimal internal effort needed as it attempts to self-preserve, results in less-outstanding effort-requiring activity outcomes. In the event that optimal effort exertion on the effort-requiring activity would have positively influenced the performance outcomes of another entity to which the volitional entity is a part, the performance of that other entity could be compromised as a result of effort-satisficing behavior.

Through effort satisficing behavior, people may compromise an organization's performance outcomes, organizations may compromise an institution's performance outcomes, institutions may compromise a nation's performance outcomes and nations may compromise global performance outcomes.

6.2.1.8 Modes of reducing effort satisficing behavioral tendencies

In the effort satisficing theory, there are at least three modes of regulating effort satisficing behavioral tendencies. They are:

i. Harnessing the *Satisficing Threshold Determinants* to alter the value of the satisficing threshold of the volitional entity.

ii. Cutting back on required *internal effort*. This involves the use of means which reduce the internal effort required from the volitional entity for the execution of all effort-requiring activities. An instance of this is the reduction of the scope of some effort-requiring activities.

iii. Harnessing the *Strain Rate Determinants* to alter the value of the strain rate in the strain-effort relation. This may prove difficult for OIs but avenues include using modes such as: music for productivity, provision of coffee and drinks in the workplace to reduce tiredness, and promoting healthy lifestyles which turn up the human body's natural stress killers among those needed to implement the OI.

Figure 17 visually illustrates how the Effort Satisficing Theory (EST) can be used to increase outcomes of effort-requiring activities and consequently the performance outcomes of both the volitional entities exerting the effort and the entities they form part of.

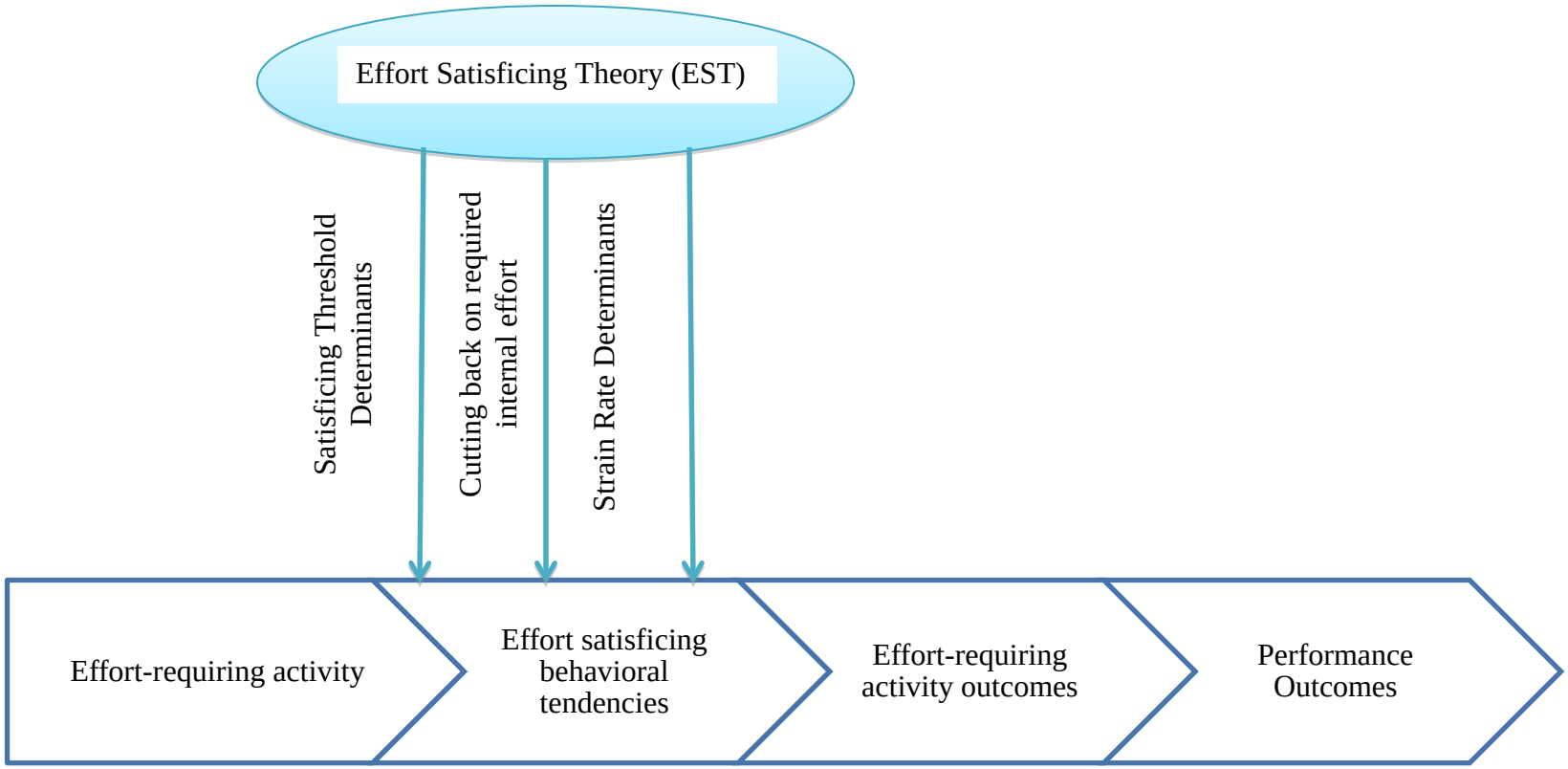


Figure 17: An effort satisficing theory regulatory model of effort satisficing behavioral tendency

6.2.1.8.1 Graphical illustration of modes of reducing effort satisficing behavioral tendencies

Figure 16 was used to graphically illustrate the effort satisficing theory but can also be used to graphically illustrate the effect of the three modes of reducing effort satisficing behavior to increase outcomes of effort-requiring activities and consequently the performance outcomes of entities of which they form a part. Making the same assumptions as before, that is:

- Assuming that an effort-requiring activity has just been proposed to a volitional entity for execution and the relevant future marginal internal effort exertion expectations are negligible, then in Figure 16, $\Delta\Omega$ represents the marginal internal effort needed to be expended on that effort-requiring activity for the best outcomes while Ω_A represents the marginal internal effort expended on any other existing activities.
- Assume that the values of the Satisficing Threshold Determinants, $\boldsymbol{\eta}$, have currently influenced the volitional entity to set its satisficing threshold at $\mathfrak{T}_1$.
- Assume also that currently, the Strain Rate Determinants, $\boldsymbol{\theta}$, evaluate to give the strain-effort curve named Curve 1 with a slope of $f(\boldsymbol{\theta}_1)$, then just prior to the execution of the proposed effort-requiring activity, the volitional entity is at the point, P_0, associated with an incurred strain less than the current satisficing threshold $\mathfrak{T}_1$.

Executing the proposed effort-requiring activity will ideally require the exertion of a marginal internal effort $\Delta\Omega$, and this would result in internal effort exertion during execution of the proposed effort requiring activity of Ω_B. The volitional entity assesses that Ω_B would result in being in a position, P_2, associated with strain above its current satisficing threshold, $\mathfrak{T}_1$. Consequently, it would tend to proceed to exhibit effort-satisficing behavior unless the modes of

reducing effort satisficing behavioral tendencies are harnessed. The position P_2 on Curve 1 with slope $f(\theta_1)$ when the satisficing threshold is at $\mathfrak{A}_1$ with P_2 requiring the volitional entity to exert internal effort of Ω_B, shall be the start point as I use the graph to illustrate the three modes:

6.2.1.8.1.1 Harnessing the Satisficing Threshold Determinants

Harnessing the Satisficing Threshold Determinants to increase the value of the satisficing threshold of the volitional entity is one mode of reducing the effort satisficing behavioral tendency. In Figure 16, the Satisficing Threshold Determinants, $\mathfrak{n}$, could be harnessed to influence the volitional entity to raise its satisficing threshold from $\mathfrak{A}_1$ to $\mathfrak{A}_2$. At $\mathfrak{A}_2$ and with the volitional entity being at position P_2, the strain incurred by the volitional entity in exerting the internal effort Ω_B would be within the limits of the new satisficing threshold, $\mathfrak{A}_2$, thus avoiding any strong effort satisficing tendencies from the volitional entity.

6.2.1.8.1.2 Cutting back on required internal effort

Cutting back on required internal effort is another mode of reducing effort satisficing behavioral tendencies. In Figure 16, again starting from the position of the volitional entity being P_2 on Curve 1, the amount of internal effort required from the volitional entity could be reduced from Ω_B by $\Delta\Omega_2$ by some means. With this, instead of the volitional entity being at position P_2 Curve 1, it would rather be at position P_1 still on Curve 1. At position P_1, the incurred strain would be within the limits of the satisficing threshold $\mathfrak{A}_1$, thus avoiding any strong effort satisficing tendencies from the volitional entity.

6.2.1.8.1.3 Harnessing the Strain Rate Determinants

Harnessing the Strain Rate Determinants to alter the value of the strain rate in the strain-effort relation is the third mode of reducing effort satisficing behavioral tendencies. In Figure 16, again starting from the internal effort requirement of Ω_B with the position of the volitional entity being P_2 on Curve 1 and with satisficing threshold $\mathfrak{X}_1$, the Strain Rate Determinants, $\boldsymbol{\theta}$, could be harnessed to alter the strain-effort relation from a slope or strain rate of $f(\boldsymbol{\theta}_1)$ to $f(\boldsymbol{\theta}_2)$. This would result in the new strain-effort curve, Curve 2 with slope of $f(\boldsymbol{\theta}_2)$. On Curve 2 the internal effort requirement of Ω_B would result in the position of the volitional entity being P_3. In effect, the shift from Curve 1 to Curve 2 would imply the position of the volitional entity shifting from P_2 to P_3. At position P_3, the incurred strain would be within the limits of the satisficing threshold $\mathfrak{X}_1$, thus avoiding any strong effort satisficing tendencies from the volitional entity.

6.2.1.9 Translating the Effort Satisficing Theory for application to diverse domains of interest

The effort satisficing theory in its general form can be applied to phenomena in diverse domains of interest such as operations strategy, finance and economics. This can be done so long as the phenomena satisfies both conditions required to apply the theory, basically the conditions of volition in entity action and self-preservation as part of entity goals given in section “6.2.1.1 Domain of Applicability: The Universe of the Theory”. However, the theory would need to be translated into the domain of interest to render it more useful in the domain. The task of translation would be to map the theoretical terms in the Effort Satisficing Theory (EST) to other terms of the domain of application.

In translating the theory to domains of interest, important questions to answer include:

- What type of internal effort is being focused on? For instance, internal effort due to workload, financial internal effort, etc.? Basically, internal effort may need to be qualified by an adjective suitable to the domain of interest.
- What are the manifestations of strain in the domain of interest? Are there multiple manifestations? How are they related? Are some manifestations easily measurable on some quantifiable metric?
- What are some of the Satisficing Threshold Determinants in the domain of interest? Are there multiple levels of Satisficing Threshold Determinants with some influencing others? What are the interrelationships between them?
- What are some of the realizations of cutting back on internal effort in the domain of interest? Are there multiple modes?
- What could be realizations of the Strain Rate Determinants in the domain of interest?
- Are there any further elaborations and extensions specific to the domain of interest that could be made?

By such a translation, the theory can be rendered less abstract and more useful to the domain of interest. The language of the theory is related to the language of the domain of interest. Explanations and predictions of the Effort Satisficing Theory (EST) can then be expressed in the language of the domain of interest to increase their usefulness.

6.2.2 Effort Satisficing Theory Applied to Operational Implementations

Having laid down the general form of the effort satisficing theory for translation and application in diverse domains, in this section, I translate it specifically for application in the domain of operational implementations. I visually illustrate the building blocks of the current state of this translation of the theory in Figure 18.

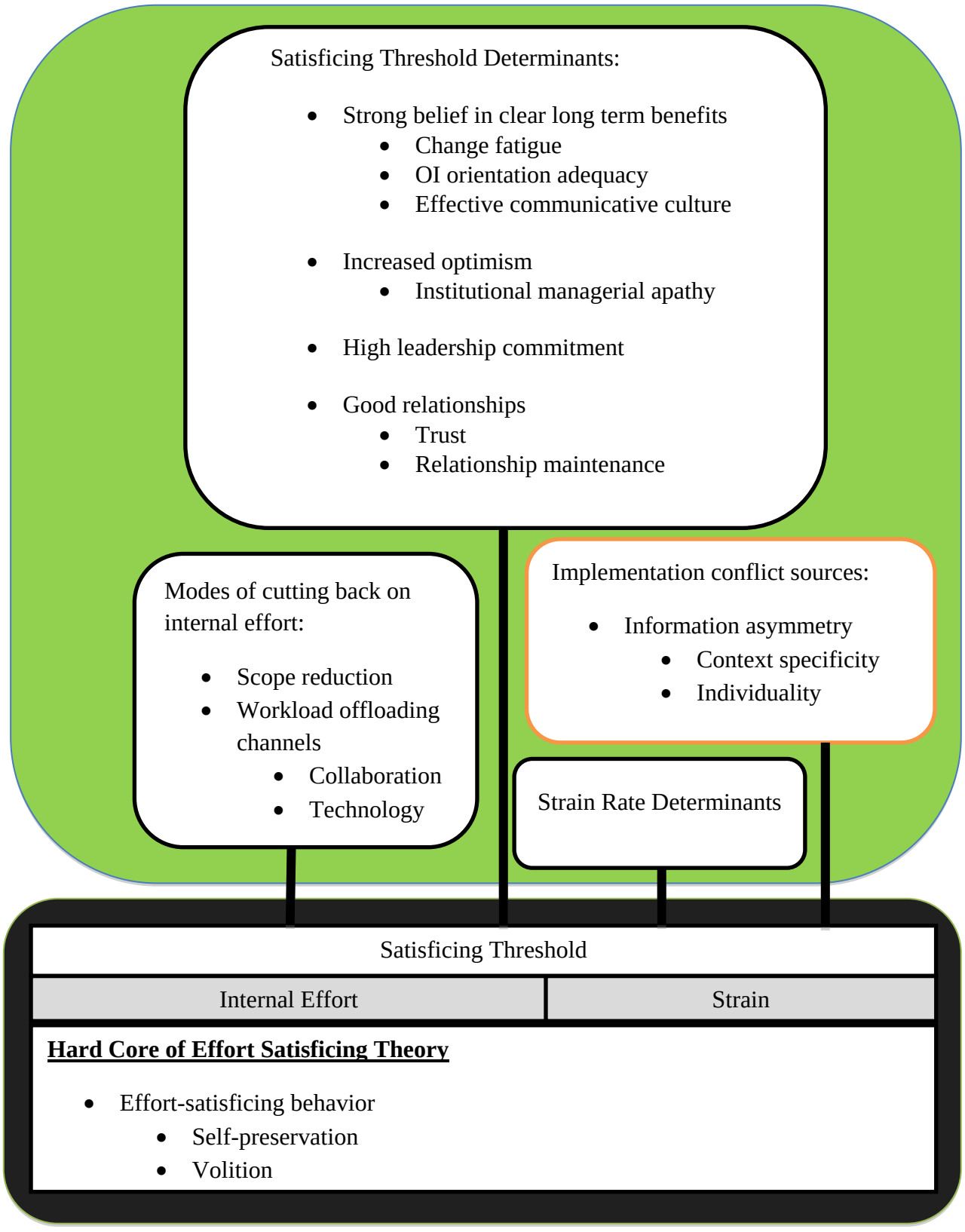


Figure 18: Building blocks illustrating elements of the Effort Satisficing Theory for OIs

In this translation, important questions to answer are:

- What are some of the Satisficing Threshold Determinants by which implementation outcomes can be explained and influenced in OIs? Are there multiple levels of Satisficing Threshold Determinants with some influencing others?
- What are some of the realizations of cutting back on internal effort in operational implementations by which implementation outcomes can be explained and influenced in OIs?
- What could be realizations of Strain Rate Determinants by which implementation outcomes can be explained and influenced in OIs?

In this section I principally focus on the first two, “Satisficing Threshold Determinants” and “cutting back on internal effort”, as they manifested directly in my multiple-case study.

6.2.2.1 Some Satisficing Threshold Determinants in EST for OIs

I begin with a diagram, Figure 19, focusing on the Satisficing Threshold Determinants as they apply to OIs, at least to Advanced Access implementation in clinics as found in this research. Though not perfect, the diagram also illustrates the cross-level character of the theory in OIs by providing a very simplistic overview of the theory in relation to the institutional, individual, organizational and strategic levels of analysis.

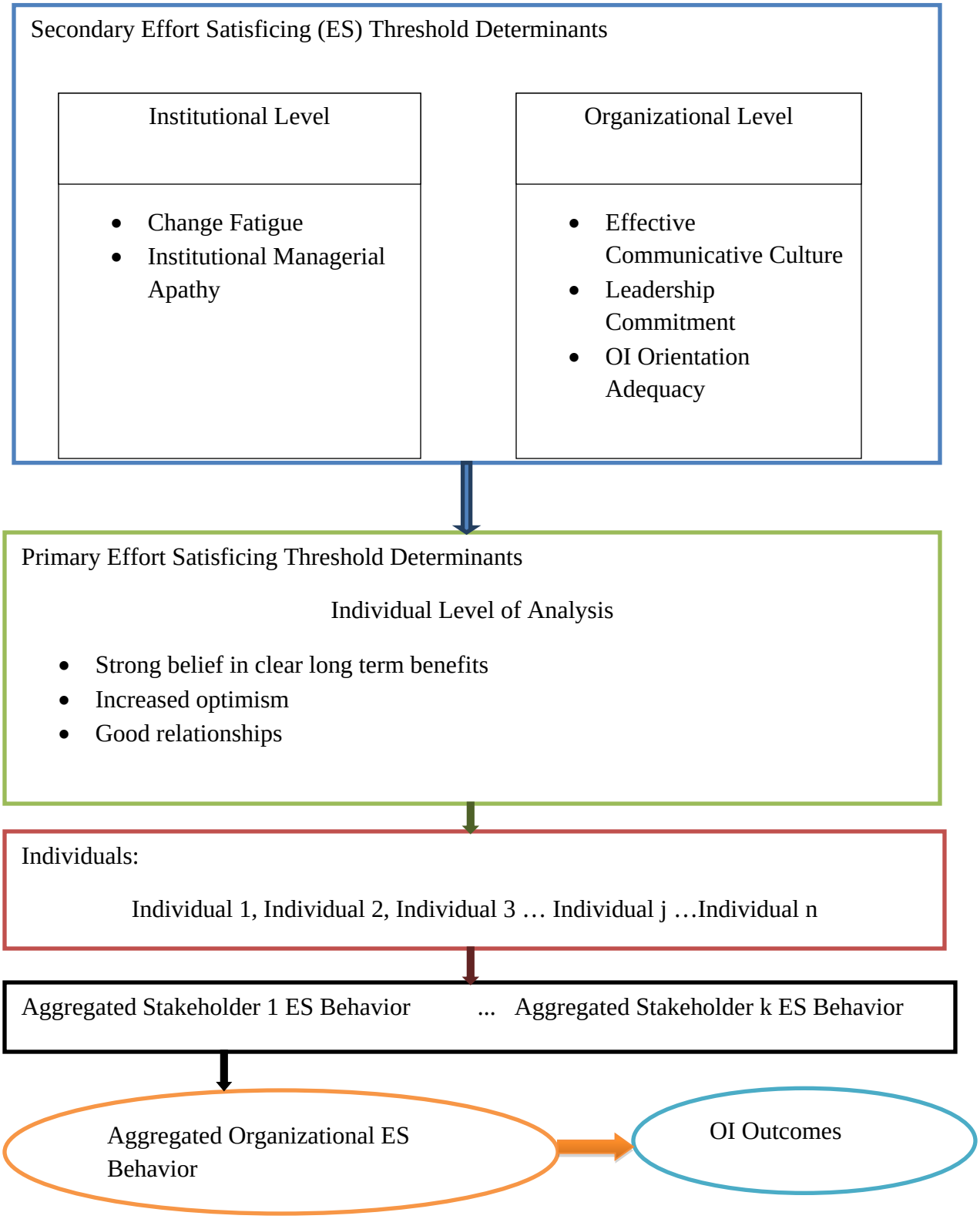


Figure 19: A simplistic cross-level model of the Effort Satisficing Theory in OIs from a Satisficing Threshold Determinants perspective

In Figure 19, there are primary and secondary Satisficing Threshold Determinants. Secondary Satisficing Threshold Determinants are determinants that influence primary Satisficing Threshold Determinants. Secondary Satisficing Threshold Determinants are primarily made up of institutional level phenomena such as change fatigue and institutional managerial apathy, and organizational level phenomena such as leadership commitment. The primary Satisficing Threshold Determinants are those that are directly linked to effort satisficing behavior in individuals. The primary Satisficing Threshold Determinants are primarily made up of individual level phenomena such as strong belief in clear long term benefits. Individuals react to the primary Satisficing Threshold Determinants by engaging in effort satisficing behavior. These individual effort satisficing behaviors aggregated across stakeholders is the stakeholder effort satisficing behavior. These in turn aggregated is the effort satisficing behavior of the organization as a whole. The effort satisficing behavior of the organization as a whole impacts the implementation outcomes of the practice.

I briefly elaborate on Satisficing Threshold Determinants as found in this research and illustrated in Figure 19. These Satisficing Threshold Determinants have been already elaborated in depth in section "5.3.7 Factors Influencing the Impact of Workload as an Implementation Barrier" of this dissertation so I just present a brief summary here.

1. Strong belief in clear long term benefits: This determinant, strong belief of the people implementing the OI in the long term benefits of the OI, a generally individual level phenomenon, influences people to raise the satisficing threshold, ceteris paribus. Multiple phenomena arising from different levels of analysis influence this determinant. These phenomena include:

1.1. High levels of change fatigue: This phenomenon can originate from the institutional level as observed in this Advanced Access implementation research. Ceteris paribus, high levels of change fatigue reduces people's belief in any long term benefits, especially if the people exerting effort to implement the OI were not part of the group or entity which enacted or initiated the changes.

1.2. Increased orientation adequacy prior to implementation: Ceteris paribus, increased orientation adequacy prior to implementation regarding the reasons for the OI and its potential benefits to the people and organization as a whole exerting effort to implement the OI, a generally organizational level phenomenon, increases it. Reduced orientation adequacy on the other hand reduces belief in any long term benefits of the OI ceteris paribus.

1.3. Organizational level effective communicative culture: Organizational level effective communicative culture that sustains communication during implementation regarding the implementation's potential benefits and progress increases it ceteris paribus. Effective communicative culture in this case includes consistently communicating easily understandable expected and accrued positive results of the OI in terms of the values of the people exerting effort to implement the OI. This, consistently showing clear understandable expected and accrued positive results in terms of the values of the effort-exerting volitional entities, the values of the people exerting effort to implement the OI, even mitigates the adverse impact of change fatigue on the belief in long term benefits.

2. Optimism: This generally individual level phenomenon, optimism, influences people to raise their satisficing threshold relative to that of other people ceteris paribus. Decreasing optimism accomplishes the reverse effect of influencing them to reduce the satisficing threshold and increase effort satisficing tendencies. At least to some extent, it seems this Satisficing Threshold Determinant influences and is influenced by the Satisficing Threshold Determinant "strong belief in clear long term benefits". Increased optimism as a Satisficing Threshold Determinant influences the OI to be seen as instrumental for achieving the desires of the people exerting effort to implement the OI, even when they cannot establish prior evidence regarding the benefits of the implementation. However, optimism at the individual level is also influenced by institutional managerial apathy.

    2.1. Institutional Managerial Apathy: Institutional Managerial Apathy, an institutional level phenomenon elaborated in section "5.3.5 Institutional Managerial Apathy", decreases optimism and increases the tendency for the satisficing threshold to be lowered ceteris paribus. Institutional Managerial Apathy influences people to lose hope in the institution of which they are a part of and this increases effort satisficing tendencies as high up as at the institutional level of analysis. For instance, people in clinics required to implement OIs may lose hope and reduce their satisficing threshold as a consequence of apathy they have observed within the provincial healthcare system which their clinics form part of.

3. High leadership commitment: This determinant, high leadership commitment to the OI, a generally organizational level phenomenon, influences to raise the satisficing threshold of people in organizations ceteris paribus. It influences effort-exerting volitional entities in the leader's organization to raise their satisficing thresholds. It also influences the leader's

organization as a whole to raise its satisficing threshold. It influences at least by: communicating belief in potential implementation outcomes, generating a satisficing threshold reference to which members of the leader's organization compare and adjust their satisficing thresholds for better alignment, and establishing by leadership fiat that the leader's organization as a volitional entity should pursue the implementation in spite of the strain it would incur.

4. Good relationships: This determinant, good relationship between the entity requesting the OI to be implemented and the effort-exerting volitional entities required to implement the OI, a generally individual and organizational level phenomenon, influences to raise the satisficing threshold of those required to implement the OI ceteris paribus. This determinant influences by at least two modes:

    4.1. Trust: When the effort-exerting volitional entities required to implement the OI do not perceive the implementation as having clear long term benefits, a situation which lowers the satisficing threshold, good relationships mitigates the adverse impact through trust. The effort-exerting volitional entities required to implement the OI trust the entity requesting the OI to be implemented, so the implementation is carried out even though the effort-exerting volitional entities required to implement the OI do not perceive the benefits of the OI.

    4.2. Relationship maintenance: People tend to maintain good relationships with others so that others could help provide their social, economic and other needs. Relationship maintenance is therefore a mode of self-preservation. "Good relationships" as a Satisficing Threshold Determinant raises the satisficing threshold

by pitting the self-preservation objective of effort satisficing against relationship maintenance objectives. Sometimes pitting these two objectives against each other actually means pitting two modes of ensuring self-preservation against each other.

6.2.2.2 Some modes of cutting back on internal effort in EST for OIs

Cutting back on required internal effort is another mode of reducing effort satisficing behavior in the Effort Satisficing Theory (EST) which can be used to influence OI outcomes. Similar to the Satisficing Threshold Determinants, factors that are realizations of this mode were also identified in this Advanced Access implementation research. These include:

1. Scope reduction: Scope reduction of activities on which people expend effort on, a phenomenon which can originate at the organizational level, could result in their expending more effort on the OI. Scope reduction of the OI itself is also a principal means of achieving this. People would tend to effort-satisfice less if the scope reduction is appropriate enough. The resulting scope-reduced OI would then tend to have better implementation outcomes. An OI of too large a scope could on the other hand strongly increase effort-satisficing tendencies even to the point of dismissal of the OI, as identified in this Advanced Access implementation research.

2. Workload offloading channels: Workload offloading channels are another mode of cutting back on internal effort in OIs. This includes the use of avenues that reduce the effort exerted by the people who are most likely to satisfice on efforts, for instance, people who have a high workload. At least as found in this research, two types of workload offloading channels can be harnessed in OIs to improve implementation outcomes. These two are:

2.1. Technology: Technology could be harnessed to offload work from people. In this, technology is harnessed to reduce the workload of people and that in turn reduces their tendency to strongly effort satisfice. With this, effort exertion on the OI could be increased which in turn could lead to better implementation outcomes.

2.2. Collaboration: Collaboration could also be harnessed to offload work from people who are more likely to effort-satisfice, to others who are less likely to effort-satisfice in the OI. For instance, people who may find a particular piece of work in the implementation relatively easier and people who believe more in the outcomes of the OI could collaborate to take up some of the work of those who are more likely to effort satisfice, for instance those with very high workloads. With this, effort satisficing tendencies could be reduced and OI outcomes could be increased.

6.2.2.3 Effort Satisficing Theory (EST) explanations of OI outcome variance

The Effort Satisficing Theory (EST) for operational implementations' explanations of why operational implementation outcomes vary follows from the general form of the Effort Satisficing Theory (EST). Basically, implementations of practices require the exertion of effort. Strain in forms such as tiredness, illness and injury is incurred when effort is exerted. Strain is a principal instrument by which effort is assessed by people. People believe that large amounts of strain signal a threat to their self-preservation. People tend to satisfice on efforts as a consequence of their self-preservation imperative and their volitional capacity. They tend to strongly consider satisficing on efforts when the level of strain incurred or perceived to be incurred as a consequence of effort exertion due to an OI exceeds their satisficing threshold.

OIs with lower (higher) levels of effort satisficing behavior achieve better (poorer) implementation outcomes, ceteris paribus. The tendency to satisfice on efforts is influenced by both non-implementation process conditions and implementation process conditions. Non-implementation process conditions include conditions such as the level of effort already being expended on non-OI activities by the people needed to exert effort to implement the OIs during the time at which the OI is being implemented. Implementation process conditions include the extent to which the Effort Satisficing Theory (EST) modes by which the tendency for strong effort-satisficing behavior can be reduced were harnessed. The Effort Satisficing Theory (EST) predicts at least three modes by which the tendency for strong effort-satisficing behavior can be reduced and these include harnessing the Satisficing Threshold Determinants and cutting back on internal effort. OIs in which these modes of reducing the tendency for strong effort satisficing behavior are better harnessed achieve better implementation outcomes ceteris paribus.

In summary, non-implementation process conditions as well as the extent to which the modes of reducing effort satisficing behavior predicted by the Effort Satisficing Theory (EST) were harnessed in the implementation process explain some variance in OI outcomes.

6.2.2.4 Explaining and reducing unexpected OI dismissals and implementation conflicts

An elaboration of the Effort Satisficing Theory (EST) specific to OIs and which does not follow directly from the general form of the theory reveals that conflicts and unexpected dismissals of OIs may occur as a consequence of information asymmetry. This elaboration, which neither contradicts nor follows directly from the general form of the theory, was highlighted in section "5.3.8 Further Theoretical Constructions".

Essentially, information asymmetry arises from imperfect communication that in turn is a result of individuality and context specificity. This may lead to observers underestimating the effort which would need to be exerted by people required to exert effort to implement the OI when the OI is added to whatever they are already exerting effort on. In such situations, the people required to exert effort to implement it could dismiss the OI outright or the stage could be set for implementation conflicts. Implementation conflicts arise as the people required to exert effort to implement the OI strongly effort-satisfice to ensure self-preservation, whereas the people advocating for the OI strongly push for it. Organizational turnover could result in such situations.

The solution to reducing these conflicts and unexpected dismissals of OIs arising as a consequence of information asymmetry is therefore to communicate before implementing an OI, to effectively understand the effort-exertion context of people and use this in strategizing on how to harness the modes of reducing effort satisficing behavior predicted by the Effort Satisficing Theory (EST).

6.2.2.5 OI Effort-Satisficing as a consequence and antecedent of multi-level phenomena: The interaction of the institutional, organizational and individual level phenomena

In the Effort Satisficing Theory for OIs, different levels of analysis interact as can be observed from Figure 19. Phenomena arising from institutional, organizational and individual levels of analysis all interact to influence individuals who then respond with effort satisficing behavior which aggregate to determine outcomes in different levels of analysis such as the organizational and institutional.

In the Effort Satisficing Theory for OIs, people are the mediators of OI outcomes. Moreover, people as individuals seem to be the mediators. Institutional and Organizational phenomena generally don't seem to influence other institutional and organizational phenomena directly but rather, they influence people as individuals who undertake decisions and actions while exhibiting effort satisficing behavior which in turn influences other organizational and institutional phenomena. Figure 19 on the Satisficing Threshold Determinants illustrates this within the context of factors from multiple levels of analysis referenced in this research.

7 Discussion and Conclusion

Ambulation contingency, lack of prior appropriate technology, culture and the proposed Effort Satisficing Theory were found to account for the variation of processes and outcomes of operational implementations. In this section, I discuss these by explaining them with reference to contingency theory and institutional theory. The exception is the Effort Satisficing Theory, which is a theory on its own and consequently does not need to be explained with reference to another theory. I rather discuss its relation to other theories. I then present the limitations of the research and highlight some areas for further research.

7.1 Contingency Theory explanations

Contingency theory and its notion of fit and misfit (Donaldson, 2001; Sousa and Voss, 2008; Van de Ven et al., 2013; Venkatraman, 1989) can be used to explain the impact of task ambulation contingency and lack of appropriate technology. Contingency Theory as used within the OM field can also in part explain some of the findings on culture specifically those on culture orientation. Variance in Advanced Access implementation outcomes occurs due to variance in the degree of fit of Advanced Access with the antecedent clinic culture and electronic technology. Variance in implementation outcomes also occurs due to the variance in the fit between the degree of task ambulation and the mode of coping available to the clinicians and clinic administrative staff to cope with it.

Task ambulation was found to account for some variation in implementation outcomes. This finding was abstracted into the task ambulation contingency. Task ambulation contingency results in variance in outcomes of healthcare operational implementations in the contingency theory sense of fit. For effectiveness of operational implementations, the fit between the minimal

mode of coping with ambulation and the degree of ambulation is more in line with fit as interaction or moderation as presented by Venkatraman (1989: 424) and echoed in Sousa and Voss (2008: 706). This fit is much more obvious for the technological modes of coping with task ambulation in healthcare operational implementations. As per Donaldson (2001), intentional organizational rationality is one of the contingency theoretic means by which organizations seek fit to improve performance. Managerial selection (Donaldson, 2001) of the appropriate mode of coping with task ambulation in an operational implementation will result in better fit or poorer fit. This in turn will impact whether the organization's operational implementation will be more effective or less effective. Better fit as per the frameworks specified in this thesis in Figure 13 and Figure 14 results in better implementation outcomes.

Ambulation as a phenomenon is one of several manifestations of complexity, the heart of contingency theory and it has been explored in extant studies of which the work of Zheng (2007) seems relevant to my work. Zheng (2007) viewed ambulation from a task-technology fit perspective and explored it using regression analysis and structural equations modeling (SEM). Similar to my reasoning in this dissertation, Zheng (2007: 57) recognized in his work that fundamental properties of ambulation whose dimensionalization could effectively characterize ambulatory tasks are the spatial and temporal property. Zheng (2007: 185) generated a model that describes the ideal fit between task characteristics and functionalities of mobile technology. Unlike my work on task ambulation which focuses on its contingency effect in operational implementations, the essence of his model was to illustrate which mobile functionalities such as location tracking and text messaging were a better fit given a task characteristic such as time criticality. Better fit was conceived as resulting in better perceived usefulness. Of relevance to my work on task ambulation is the dimension of "duration" which I did not explicitly include in

my dimensionalization of the temporal property of ambulation but which Zheng (2007: 68) included in his work. This dimension did not explicitly manifest as very important in the cases I studied, however, such a dimension could be important in future research which elaborates the ambulation contingency in operational implementations.

Lack of appropriate prior technology findings can also be explained within the contingency theory perspective. Effective Advanced Access implementation ideally requires a clinic with an integrated patient scheduling Electronic Medical Record (EMR) system capable of tracking delays and generating a report on the number of "no-shows" in a period. This is an operational implementation technological contingency fit. Clinics without such a technology are a misfit and this results in implementation challenges. As such clinics creatively work around the challenges, variation in implementation process and outcomes occur. Processes such as clinicians' use of "paper card systems" to notify administrative staff of desired appointment windows emerge. Variance in implementation outcomes such as extent of implementation emerge.

Effective Advanced Access implementation also fits with a specific clinic cultural orientation. Clinics with an organized public calendar culture and a culture of administrative staff booking appointments for clinicians are the best fit. Clinicians in these clinics do not have a strong shared value of privacy and independence of appointments. Misfits occur when the clinics attempting to implement Advanced Access are not oriented towards this enabling culture. This results in implementation challenges and the attempts of clinics to overcome these results in variance in implementation processes and outcomes.

In summary, Advanced Access implementation ideally requires the implementing clinic to have a specific profile. The ideal profile required is:

- A clinic with a patient scheduling EMR system capable of tracking delays and generating a report on the number of "no-shows" in a period.
- A clinic with low degrees of task ambulation.
- A clinic with an organized public calendar cultural orientation
- A clinic with a culture of administrative staff efficiently booking appointments for clinicians
- A clinic with low-workload

Profile deviations (Blome et al., 2014; Sousa and Voss, 2008; Venkatraman, 1989) of the implementing clinic from this ideal profile results in a misfit. This misfit results in implementation challenges. Variation in implementation processes occurs as clinics creatively try various adaptations to overcome these challenges. Variation in the extent to which clinics easily overcome these challenges results in variation in the Advanced Access implementation outcomes.

7.2 Institutional Theory explanations

Institutional theory, whose core purpose according to Suddaby (2010: 14) is to enable us understand how organizational structures and processes acquire meaning and continuity beyond their technical goals (Suddaby, 2010: 14), can explain at least some of the culture findings. However, although it was one of my initial theoretical frames prior to data collection, its instrumental utility in explaining my other findings which Contingency Theory and the Effort Satisficing Theory (EST) explain seems quite limited just as Suddaby (2010: 14) predicted. I will therefore focus the discussions here on its explanation of the culture findings.

Institutional theory predicts that organizations may exhibit path dependence (Scott 2014: 144-145). Prior to adoption of Advanced Access mental health clinics in my dataset had an institutionalized work culture characterized by:

- privacy of therapists appointment calendars
- high autonomy of therapists regarding their schedule
- absence of a minimum number of new appointments to be seen in a week within the institutionalized standard of 22 appointments per week
- high flexibility of therapists' client appointment schedule times
- a value of early start of the therapeutic relationship, commencement of the clinical engagement process with the first appointment scheduling phone call
- an attitude of focusing on the client currently being seen rather than the wait-time of clients yet to be seen

This work culture had resulted in some habitualized behavior (Scott, 2014) among therapists. Implementation of Advanced Access however required that this work culture be abandoned in favor of what seemed an opposite culture. Path dependency on the existing culture made deinstitutionalization of the existing culture challenging.

Advanced Access implementation teams drew on functional pressures (Scott, 2008; Scott, 2014: 167) to deinstitutionalize the antecedent culture by advancing rationales for implementing Advanced Access. These rationales included how much time therapists would save if they allowed their calendars to be public for administrative staff to schedule into those calendars. However, therapists exhibited agency by resisting these as predicted by Scott (2014: 149). Their rationales included appropriateness logics based on the value of starting the therapeutic

relationship with the first phone call. In this, there was a change in the meaning of administrative scheduling from efficiency to client disservice. Therapists believed that they would be doing their clients a disservice by allowing administrative staff to make the phone calls to schedule clients into therapists' calendars. Therapists' rationales also included myths, for instance, that the publicity of their calendars was being sought for audits.

Some Advanced Access implementation teams countered this through the process of communication and objectification (Scott, 2014: 148). For instance, some teams analyzed and made charts of their client wait-times and showed it to therapists as objective proof that wait-times were actually decreasing for the therapists who had changed their work culture. The extent to which the resistance to culture changes was easily overcome contributed to variance in implementation outcomes.

In summary, path dependence on the antecedent culture prior to adoption generated "interest group resistance" (Scott 2014: 149) to culture change during implementation. Variance in implementation processes and outcomes occurred as a result of variance in therapist-resistance to culture change as Advanced Access was objectified and sedimented in clinics.

7.3 Effort Satisficing Theory (EST) discussions

I turn to discuss Effort Satisficing Theory, specifically by highlighting how it differs from some established management theories and the contributions of existing theories and research in psychology and management to it. I also briefly highlight its macroeconomic contributions, especially insights it sheds on the century-old debate between Keynesian economics and Hayekian economics on blaming animal spirits and interest rates on economic underperformance.

7.3.1 Comparing and contrasting the Effort Satisficing Theory with other theories

In this section, I succinctly compare and contrast various aspects of the Effort Satisficing Theory (EST), at least in its current nascent state, with the Bounded Rationality Theory (Riley, 2007; Simon, 1972; Simon, 2000), Contingency Theory (Donaldson, 2001; Sousa and Voss, 2008; Van de Ven et al., 2013), Institutional Theory (Kauppi, 2013; Scott, 2008; Scott, 2014) and Resource Based Theory (Barney, 2012; Barney and Clark, 2007). Table 12, Table 13 and Table 14 illustrate some similarities and differences between the Effort Satisficing Theory (EST) and these prevailing management theories. The tables reveal how each of the theories including the Effort Satisficing Theory (EST) complements rather than opposes the other grand management theories. Together, they provide a powerful theoretical frame for managing organizations and economies.

Dimensions of comparison	Bounded Rationality Theory	Effort Satisficing Theory
Common Notion	Satisficing	Satisficing
Maturity Level at 2014	Decades old and precursor to Effort Satisficing Theory	Nascent
Focus	Rationality	Effort Exertion
Fundamental Mental Assertion	People settle for a satisfactory rather than the best process and outcome of a mental task because: (1) There are constraints on the information gathering and processing capacities of people. (2) People may have incomplete information about decision inputs, alternatives and consequences. (3) Information processing tasks may be so complex as to exceed the information processing capacities of people.	People may or may not have the information gathering and processing capacity required for the best process and outcome of a mental task in any given situation. However, even when they have the capacity, they may still satisfice on the mental effort required and settle for a satisfactory rather than the best process and outcome of the mental task because of: (1) Volition and (2) Self-preservation.
Limitation: Type of Effort	Limited to Mental Effort	Unlimited: Includes Mental Effort, Physical Effort, Financial Effort, etc.
Mode of improving the mental task outcomes of satisficers	Influence and use factors external to the satisficer. For instance, design the environment of the satisficer and harness technology such as heuristics.	Influence and use both the internal state of the satisficer and factors external to the satisficer. For instance, harness the Satisficing Threshold Determinants, the Strain Rate Determinants, and cut back on internal effort by the use of technology and collaboration.
Mode of Reducing Satisficing on Mental Effort Exertion	Seems none	Harness the Satisficing Threshold Determinants and the Strain Rate Determinants

Table 12: Bounded Rationality Theory and Effort Satisficing Theory compared

Theory	Some factors explaining implementation outcomes of OIs
Contingency Theory	Fit between OIs and high inertia variables, contingencies.
Institutional Theory	Impact of path dependency on OIs as well as OIs impact on legitimacy and organizational isomorphism with institutional environments.
Effort Satisficing Theory	Human behavioral effort-satisficing tendencies in the implementation of OIs.

Table 13: Contingency, Institutional and Effort Satisficing Theory factors explaining implementation outcomes of OIs compared

Theory	Organizational performance assertion
Contingency Theory	Increased performance is derived from ensuring fit between various aspects of an organization.
Institutional Theory	Increased performance is derived from ensuring organizations are legitimate and isomorphic with their institutional environments.
Resource Based Theory	Increased performance is derived from ensuring organizations have valuable rare inimitable non-substitutable resources.
Effort Satisficing Theory	Increased performance is derived from ensuring effort satisficing tendencies are reduced within an organization, for instance, by harnessing the Satisficing Threshold Determinants, Strain Rate Determinants and modes of cutting back on internal effort.

Table 14: Organizational performance assertions of Contingency, Institutional, Resource Based and Effort Satisficing Theory compared

7.3.2 Contributions of extant theories and research to EST

Earlier, I presented a sample of phenomena and theories from the psychology, management and economic literature which impact effort-exertion. I now relate them to the Effort Satisficing Theory (EST) to show the contributions of existing research to EST. I present the link between these and EST by highlighting examples of satisficing threshold determinants they suggest. A number of the established theories I relate to EST in Table 15 elaborate on specific satisficing threshold determinants so they can be classified as theories of satisficing threshold determinants. These theories enrich and elaborate EST.

Theory/Phenomenon	**Some Suggested Satisficing Threshold Determinants**
The Perseverance Effect	Prior beliefs of effort satisficers.
The Self-Fulfilling Prophecy	Expectations of effort satisficers.
The By-Stander Effect	Effort exertion level of people in the immediate social environment of effort satisficers.
The Over-Justification Effect	Prior task-contingent rewards given to effort satisficers.
The Looking Glass Self	Psychologically primed audience in effort satisficers.
Social Comparison Theory	Exposure of effort satisficers to high-effort exerting people and type of self, usual or ideal self, focused on during exposure.
Self-Completion Theory	Threats to identity of effort satisficers.

Theory/Phenomenon	Some Suggested Satisficing Threshold Determinants
Self-Evaluation Maintenance Theory	Extent of effort exertion of relational ties in activities relevant to the self-concept of effort satisficers.
Equity Theory	Extent by which effort satisficers perceive inequity in their rewards relative to the rewards of others exerting similar effort.
Goal Setting Theory	• Presence of specific, challenging and acceptable goals to effort satisficers. • Feedback on goal-attainment progress. • Supportiveness. • Presence of goals that are set with effort satisficers' participation.
Expectancy Theory	Outcome expectancy.
Cumulative Prospect Theory	Outcome value.
Picoeconomics or Hyperbolic Discounting Theory	• Delay of reinforcement. • Time sensitivities of effort satisficers.
Need Theory	• Effort satisficers' needs for affiliation, achievement and power. • Reliability of environmental cues in predicting outcomes of effort-exertion.

Theory/Phenomenon	**Some Suggested Satisficing Threshold Determinants**
Temporal Motivation Theory	Delay of reinforcement.
Keynesian Macroeconomic Theory	Extent of confidence in the economy (Animal Spirits).

Table 15: Some satisficing threshold determinants suggested by extant research

7.3.3 EST macroeconomic contribution highlights

EST has potential in the field of macroeconomics. In this section, I highlight two contributions to illustrate this potential namely:

- Insights it sheds on the century-old debate between Keynesian economics and Hayekian economics.
- Insights it sheds on effective deployment of fiscal policy, especially in emerging economies.

The Keynesian and Hayekian schools of macroeconomics have been locked in a century old battle (Flanders, 2012; Papola, 2010; Papola, 2011). Part of the debate is about what causes economic underperformance and what needs to be done (or not done) in times of economic underperformance (Flanders, 2012; Papola, 2010; Papola, 2011). There is disagreement with the Keynesian school asserting that low "animal spirits" (confidence in the economy) causes economic underperformance while the Hayekian school asserts that interest rate distortion through the use of monetary policy causes economic underperformance. The Keynesian school asserts that fiscal policy needs to be deployed in times of economic underperformance to stimulate the economy while the Hayekian school asserts that the deployment of fiscal policy will only result in more debt. The Keynesian school advocates for government intervention in the economy while the Hayekian school advocates for government to step back and not intervene and to allow markets to self-equilibrate.

Within the Effort Satisficing Theoretic lens, the Keynesian and the Hayekian arguments are simply two sides of the same coin, both correct but incomplete.

Within EST, the Keynesian argument of low "animal spirits" being responsible for economic downturns is simply a "satisficing threshold determinant" argument. When animal spirits (confidence in the economy), an example of a satisficing threshold determinant is sufficiently low, the satisficing threshold for pursuing economic activities drops. Economic agents consequently strongly tend to consider satisficing on economic effort exertion. Some economic activities which would have formerly being pursued are no longer pursued because the strain incurred is greater than the satisficing threshold strain (see Figure 16 and related explanations). The economy moves into (or continues on) in a state of recession.

Within EST, the Hayekian argument of interest rate distortions being responsible for economic downturns is simply a "strain rate determinant" argument. When interest rates, an example of a strain rate determinant, are sufficiently low, the strain incurred for pursuing economic activities drops. Economic activities requiring larger amounts of economic effort are pursued since the incurred strain would be below the satisficing threshold strain of economic agents. However, in the event the low interest rate was artificial, as Hayekian economics points out, the low interest rate tends to be unsustainable and consequently the interest rate rises. Within EST, the now higher interest rate results in higher incurred strain for economic activities. If the risen interest rate is sufficiently high, the incurred strain for pursuing economic activities exceeds the satisficing threshold strain. So again, similar to the low animal spirits result, economic agents strongly tend to satisfice on economic effort exertion (again, see Figure 16 and related explanations) and the economy moves into (or continues on) in a state of recession.

The insight yielded by EST to the century old macroeconomic debate is that both animal spirits and interest rate distortion result in economic underperformance.

Another question on the debate is about fiscal policy, whether governments should intervene or not. Keynesianism (Flanders, 2012; Papola, 2010; Papola, 2011; Skidelsky, 2010) tends to strongly advocate intervention whereas Hayekian economics (Flanders, 2012; Papola, 2010; Papola, 2011; White, 2010) strongly discourages government intervention. EST suggests that the essential question is not whether to intervene or not but rather how to intervene. EST suggests that prudent government intervention by permanently cutting back on internal effort exertion for economic agents in the long run, would result in a better performing economy and the costs of intervention would be recovered, the hope of Keynesian economics.

EST suggests that deployment of fiscal policy is just an application of "modes of reducing satisficing tendencies". It is specifically an example of "cutting back on internal effort". As per Keynesianism, fiscal policy is deployed to generate demand and increase animal spirits. In EST, this implies generating demand in the economy which in turn reduces the internal effort exertion of economic agents such as sales people and producers. This in turn generates a feedback effect to boost confidence in the economy thus raising the satisficing threshold. Fiscal policy deployment thus enhances economic performance directly by cutting back on internal effort of economic agents and indirectly raising the satisficing threshold. The key insight from EST however is that since fiscal policy creates debt as pointed by Hayekian economics, for fiscal policy to have a long term impact on the economy:

1. Fiscal policy must be deployed only in as much as its deployment
    a. permanently cuts back on the internal effort exertion of economic agents in the economy,
    b. permanently reduces the strain rate experienced by economic agents
    c. or permanently raises the satisficing threshold of economic agents.

2. Fiscal policy must be deployed only in as much as its deployment makes it recoverable, for instance, via ensuring a flourishing taxable private sector.

If both the conditions of permanence in cutting back internal effort, reducing the strain rate or raising satisficing threshold of economic agents, and recoverability are not met, the deployment of fiscal policy may have no long term impact or worse, just create debt in the long run as pointed out by Hayekian economics.

In emerging economies, an example of such a deployment of fiscal policy would be a deployment which reduces the costs of establishing, operating and managerially monitoring businesses. Some emerging economies could deploy fiscal policy for the construction of roads but EST suggests that it is where the roads are constructed rather than whether the roads are constructed or not which really matters. Are the roads constructed in locations to satisfy political and equity interests buttressed by an economic argument of increasing spending in the economy? Or are the roads rather constructed in specific locations where they would significantly ease economic effort exertion and which have significant economic activity to ensure the spending on the roads will be recovered by the marginal increase in economic performance?

Deployment of fiscal policy for the reduction of business transaction costs through for instance, streamlining property rights may also have a long term effect of reducing the effort of economic agents. Reasonable deployment of fiscal policy towards building such “soft infrastructure” rather than “hard infrastructure” may be more relevant to emerging economies. This is because, unlike “hard infrastructure” which tends to be more geographically restricted and tends to depreciate reducing its long term impact of significantly reducing effort exertion, “soft infrastructure” may have a more enduring effect on cutting back on internal effort of economic agents and raising

confidence in emerging economies. This could eventually sustainably increase economic performance.

As an example, contrary to what Keynes in his time first suggested on liquidity traps, the great liquidity trap of African economies in this time is not money trapped in the national banks of African countries as a result of the banks not lending because of low confidence at a time when monetary policy has been used to lower interest rates. The great liquidity trap of African economies is the huge amount of money trapped with the African diaspora and not being pumped into African economies because of low confidence of the African diasporean community in African economies due to problems such as grassroots corruption. For instance, in a cash based economy (very common in Africa at this time of writing), cash is paid to an employee of a business and the employee then decides how much to pay himself and how much to pay the business. Moreover, the employee can negotiate with vendors for a higher price so as to be paid a cut of the difference. Such grassroots corruption lowers animal spirits both in the African diasporean and resident African investors and entrepreneurs. However, the large access to capital of the African diaspora is what makes their low animal spirits account for the great liquidity trap of African economies. Since animal spirits of the African diaspora will remain low as long as grassroots corruption abounds, EST rather suggests that fiscal policy should be directed at setting up payment and business banking systems which take the choice element accounting for grassroots corruption away from employee. African countries could direct fiscal spending to creating enduring innovative payment systems which permanently significantly reduce the grassroots corruption business risk (see Northern Rural Growth Program, 2013). With this, animal spirits, a fundamental satisficing threshold determinant in this case, would be raised thus

ending the great liquidity trap and ushering African economies into an age of rapid growth. Taxes received due to the rapid growth will then drive the fiscal deficit recovery.

7.4 Research limitations

This research is a qualitative research. Qualitative research is beneficial both for in-depth study of a phenomenon and in theory building (Eisenhardt, 1989; Eriksson and Kovalainen, 2008; Yin, 2009). Like all other qualitative research, its findings cannot be statistically generalized though they can be analytically generalized. Some findings such as institutional managerial apathy may also be specific to the industry researched, healthcare, as well as the geographical location in which the research was conducted, Canada. Findings such as the impact of culture as pointed out earlier may be specific to institutional environments similar to those in which that finding was identified, mental health services.

The general Effort Satisficing Theory proposed in this research is very broad and seems limited only by its universe of applicability as pointed out earlier. Specifically, its application requires that there be: effort-requiring activities, volitional entities or people and self-preservation among the goals of volitional entities.

The Effort Satisficing Theory for operational implementations is limited by all the requirements that limit the general Effort Satisficing Theory in addition to the fact that it is specific to the domain of operational implementations. The factors identified in this research such as change fatigue used in elaborating the Effort Satisficing Theory for operational implementations may also exhibit context sensitivity such as industry, geographical and temporal sensitivity. Different factors could emerge to be more relevant in other contexts.

7.5 Future research directions

Ambulation contingency may be a fruitful area for future research. For instance, aside task ambulation, what other dimensions of ambulation plague operational implementations in healthcare? In what other ways, aside from those I have identified, are healthcare organizations coping with task ambulation contingency in the course of operational implementations?

7.5.1 The Effort Satisficing Theory Research Program

The Effort Satisficing Theory also presents a very fertile research program to researchers, "understanding, predicting and acceptably influencing effort-satisficing behavior and its impact on phenomena such as operational outcomes, organizational performance and economic performance". The research fertility (Kuhn, 1998: 436; McMullin, 1998: 527-528) of the theory lies in the fact that its focus, effort-satisficing, is fundamental to human behavior within the domain of applicability of the theory. This domain of applicability, the universe of the theory, as I have previously stated is bounded by the two conditions below:

- Volition condition: Volition in entity action exists.
- Self-preservation condition: Self-preservation exists among the goals of the volitional entity.

If either or both of these two conditions is violated in a given situation, the Effort Satisficing Theory cannot be effectively applied. It is consequently important to first check whether the situation concerned simultaneously satisfies these two conditions before applying the Effort Satisficing Theory. For instance, for people, at the limit, a way to check if the self-preservation condition is satisfied is to identify whether they are willing to die in the pursuit of an activity. People willing to die for a cause such as suicide bombers and people embarking on hunger

strikes clearly violate the self-preservation condition. The Effort Satisficing Theory cannot be effectively applied to their situation as they fall outside the domain of the theory.

Human behavior is native to organizations, institutions and economies. Organizations and economies are generally made up of people exerting effort to achieve some outcomes. The fundamental assertion of the General Effort Satisficing Theory that the best outcomes desired in organizations, institutions and economies might not be achieved due to effort-satisficing behavior is very relevant to studies of their performance. This fundamental assertion is implicit in the "hard core" (Lakatos 1968-1969; Lakatos, 1970) of the general Effort Satisficing Theory, its fundamental proposition that sub-optimal effort exertion might obtain as a consequence of volition and self-preservation. The pragmatic utility question which emerges from this is that: given that volition and self-preservation would be cherished and people would not accept to abandon these, in what acceptable ways can the tendency for sub-optimal effort exertion be effectively reduced to enhance performance? There is the need to better understand the process of effort-satisficing, and the various triggers and influence levers inherent within the process which can be pulled to effectively reduce effort-satisficing behavior in an acceptable way. The three modes of reducing effort-satisficing predicted by the theory, by which the tendency of not achieving desired best-outcomes can be in turn reduced are important to improving organizational, institutional and economic performance. The Effort Satisficing Theory therefore presents an interesting area for further research at least on organizational and economic outcomes. Specifically, the broad areas for further research in the Effort Satisficing Theory (EST) research program include:

- Translation of "The General Effort Satisficing Theory" into different domains.

- Elaboration of the theory in those domains by identification of what the Effort Satisficing Theory (EST) theoretical terms of "Satisficing Threshold Determinants", "cutting back on internal effort" and "Strain Rate Determinants" map to in those domains.
- Elaboration of the theory by studying effort-satisficing behavior and showing the interrelationships between the mapped phenomena and how they co-influence to impact satisficing and thereby performance.
- Advancement of the theory by importing, creating or tweaking-imported terms relevant to enhancing the explanatory and predictive power of the theory in those domains while maintaining its fundamental proposition.
- Theory testing of translations of the Effort Satisficing Theory (EST) in each domain through empirical research and analytical methodologies such as simulation then summarizing the results into useful feedback for theory building.
- Further theory building by harnessing the creative and analytical faculties to use the feedback from theory testing to refine, elaborate and expand the theory while maintaining its fundamental proposition.
- Applications of the theory in different domains to predict and solve problems, including organizational and global economic performance problems.

The Effort Satisficing Theory (EST) research program presents researchers opportunities for future research while presenting practitioners solutions to problems of interest to them. As a consequence of translation of the theory into different domains, different domain-specific strands of the theory may emerge. For instance in this thesis, I have pioneered the "Effort Satisficing Theory Applied to Operational Implementations". Future research would need to keep the "hard core" (Lakatos 1968-1969; Lakatos, 1970) of the theory, its fundamental proposition that

"volitional entities tend to satisfice on efforts" due to self-preservation, intact. This core will ensure focus and will unite the different domain-specific strands of the theory across all researchers and practitioners who contribute to the advancement of the theory and its application.

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Appendix A: The Provincial Advanced Access Program

In its efforts to increase healthcare accessibility, provincial health authorities in Canada embarked upon implementation of an Advanced Access program, herein also referred to as the program, in clinics and hospitals within the province. The province took a structured approach to Advanced Access implementation with a focus on patient access to care, practice efficiency and clinical care improvements. The program did this by means such as helping physicians and their clinical and administrative teams to: reduce wait times, improve office efficiency and improve clinical care through initiatives such as improving patient care continuity. Various measures about these in Table 16 were entered and tracked by clinics in Microsoft-Excel spreadsheets prepared by the program management. The provincial health authorities provided resources in the form of funding for the Advanced Access program. The funding covered areas such as:

- Provision of primary care network (PCN) support and covering attendance costs of Advanced Access learning collaboratives for clinics.
- Support for Advanced Access implementation faculty who via learning collaboratives taught clinics what Advanced Access was all about and supported them with Advanced Access information sharing via reading materials, Advanced Access implementation progress reviews and problem solving.
- Support for Advanced Access implementation facilitators who were assigned to clinics to help with: setting goals, collecting measurements and team development work among others.

Generally, each clinic participating in the Advanced Access implementation program sets up a core implementation team. The professional roles of the members of each clinic's core implementation team are diverse and may include roles such as: clinic managers, physicians, therapists, administrative clerks, etc. The core implementation team attends learning collaboratives, also known as learning sessions, with the core implementation teams of other clinics. There are about six such learning collaboratives, each focusing on some different topic within the program. Some topics focused on within the learning collaboratives include:

- Process mapping and Value Stream Mapping (VSM): mapping out processes, identifying bottlenecks to work and patients, and identifying and maximizing value-adding-time, known to core AA implementation teams as "red zone time".
- Tactical capacity management: matching supply of appointments with demand for appointments.
- Just-in-time: reducing or eliminating any current backlog of work that could impede patient access to healthcare.
- Variation reduction: minimization of the number of different appointment types.
- Forecasting and capacity planning: developing pre-determined plans for anticipated demand surges and care supply loss such as from physician vacations.
- Demand management: reducing demand which results in no-shows via service contracts and using appropriate chronic patient management approaches, such as carving out patients to chronic management nurses, to influence physician demand.
- Lean office flow: efficient management of the flow of documentation across the clinic.
- Change management: management of change and innovation, including the use of the Shewhart cycle approach known to core implementation teams as PDSA.

- Clinical outcomes measurements.

Learning collaboratives, which generally take the form of a workshop, can last about two days, can involve about twelve core implementation teams and are spread out over the formal structured Advanced Access implementation period which can be as long as fourteen months. The core implementation team is principally responsible for implementing Advanced Access in their clinic based on insights from the learning collaboratives. It is also principally responsible for communicating to members of their clinic anything learnt during the learning collaboratives that may be relevant to their specific clinic's Advanced Access implementation. Members of the core implementation team do all this on top of their regular work routines in the clinic. The Advanced Access implementation facilitators help the core implementation teams all along, sometimes taking up leadership in the core implementation team during very challenging times. Generally, these Advanced Access implementation facilitators are available to their assigned clinic for a term spanning the beginning to the end of the structured Advanced Access implementation period although some do voluntarily maintain collaboration with the clinic after the end of this term.

Each clinic core implementation team sets its own goals and strategies choosing from the menu of goals and strategies they learn during the learning collaboratives as well as goals and strategies they develop themselves based on their unique circumstances. The clinics then implement Advanced Access and write progress reports, generally expected by the program on a monthly basis, which the program both uses to evaluate their implementation and provide them feedback on ways to overcome some of the challenges they are facing.

Appendix A: The Provincial Advanced Access Program

The provincial Advanced Access program works through clinics to achieve improved provincial healthcare access and efficiency measured through Third Next Available Appointment and cycle time metrics. It also works for improved care quality via improved provincial patient continuity, decreased provincial healthcare cost and increased primary care network (PCN) clinic revenues through effective time management.

Measure	**What it Means**	**Why It is Important**	**Who Collects/ Calculates**	**When to Collect/ Calculate**
Delay	The wait time for an appointment. A measure of the time between today and the day the third next "open space" appears on the schedule.	Provides feedback on the amount of time a patient has to wait to see the provider. Is also a measure of the success of backlog reduction.	Scheduler or office manager	Measure at the same time and day each week (e.g. Wednesday at 10:00 a.m.) for each provider.
Demand	The number of appointments booked today (calls, fax, email, walk-in, squeeze-in, follow-up)	Provides information on variation and better enables clinics to match supply with demand.	Scheduler	Daily for each provider using the EMR or a manual tally sheet.
Supply	A prospective measure of the number of appointment slots each provider has to offer each day.	Provides information on the planned number of appointment slots each provider has to supply. Used to look at the balance between supply and demand.	Scheduler or computer query	Daily
Activity	A retrospective measure of how many available appointment slots were used. This is a measure of provider productivity. Add scheduled appointments and squeezed in appointments, and subtract no-show appointments.	Provides information on how much work was completed each day.	Scheduler or computer query	Daily
Panel Size (Primary Care)	The number of unique individuals who have seen a provider in the practice for whom the provider has coordinated the	Panel size provides information about which patients and providers have a relationship. This measure helps the practice anticipate	Office manager using the computer	Monthly

Measure	What it Means	Why It is Important	Who Collects/ Calculates	When to Collect/ Calculate
	majority of care over the last 18 months.	demand.		
Caseload (Specialty Care)	The number of unique patients actively receiving care within a given twelve month period of time	Caseload size is an important tool for anticipating demand. This is a measure of how the new patients are divided. The goal is to achieve an equitable distribution between providers.	Office manager, using the computer	Monthly
Continuity	The count of visits by a provider's own patients to that provider, divided by the total visits by that provider's patients to the clinic. Continuity is measured retrospectively using patient visit information over the previous month. Continuity cannot be calculated until patient panels/caseloads have been defined.	Improvements in continuity leads to better patient outcomes, increased patient and provider satisfaction, decreased demand, decreased return visit rates and lower no show rates.	Computer	Monthly
No-Shows	The number of patients who fail to keep their scheduled appointments without notifying the clinic of their inability to keep the appointment prior to the scheduled time of the appointment.	Contribute to wasted appointment supply and non-productive provider and staff time, and result in re-work (the need to re-schedule the visit).	Scheduler or computer query	Daily or weekly

Measure	**What it Means**	**Why It is Important**	**Who Collects/ Calculates**	**When to Collect/ Calculate**
Cycle Time	A measure of the total amount of time a patients spends in the clinic from check-in to check out, including the amount of time spent at each step of the office visit	Provides information on office efficiency and patient flow, as well as the delay the patient experiences during the office visit.	One person assigned to record arrival and departure times, or assign the task to the patient, who records times for each step on a form as he/she moves through the clinic.	Measure for approximately 5 patients per physician per day during one week. Collect cycle time data at regular and peak demand periods.
Teamwork	A measure of the team's state of health	Identifies teamwork needs, and allows the team to develop as they adapt to the changes taking place.	Every team member	Early on, as a baseline measure. Periodically thereafter.

Table 16: Summary of Tracked Advanced Access Measures

Appendix B: Tabulated findings on barriers and enablers

In this section, I present tabulated findings on barriers and enablers as responsible for variation of processes and outcomes in Advanced Access implementation as found in the course of the Cross-Case Analysis described in the research methods chapter.

Table 17 gives a picture of the reasons behind Advanced Access implementation process and outcome variation across clinics. Table 17 shows various Advanced Access elements (AA element), clinics (cases) and barriers and enablers found within the implementation of those elements in those clinics.

As per the legend under Table 17, a check mark beside a theme indicates that that was an enabler in the implementation. A cross indicates a barrier in the implementation. A theme that is underlined indicates its impact was very significant in the implementation process. The table row titled “Throughout AA Implementation” means that theme is not tied to the implementation of any particular AA element but that the theme manifested throughout the whole AA implementation process in that particular clinic.

Some barriers and enablers found within the same case are related. For instance, in the implementation of the Advanced Access element “measurement and data collection” in Case 5, while “workload” almost caused the clinic to entirely quit the implementation and “unclear benefits” exacerbated it, “collaboration” mitigated it to enable the implementation proceed. I shed light on these inter-relationships within the findings chapter in the section titled “Main Thematic Findings” in which I developed the main findings of this research.

Table 17: Case-Element-Thematic Matrix indicating different barrier and enabler themes that manifested in different Advanced Access implementation elements across different clinics.

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
Process mapping				✓ AA implementation facilitators	
Cleaning up and re-organization of wait- rooms					
Clinic layout Improvement					× Funding ✓ Excursions ✓ Communication ✓ Scope reduction
Documentation streamlining					
Wait-time monitoring	× Cultural change × Attitude shift ✓ Communication		× Cultural change		× Personal relationships × Physical layout
Measurement and data collection	× Technology × Cultural change	× Technology × Workload × Leadership prioritization ✓ Personal relationships ✓ Trust	× Workload × Suspicion	× Workload ✓ Scope reduction	× Workload × Unclear benefits × Physical space limitation ✓ Communication ✓ Leadership commitment

Appendix B: Tabulated findings on barriers and enablers

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
					✓ Collaboration ✓ Implementation facilitators ✓ Scope reduction
Centralized appointment scheduling	× Cultural change × Technology	× High ambulation × Technology	× Cultural change × Interpretation × Technology ✓ Low ambulation ✓ Scope limitation ✓ Policy enactment		
Client service agreements					× Workload ✓ Technology
Visual access management		× High ambulation × Technology			
Workload analysis			× Timing × Turnover × Inadequate understanding ✓ Communication		
Centralized triage					
Institutionalized Quality Improvement Teams					
Idea boards (Kaizen boards)			× Disengaged staff		

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
			× Multiple cultural identities		
Care teams (Process teams)					
Backlog reduction					
Booking schedule appointment-type reduction				× Personal preferences ✓ Trust	
Continuity improvement					
After-hours clinic					
Cross training				✓ Career growth	
Vacation planning					
Just-in-time complete medicals booking				× Personal preferences ✓ Trust	
Set-up time reduction					
Efficient physician capacity utilization (CDM take up by Nurse)					✓ Career growth ✓ Presence of workload offloading channels
Three month rolling-horizon booking of complete medicals					

Appendix B: Tabulated findings on barriers and enablers

AA Element	Case 1 – MH Clinic (single site clinic)	Case 2 - MH Clinic (single site clinic)	Case 3 - MH Clinic (multi-site clinic)	Case 4 - PCN Clinic (single site clinic)	Case 5 - PCN Clinic (single site clinic)
Physician-Staff care meetings (Consensus Decision Making, an informal adaptation of "ringi" decision making)					
Physician lateness awareness					
Treatment room standardization					× Engagement × Personal preferences ✓ Communication
PCN enabled centralized special referrals					
Throughout AA Implementation	× Change fatigue ✓ Personal relationships ✓ Information brokerage ✓ Clear benefits ✓ AA implementation facilitators	× Institutional Managerial Apathy × Prior good access ✓ Personal relationships	× Inadequate preparation × Workload × Change fatigue × Culture shift × Institutional Managerial Apathy ✓ AA implementation facilitators	× Habits ✓ AA implementation Facilitators ✓ Information brokerage	× Workload × Engagement ✓ Personal hope for efficiency ✓ Intellectual stimulation ✓ Implementation Facilitators ✓ Low turnover

Legend:

- ✓ = a check mark beside a theme indicates that that was an enabler in the implementation.
- ✗ = A cross indicates a barrier in the implementation.

_____ = A theme that is underlined indicates its impact was very significant in the implementation process.

Appendix C: Tabulated theme properties, dimensions and manifestations

Main Thematic Findings	Properties, Dimensions and Manifestations	Supporting Cases
Workload	1. High existing workload as an implementation barrier. 2. Future workload increase expectations as an implementation barrier. 3. Workload as coordination demands. 4. Workload as scope of implementation activity. 5. Workload as the effort required to perform an activity. 6. Workload as individual-context dependent. 7. Workload as organizational-context dependent. 8. Workload as resource dependent. 9. Workload as dynamic. 10. Workload as a reprioritization determinant.	1. Mental Health Clinics and PCN Clinics (Case: 2, 3, 5) 2. Mental Health Clinics (Case: 3) 3. PCN Clinics (Case: 5) 4. PCN Clinics (Case: 5) 5. PCN Clinics (Case: 5) 6. PCN Clinics (Case: 5) 7. PCN Clinics (Case: 5) 8. Mental Health Clinics and PCN Clinics (Case: 3, 5) 9. PCN Clinics (Case: 5) 10. Mental Health Clinics (Case: 2)

Appendix C: Tabulated theme properties, dimensions and manifestations

Main Thematic Findings	Properties, Dimensions and Manifestations	Supporting Cases
Ambulation	1. High degree of ambulation as an implementation barrier. 2. Degree of ambulation as having a temporal quantity (temporal frequency) dimension. 3. Degree of ambulation as having a temporal uncertainty dimension. 4. Degree of ambulation as having a spatial quantity (number of locations) dimension. 5. Degree of ambulation as having a spatial uncertainty (locational uncertainty) dimension.	1. Mental Health Clinics (Case: 2) 2. Mental Health Clinics (Case: 3) 3. Mental Health Clinics (Case: 2, 3) 4. Mental Health Clinics (Case: 3) 5. Mental Health Clinics (Case: 3)
Cultural Change	1. Cultural change as an implementation barrier.	1. Mental Health Clinics (Case: 2, 3)
Technology	1. Lack of adequate technology as an implementation barrier. 2. Technology development problems as an implementation barrier. 3. Low technology familiarity as an implementation barrier. 4. Technology as a means to reduce workload impact and enable implementation.	1. Mental Health Clinics (Case: 1, 2) 2. Mental Health Clinics (Case: 3) 3. Mental Health Clinics (Case: 1, 2) 4. PCN Clinics (Case: 5)

Main Thematic Findings	Properties, Dimensions and Manifestations	Supporting Cases
Institutional Managerial Apathy	1. Institutional Managerial Apathy as an implementation barrier 2. Institutional Managerial Apathy in terms of assigning managers to clinics. 3. Institutional Managerial Apathy in terms of defining feasible workload for managers for managerial effectiveness. 4. Institutional Managerial Apathy as institutional leadership not pushing the need for effective standard technology across the institution to reduce implementation barriers.	1. Mental Health Clinics (Case: 2, 3) 2. Mental Health Clinics (Case: 2) 3. Mental Health Clinics (Case: 2) 4. Mental Health Clinics (Case: 3)

Table 18: Case-Thematic Matrix summarizing the different properties, dimensions and manifestations of major themes in the Advanced Access implementations of different clinics

Explanatory note for Table:

The numbers on the column titled “Supporting Cases” correspond to the numbers on the “Properties, Dimensions and Manifestations” column to indicate the cases which support that property or manifestation in the research data.