Preface

OVERVIEW

This book is about a phenomenon found in many business situations, namely workarounds of accepted and even mandated Information Technology (IT) processes and systems by employees. We refer to this phenomenon as a Feral Information System (FIS). A FIS is defined as “an information system [computerised] that is developed by individuals or groups of employees to help them with their work, but is not condoned by management nor is part of the corporation’s accepted information technology infrastructure. Its development is [can be] designed to circumvent existing organisational information systems” (Kerr, Houghton, & Burgess, 2007, p. 142). Having regarded the definition of this phenomenon, the reader may ask, why compile a book on FISs, and why now? Indeed, what are FISs, to whom do they matter, and based on what set of measures? Are there coherent and agreed explanations of the causes and consequences of FISs? While well aware that the wider Information Systems (IS) literature had extensively explored topics such as workarounds and shadow systems and has generally viewed FISs as but one manifestation of these phenomena, we still felt unable to use this literature to answer our various questions to the depth that we required. Our interrogation of the existing literature revealed that it was difficult to locate a systematically coherent and integrated stream of thought and research specifically aimed at FISs as we understood them. We were also aware that many other researchers and practitioners interested in FISs found it difficult to create interest and gain support for further research precisely because these phenomena were viewed as being of marginal interest and importance. Finally, through our own research activities we became aware of large numbers of staff who had to work on a daily basis with advanced ISs yet felt they had no voice with which to express their concerns about problems they were having. In those circumstances, many of these staff concluded that they were left with no option but to develop FISs. Additionally, when we compared our research findings with those of others interested in FISs, we concluded that while the voices of many of these users may have been silenced, this quietening did not appear to stop the proliferation of FISs in a wide range of contexts. Furthermore, it became apparent that once FISs are established they are remarkably persistent. We concluded, therefore, that it was both important and timely to create a book which could draw together the wide strands of ideas and research that presently exist on FISs.
The overall aspirations of this book are twofold. First, to make it easier for those interested in knowing more about feral systems to locate most of the present and emerging ideas in a single source. Second, to provide a more clearly defined and better informed starting point for researchers, consultants, and practitioners who are eager to advance both their practical applications and theoretical understandings of these complex and challenging phenomena.

MANAGERIAL IMPLICATIONS

Using the term “management” in the title of the book gives some indication of how we believe at least one of the above questions—“to whom do FISs matter?”—should be answered. However, our primary purpose in developing this book has not been to provide definitive answers to specific questions; quite the opposite, in fact, as our guiding principle has been to encourage contributions from a wide range of authors with differing views in order to broaden our understandings of the topic of FISs. Suggesting an answer to the question above is the exception rather than the rule in the overall approach we have taken. Nonetheless, having declared our bias with respect to management, we wish to explain why we believe that FISs have particular implications for management. The first difficulty in providing an explanation is one of definition. Decades of research on the topic of management and, in particular, attempts to create greater definitional and theoretical clarity, have, in fact, created greater ambiguity. Eager to avoid entering into the complexities of this definitional debate, we present our justification through a few key points.

First, while management has always been considered important, it is since the 1980s that modern organisations have become increasingly dependent on managerial hierarchies to make decisions on the coordination and control of key economic activities. Second, the managers in these hierarchies have become increasingly reliant on information sources to make those decisions. While not wanting to make claims as to causal relationships, we do want to highlight a strong correlation between the rising importance of management and IS. Within roughly the same time period, electronic, corporate-wide ISs have assumed increasing importance by providing much of the data and information that managers need to make decisions. Third, and by way of conclusion, we have taken the view that given the increasing dependence of management on ISs to carry out many of their key tasks (e.g. decision-making), it follows that developments in ISs (whether they are effective or not) will have implications for management. Having moved down this line of reasoning, we also need to declare our other, strongly related, bias. We view ISs as one of many tools that are used by management to carry out their role, not as ends in themselves, and we are yet to be convinced that there can ever be “information solutions.” Under our conceptualisation of how modern organisations work, we argue that there can only ever be “management solutions” by which organisational success is linked to how effectively and efficiently management deploys various resources (including ISs) in the pursuit of strategic organisational goals. Unsurprisingly then, it is our contention that while the various chapters of this book explore FISs from different perspectives, the discussion associated with each chapter is also highlighting issues that have important implications for management.

Having declared our reasoning behind the title of this book, we wish to stress that in our role as editors our primary aim was to remain agnostic in respect to FISs. Therefore, while in this chapter we have made some comments as to our beliefs on the general themes involved in
FISs, we do not believe that our views should be privileged over others expressed elsewhere in the book. For that reason, we have taken the position that each chapter defines and defends its own argument. We offer no firm opinion as to how valid or otherwise we believe the arguments to be. We leave it to the readers to decide how convincing they find the arguments presented. This approach is consistent with our overall aim of widening discussion on the topic of FISs.

EDITORS’ MOTIVATION FOR THE BOOK

A brief account of our own journey towards FISs may help provide some insight into our personal motivation in editing this book. First, we have a genuine desire to reduce the cycle-time taken by researchers to locate knowledge on FISs so they can more quickly pursue their area of special interest within these phenomena. To some extent, this is self-serving as the more we can do to encourage others to create knowledge, the easier it will be for us to answer more of the questions we ourselves have about FISs. Our own realisations about the increasing existence and importance of FISs have emerged over six years. Initially much of our data was anecdotal, prompting hunches and more questions. Our first attempt to answer more complex questions on FISs floundered for several reasons, including our inability to easily locate a clearly organised and well-developed body of literature on the topic. It is our hope that new FISs researchers who read this book can take advantage of that six-year lead time we have spent grappling with the topic. Second, as mentioned, our ongoing discussions with researchers and practitioners over several years have made us aware that while many consider FISs to be an important topic worthy of greater investigation, they have become increasingly frustrated by the many barriers they have faced. Many have reported that they felt marginalised when they attempted to raise their concerns, or that the issues they did raise were not treated seriously. While it would be ludicrous to claim a book could remove such well-entrenched barriers, we are optimistic that it may reduce the intensity of resistance in some of those barriers. As already inferred in the comments made on the limited voice often given to users of IS systems, one of the biggest barriers is the present practice-theory divide. This book seeks to reduce that divide and give greater voice to those who feel they have hitherto lacked a vehicle by which to discuss their insights and concerns regarding FISs.

While the practice-theory divide is likely to remain a prominent issue for a considerable time, this book seeks to reduce it in a number of ways. First, several of the chapters provide empirical evidence that FISs do exist and that they represent persistent phenomena that can have profound consequences for both IS implementation and post-implementation effectiveness. This evidence comes from international case studies conducted across different organisational contexts. Second, there are explanations from a range of authors regarding what should be included in, and excluded from, the term FIS. We believe that providing greater definitional clarity is a key enabler in accelerating our collective understandings of, and providing strategic guidance for programmatic research into, the FIS phenomenon. Finally, and perhaps most critically, in the interests of developing and improving the FISs body of knowledge, various authors offer potential theoretical explanations as to the cause of, and remedies for, FISs. We are particularly interested in this final point because, despite the increasing body of evidence,
much of the mainstream IS theory development has not fully engaged in explaining why FISs continue to exist when modern organisations invest so heavily in IT designed to eliminate them.

Of course, we do not claim that this book contains comprehensive answers to all the questions we have raised about FISs, nor do we suggest it can solve many of the issues associated with FISs. As emerging areas of novel academic interest rarely produce instant consensus, it is hardly surprising that the various authors in this book should have their disagreements. Indeed, a review of the various chapters will quickly reveal subtle, but important, differences around issues such as what constitutes a feral system and what casual factors are involved. Despite these differences, however, there are many similarities to be found among the various authors on topics such as the importance of FISs and the need to develop more comprehensive theoretical explanations of these phenomena. Therefore, it is our contention that this book goes some way to increasing the collective understanding of FISs, and to progressing the development of a more comprehensive set of explanations as to their causes and consequences than has previously been the case.

OVERALL FRAMEWORK

As mentioned previously, the framework used in this book to explore workarounds and FISs within organizations is primarily from a managerial perspective. Management is the group that ultimately makes the decision to invest in large ISs in order to help them improve their effectiveness in running their organisations. Management is, therefore, one of the most significant stakeholders when it comes to IS. However, the framework used in this book is not exclusively “managerialist,” and some chapters suggest the need to move beyond this framework in order to be able to better understand FISs. Some chapters, therefore, focus on this workaround development from the perspective of an employee working in a large enterprise.

The chapters that take a large enterprise perspective tend to argue that workarounds are a necessary response to deal with issues such as a perceived inflexibility and lack of understanding associated with the implementation of Enterprise Resource Planning Systems (ERPSs). The dominance of this claim is hardly surprising given that ERPSs represent the most all-pervasive manifestation of ISs yet developed for large organisations and that similar views have been expressed in the wider ISs literature. The point of difference in this book compared to the wider literature is that this book seeks to put a much tighter framework around what is meant by FISs before investigating possible causes in a systematic manner. While various chapters offer different definitions of FISs, these variations tend to be minor and at the edges. As there is generally a convergence on many of the core concepts, the definition provided at the start of this chapter is considered useful in providing a coherent link between the variations in definitions offered throughout this book. It is suggested that when the term FIS is mentioned in a chapter but not specifically defined, the reader use the definition in this introductory chapter as a standard. Where a different definition is used, of course it is appropriate to stay with that definition in order to comprehend the argument being presented.
Other literature has referred to workarounds as shadow systems but these are usually looked upon in a negative light (Sherman, 2006) with the workaround considered to be undesirable and in need of “management.” Sherman (2006, p. 27) suggests that “they [shadow systems] often spawn data silos with the usual problems of inconsistency and quality.” Sherman also states:

*The fact is that business users do not want to spend so much time creating these systems. Nor should they. They should be spending their time gaining a better understanding of their business, not wrestling with technology. Because dealing with technology is not what business users do best, they cobble data shadow systems together without an overarching design. Each addition gets more difficult to implement and more costly to maintain. And when data management principles and disciplines aren’t followed, data consistency and integrity suffer.* (Sherman, 2006, p. 27)

This mindset leads to a dichotomous path of wanting to protect the formal information system and its data integrity by eliminating the shadow systems. Our investigations so far strongly suggest that FISs represent an approach that breaks out of this bi-polar view. While the reasons given for developing FISs are many, at the macro level of analysis the two recurring explanations appear to be that FISs are developed either through a lack of understanding of the functions of enterprise software or through a perception of inadequacy. At the micro level, our exploration suggests a wide range of motivations. At one extreme, employees develop FISs out of sheer desperation in order to get their work done. Because their organisations actively penalise employees who develop FISs, these systems are often developed in a covert manner. For these employees, running the risks associated with creating FISs generates an additional work stress. At the other extreme, there are employees who appear to relish the opportunity to develop an FIS. They appear to enjoy showing up the limitations of the main ISs and they gain kudos and recognition among peers for generating creative solutions for problems induced by the main ISs. A comprehensive understanding of the intrinsic motivations of the individuals and groups involved in developing FISs is therefore an area requiring greater investigation. As this book will reveal, there exists a wide range of views as to the causes of FISs as well as their virtues and vices. Our purpose in drawing attention to this range of views in a single book it to propose a need to reassess the role played by FISs in organisational life. We submit that the dominant, bipolar logic that has seen FISs as a threat needs to be challenged as it runs the risks of imposing an overly simplistic logic in decision making and on how ISs should be developed. As will be shown in several chapters that follow, the FISs which are developed in many cases are also beneficial to the organization, groups and individuals concerned.

**CHAPTER OVERVIEWS**

The book consists of 12 chapters and discusses a wide range of topics, all of which revolve along the central theme of FIS. Chapter 1 by Maddison looks at using workflow technologies as a metaphor for Critical Success Factors (CSFs). This chapter considers their use to improve the performance of major government IT projects, asking whether context can be ignored without
repercussions or whether it is highly significant. Using the United Kingdom, the author demonstrates that context limits the value of CSFs to a major government IT project and the question is raised of whether or not increased governance would be the answer.

Chapter 2 by Kerr looks at the extent of Feral Information systems in organizations and provides some insights to the possible reason for their development in relation to the user-resistance literature. The factors associated with FIS development relate to individual, system, organization, and process issues, and the relationships to each of these issues are presented in the context of existing research conducted in three different sites in three different countries, namely Australia, the United Kingdom, and Denmark.

In Chapter 3, King and Azad look at institutional analysis of persistent computer workarounds. They establish that computer workarounds are recognized in the IT literature but that little attention has been paid to their persistence. The persistent reality of some computer workarounds may be traceable to discordant top-down institutional environmental pressures and bottom-up influences of day-to-day operational work. These authors build on the constructs of neo-institutional theory to de-black-box the workaround as situated practices built upon institutional logics of work practices, power to decouple by social actors, and material constraints of work.

Chapter 4 by Koch and Kerr suggests that ERPSs continue to be an important change agenda in business. With a long-term development spanning 15 years, ERPSs have changed profoundly and have diversified into a number of businesses. This chapter initially addresses two major issues left aside in the IS research on ERPSs, namely technological content and time dynamics. Using two different reviews of journal articles from IS journals in 2004 and 2010, this chapter shows how IS research on ERPS delivers strong insight in social processes and conditions around ERPSs but largely disregards the content development of the ERPS technology. The authors contend that context and the ideals of ERPSs are often providing rapid and profound changes that many find hard to cope with.

Chapter 5 by Houghton and MacKrell looks at sense-making with respect to FISs and develops a conceptual framework on how FISs are part of a sense-making process for employees. The authors’ core argument lies in the notion of sense-making as a creation of a conceptual framework to explain disruptions in the flow of working life. As a response to disruptive ambiguity, those “making sense” often revert to causal explanations that help them come to grips with the situation at hand. The authors introduce a small case for discussion and conclude with a suggested pathway for future research.

Chapter 6 by Craig is written by a practitioner who makes the observation that many companies the world over have successfully implemented ERPS solutions. However, a large percentage of ERPS installations fail to hit the target of success, at least from the perspective of the clients involved. This chapter attempts to identify some of the reasons for these failures and to suggest possible solutions to enable companies to more effectively use ERPSs solutions and decrease the use of FISs.

Chapter 7 by Tambo, Olsen, and Baekgaard explores the motives for FISs development in Denmark. The authors suggest FISs have largely been regarded as the users’ response to a mismatch between official IT software systems and actual business processes. Inadequacies, discrepancies, and an absence of systems support to work processes might lead to users themselves initiating systems development: systems involving any combination of software and manual processes.
Chapter 8 by Spierings looks at what drives the End User to build a FIS. This chapter takes a slightly different approach from most other chapters. It draws on a mixture of history, social theory, and economics to provide a backdrop as to what drives the End User to build a FIS. The author presents preliminary results from his own case study research based on Structuration Theory.

Chapter 9 by Thatte, Grainger, and McKay looks at FIS development from the perspective of Merton’s Theory of Anomie. This chapter discusses the concept of feral IT practices that involve the use of information technologies that deviate from organizational norms and are conducted beyond the control of the organizational IT management. A conceptual framework based on Merton’s theory is proposed that suggests that feral IT practices are promoted by organizational structure by generating structural strain through mediation of certain technological and social influences.

In Chapter 10, Franchi, Poggi, and Tomaiuolo look at the use of social networks and how in the vast majority of cases social network platforms are used without corporate blessing, thus maintaining their status as FISs. This chapter provides some background notions about theories of participation in social networks, and it shows the role social capital plays in the participation of online social networking activities, in the various cases of Virtual Organizations, Virtual Teams, and online Networks of Practice. Finally, this chapter describes the present situation and some possible prospects, where social elements are being increasingly introduced into more traditional business systems, such as Customer Relationship Management systems (CRMs) and ERPSs.

Chapter 11 by Baekgaard, Tambo, and Olsen explores the architectural issues related to FISs. In this chapter, the authors observe that user-developed ISs add-ons can be found in many companies. Such IS add-ons are created for a variety of reasons, such as improved system flexibility, faster development time, better customization, and local data control. IS add-ons may represent a challenge for attempts to create and maintain company-wide enterprise architectures.

Chapter 12 by Burgess explores the meta-theoretical assumptions associated with FISs and enterprise resource planning systems. The author notes that ERPSs have been developed and implemented across the world for over two decades yet continue to experience serious difficulties, and that FISs frequently flourish after implementation. This suggests that our current conceptual understanding of how to achieve targeted benefits-realisation with ERPSs remains limited. The sources of these limitations can include taken-for-granted assumptions, conceptual restrictions, and the exclusion of certain types of knowledge imposed by the type of research paradigms used. Because the limitations in any body of knowledge can have profound implications for practice and theory development, it is important to gain a greater understanding of the role they play in matters such as how FISs are conceptualised and researched.

The Conclusion by Burgess, Houghton, and Kerr reflects on the range of theoretical, methodological, and applied issues that have been raised by various authors in the preceding chapters. It is argued that the range of views offered in the various chapters has demonstrated that our knowledge of FISs remains limited and that the theoretical explanations offered for FISs are widely contested. Under these circumstances, it will be necessary to conduct further research into many of the questions and issues raised throughout the book. To that end, this chapter then sets about outlining a potential research program. The program constructs a series of suggestions on how to make optimal use of this program in order to accelerate the development of the body of knowledge on FISs and to use scarce resources efficiently.
All chapters were double peer-reviewed, and revisions were made. However, due to the nature of this preliminary research area, this review process did identify several limitations with some of the chapters. These limitations were associated with the immaturity of the research at this point in time and the sometimes clandestine nature of FIS development, which makes purely quantitative evaluations very difficult. In addition, some chapters required an extrapolation of research paper outputs to practitioner outcomes. We took the view that such limitations are inevitable given our contention that FISs represent a largely under researched area. As the following chapters will demonstrate, the present conceptualizations of FISs are variegated in both appearances and causal explanations. At this point in time, we are of the view that our understanding of FISs is too underdeveloped to be able to make strong declarations as to the cause of FISs, let alone how deal with them. For these reasons, the aim of what follows in the various chapters is to give the reader access to the many insights offered by a diverse range of writers operating within different theoretical and research traditions. Our hope is that that once readers are armed with these insights, they will be able to make their own judgements on how matters will continue to unfold and decide on the most likely continuities, discontinuities, and ultimately, trajectories for FISs.

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REFERENCES

