Journal of the Operational Research Society (2007) 58, 1683–1686 0160-5682/07 $30.00

www.palgrave-journals.com/jors

Book Selection

Edited by U Aickelin

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E Coakes and S Clarke (eds): Encyclopedia of Communities of Practice in Information and Knowledge Management

Operations Management

T Hill

Palgrave Macmillan, 2004. 832pp. £34.99
ISBN: 1403934665

Operations Management by Terry Hill gives a very comprehensive coverage of every aspect in operations management, from principles and standards to techniques and modern approaches to managing all components in operations: people, services delivery, supply chain, manufacturing, inventory, marketing, and many more. This book gives an excellent overview of the exciting and complex field of operations management.

The book includes several features that contribute to enhancing the reader's learning experience. Among these features, it contains a comprehensive collection of real-world case studies with a list at the beginning of the book for easy reference. Also, the case matrix makes it easy to establish a mapping between the case studies and their relevance to the different topics covered. These case studies include discussions of several aspects related to operations management that readers will find very interesting. Reading this book is a pleasant experience enhanced by the peculiar characters and stories of the virtual company that the author uses to illustrate practices to avoid in successful operations management.

The content of this book is well balanced covering aspects at different levels: strategic, management and operational and the reader will benefit from this integrated approach. In this book, each topic is presented in a way that facilitates understanding. First, the concepts associated to the topic are presented and this is followed by discussion of how the topic is relevant in different departments (eg marketing, operations, IT, sales, finance, etc) of an organization.

The book offers detailed discussion of a number of topics. In particular, the presentation of 'Types of Manufacturing Processes' is very detailed and illustrative including traditional and innovative approaches, also, the chapter on 'Technology Developments' is full of useful insights into today's technology that is making an impact on how companies adapt their operations. The presentation on tools and techniques to undertake 'Quality Checks' is very good and illustrated with easy to follow examples. The chapter on 'Managing the Supply Chain' is full of contemporary, relevant and fascinating stories of how companies achieve success by improving their supply chain with the help of IT and Internet-based technologies. In contrast, 'Scheduling Tools' discussed in Chapter 10 include traditional approaches but no coverage of modern scheduling techniques is offered. Also, the chapter on 'Improving Operations' offers limited information as important techniques such as BPI (business process improvement) and BPA (business process automation) are not mentioned.

This book offers a modern perspective of operations management by discussing a number of contemporary topics such as flexible work patterns, impact of recent government legislation in operations management, global competitiveness, teleworking, call centres, and many others. Also, a highlight in this book is that it considers service and production sectors in both developed and emergent economies.

One aspect that is somehow weak in this book is that at times the presentation becomes too wordy and for some readers it might be difficult to locate the essential idea within a paragraph or a section. In contrast, some important topics such as staff appraisals are covered only briefly. Given the comprehensive coverage of this book, some readers will find that the depth of many topics is not enough but this will also prompt readers to investigate further. Another aspect in this book that could be improved is the summary section at the end of each chapter which at present only gives an account of what was covered in the book but does not present a summary of important concepts and approaches. I believe that readers seeking a comprehensive overview of operations management will be more satisfied with this book than those readers seeking an in-depth discussion of operation management techniques. Another small criticism of this book is that although the topics presented are contemporary, some of the photos and illustrations are rather obsolete.

Overall, Operations Management is a valuable resource for all students and academics interested in this field. In particular, this book is an excellent reference and entry point to all aspects of operations management. Its format and written style contribute to making reading this book an enjoyable experience. Of special value are all the illustrative real-world stories and case studies included in this book. The structure of this book is clear and easy to follow, with simple yet effective graphic designs (called exhibits in the book), funny and illustrative cartoons, and adequate font style.

University of Nottingham D Silva

Statistics Through Applications

D Yates, DS Starnes and DS Moore

WH Freeman, 2004. 600pp. £29.99
ISBN: 0716747723

Given the many statistic books that are around, it must be difficult to write a book on statistics that is able to find its niche in the market. This book aims itself at high school students (this view is reinforced by the fact that a school library borrowing card is printed inside the front cover) and presents itself as an introductory text. In this respect, it would find itself out of place as the text for a 'Statistics 101' undergraduate course. That said, it does provide a very good introduction to statistics for anybody who knows very little about the subject. Indeed, by Chapter 5 (about halfway through the book) we are exploring areas such as standard deviations and normal curves. By the end of the book we are examining confidence intervals and significance tests.

Bearing in mind the target audience, the book is well presented with lots (and lots) of examples and exercises. In just the first chapter (which ends on p 62), there are 79 exercises and 32 examples. The book also has many sidebars, which provide motivation and interesting facts. For example, why computer-generated random numbers are not really random, how the Pennsylvania lottery was rigged by making some of the balls heavier, and how an investment club in the US produced a best selling book based on the fact that they achieved returns of 23.4% when the overall stock market was only seeing returns of 14.9%. In fact, a mathematical mistake meant they were only making a return of 9.1%, but the income from the best-selling book had made them their fortune.

There are also many references to the Internet, which allows students to extend their investigations, as well as how to use a calculator to carry out standard statistical procedures.

The book comes with a variety of (optional) supporting material: Teacher's Resource Binder (ISBN: 0-7167-1262-8), Instructor's CD (ISBN: 0-7167-8934-5), Instructor's Solution Manual (ISNM: 0-7167-1266-0) and CD Test Item File (ISBN: 0-7167-1220-2). The text is also supported by a website (http://www.whfreeman.com/sta). Among other things, the data used in the book is downloadable from this site.

In summary, this book is likely to be of little interest to the readers of *JORS*. However, it is a very good book, which is very well presented. As an introductory text it is excellent. I would recommend it, if you ever find yourself teaching statistics to high school students.

University of Nottingham G Kendall

Metaheuristic Procedures for Training Neural Networks

E Alba

Springer-Verlag, New York, 2006. 261pp. £77.00
ISBN: 0387334157

Metaheuristics and artificial neural networks (ANN) are two very important sub-disciplines of artificial intelligence studies with which wide ranges of ill-structured and complex problems are tackled. Metaheuristics are used for optimization purposes, while ANNs are mostly exploited for modelling through mapping sets of inputs with sets of outputs. It is a great idea to bring both together to create highly skilled intelligent systems, which are widely elaborated herein this book.

The book consists of 11 chapters; each is reporting the performance of a particular metaheuristic to train mostly multilayer perception (MLP) models of ANN. The chapters are classified into four parts with respect to the common features of the metaheuristic employed. Although there is no separator within the book, the table of contents is organized to reflect that attempt. Part 1 comprises a single chapter, which is an introduction to classical neural networks, especially MLP, and well-known gradient-based training methods. Classification and modelling problems are illustrated in the experimental studies.

Part 2 consists of three chapters each focusing on a particular local search-based metaheuristics, namely simulated annealing, tabu search and variable neighbourhood search. All three methods are exploited to train MLP ANN instead of back propagation algorithms. Part 3 is devoted to population-based metaheuristics, namely genetic algorithms, scatter search and estimation of distribution algorithms. Likewise, these methods are also used for training of MLP models, and their performances have been tested against classical training methods. Finally, Part 4 is made up of four chapters each to elaborate advanced metaheuristics those may not be categorized with respect to their common features, but are hybridized and integrated methods formed up of multiple methods. The methods are namely, Ant colony optimization, cooperative co-evolutionary search, GRASP and memetic algorithms. The tackled ANN model is still MLP with all of these methods.

The strength of the book is its clear motivation to bring a new breath from metaheuristics into training of neural net-

works and integrate both sub-disciplines for the purpose of better exploitation of artificial intelligence approaches. However, since a sole model of ANN, that is MLP, is tackled, a reader who freshly entered the field may not completely benefit from the book for training of other more complicated ANN models such as Hopfield and Wavelength neural nets. The chapters mostly examine the methods with medical data sets, which might set a robust step into the field.

The most benefiting reader of this book will perhaps be those who research on modelling data with ANN faced with difficulty of robust mapping with classical training algorithms. Since the book brings a flavour from each of the metaheuristics forward, the researchers freshly step into the field of metaheuristics will take the advantages in most. It could be more useful if the practical issues of implementation were detailed in the chapters.

University of Aberdeen S Gazioglu

Encyclopedia of Communities of Practice in Information and Knowledge Management

E Coakes and S Clarke (eds)

Idea Group Publishing, 2006. 600pp. £157.96
ISBN: 1591405564

To put into one single container all available knowledge about some topics that appears is nearly an impossible task. It is as difficult as canning a bunch of worms or reintroducing 20 cigarettes into their original package. This is not to say, of course, that it has not or should not be attempted. The present authors have many predecessors—of which D'Alembert and Diderot may be the most famous. Many if not all have failed, however—or rather, have succeeded only partially. The present authors do not appear to become the exception, at least not as they aim high. The authors believe their work 'will become the leading reference source for dynamic and innovative research in the field of CoPs for information and knowledge management'.

If judged in terms of the effort the authors have put into producing the book they deserve being successful. They have collected more than 100 entries from many authors and from places all around the globe. Each paper is laid out following the same, well-defined structure. They start with an introduction, followed by background, future trends, conclusion, references, and key terms. This arrangement helps to rapidly identify where to look. For instance, one exercise I did was to travel through the key terms in different papers. This helped to find interesting links. It also helped demonstrate that the notion of 'knowledge' is unstable.

The authors claim that the book constitutes the largest collection of articles on this field. There seems little reason to doubt this. It may be the book's best feature. The problem the authors faced was of course to arrange the material. They identified seven major categories, which also include several sub-categories. My main concern is that there is no other explanation for the way these topics are selected than that 'categories consisting of related articles' (p xxiii). I would assume that the task of making such a large pile of papers accessible was taken more seriously than that. Now it appears that, in a sense, the ordering goes little further than that seven 'special issues' have been bundled. I would expect a more extensive discussion about how the information provided by the authors of the papers might be managed. This seems a missed opportunity. Although the articles are interesting, taken one by one, their combination seems somewhat senseless.

The problem probably is the authors' original idea. An encyclopaedia as a reference for dynamic research makes little sense to me. This kind of publication provides at best a static photograph at any moment in time about what is inside the boundaries of knowledge. In order to be dynamic something else should be done. For instance, Eco (1984) proposes three ways to organize knowledge. First, a linear approach, such as the Minotaur labyrinth; this is the approach of story telling or parables where a sequence is followed in order to provide some knowledge to the audience. Second, a maze like the gardens of Versailles' Palace where a path has several crossroads, some of them sending you to dead-end. Third, a rhizome, a more substantial notion developed by Deleuze and Guattari (1980), where the cutting process discovers/shows/unearths and links elements (cells) that were not related before. The first two approaches appear very useful to provide references from bridges to travels to the Moon. But when the notion of dynamics is considered, both fail due to a lack of flexibility—of 'requisite variety' in Beer's terms (1985).

To introduce dynamism involves making the user part of the search process. He or she must become able to aggregate things to the topic in focus, making the connections denser and the possibilities to interact richer. Waldrop (1994) would call the result 'complex'. This is not possible in a prefixed labyrinth (with one route), or a maze with several (but limited) routes. Here the notion of a rhizome is more to the point. It suggests the creation of (practically) infinite links, ensuring that the result of a search is never the same. It will depend on how the rhizome is cut, which determines how the user and the papers will interact and how additional variety is added by the user.

The question of how to access a large number of papers is very practical. On the one hand, what is available should be presented as an infinite set of possibilities, although based on a finite number of papers. On the other hand, users need to be able to pick what they want from this infinite set. This again is finite. Both together seem to constitute impossible tasks, but they are not. There is an interesting example: Wikipedia. Users are allowed to introduce new notions and thereby create a rhizome. Wikipedia thereby provides an outstanding example of what a Community of Practice in Information and Knowledge Management might be. Of course, it should

be clear that Coakes & Clarke are not to be criticized for not doing what they did not set out to do. My point is that this Community appears suited to the task that the authors set, but did not realize. It has been able to keep up with developments and has included new notions and connections since the date of their book.

In short, the authors' aim to provide a text that will 'become the leading reference source for dynamic and innovative research' has not been realized in my view. It is out of place and out of time. Again, this is not to say that the papers that are included are not interesting—and I certainly would not suggest readers not to access them. My problem is with the organization of the collection. It is not suited to the task. The papers should be part of another type of system.

An additional problem is that, as usual, the price of the book will make it difficult for students and practitioners to buy it, at least in non-English speaking countries. To scan the book is definitely worthy; to read in depth some of the work useful, but to buy it is, to be fair, an effort that should at best be delegated to our Universities libraries.

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