

"What You Don't Know" is your guide to using information sources -- from libraries to the Internet -- to gathering facts and understanding that are vital to your success. Successful people share a common trait -- they gather the facts they need before they act. Learn how to gain the Information Advantage.

What You Don't Know... Your Guide to Achieving "Knowledge Advantage" in the Information Age!

by Mark Monday and Dr. Emil Sarpa

**Order the complete book from the publisher
[Booklocker.com](http://www.booklocker.com/p/books/9694.html?s=pdf)**

<http://www.booklocker.com/p/books/9694.html?s=pdf>
or from your favorite neighborhood
or online bookstore.

FOREWORD BY
FORMER NAVY SECRETARY RICHARD DANZIG

WHAT YOU DON'T KNOW....



**YOUR GUIDE TO
ACHIEVING
“KNOWLEDGE ADVANTAGE”
IN THE INFORMATION AGE!**

**MARK MONDAY
AND DR. EMIL SARPA**

Copyright © 2018 Mark Monday

ISBN: 978-1-63492-986-8

All Rights Reserved, including the right of reproduction, in whole or in part in any form. This book and its contents may not be duplicated in any manner without the expressed written consent of the copyright holder, except in the form of brief excerpts or quotations for the purposes of review. The material contained herein may not be duplicated in other books, databases, Internet sites, or any other medium without the consent of the publisher and authors. Creating copies of this book, or any portion thereof, for any purpose other than your own use is a violation of United States copyright laws.

The authors and publisher have used their best efforts in preparing and publishing this work. Neither the authors nor the publisher make a warranty of any kind, expressed or implied, with regard to the use, suggestions, and instructions contained herein. The authors and publisher shall not be liable in the event of incidental or consequential damages in connection with, arising out of, the furnishing, performance, or use of the instruction and/or the claims of suitability or production gains.

Product or company names used herein are for identification purposes only. The inclusion of the names of products or companies does not indicate any claim of ownership of the trademark or registered trademark by authors or The Research School. Where known, trademarks and product names are denoted by capitalization.

Library of Congress Catalog Number:

Published by BookLocker.com, Inc., St. Petersburg, Florida.

Printed on acid-free paper.

BookLocker.com, Inc.
2018

First Edition

Cover design by Todd Engel, Engel Creative

Table of Contents

Foreword	1
Preface	5
1. Introduction and Overview.....	21
2. INFOTAC Resources.....	25
3. People, Equipment, Software, and Storage.....	37
4. The Tradecraft of Security	63
5. Planning and Implementation	75
6. Search Engines, Web Directories, and Other Search Options	107
7. Gray Literature And Ephemera	157
8. The Deep Web and Dark Web.....	161
9. Webscraping and Offline Browsing.....	169
10. Media Systems	177
11. GEO Searches	211
12. Web 2.0 and Social Media	217
13. Web 1.5 and 3.0	239
14. Tradecraft of Knowledge.....	245
15. Videos, Pictures and Multi-media.....	269
16. Evaluating Your Resources.....	277
17. Production.....	291
Appendix A. Internet Basics.....	297
Appendix B. Reference Library	303
Appendix C. US Government OSINT Operations	313

Appendix D. Tradecraft of Security	317
Appendix E. Capturing Contents	333
Appendix F. Best Search Practices.....	335
Index	341

Preface

"Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it. When we enquire into any subject, the first thing we have to do is to know what books have treated of it. This leads us to look at catalogues, and at the backs of books in libraries."

— Samuel Johnson, as quoted in Boswell's *Life of Johnson*)

You, and everyone living in what has been dubbed “The Information Age,” need to know how and where to find information. Samuel Johnson, living in another age, long before the Internet, understood that much knowledge had already been collected, catalogued, and made available to anyone who wanted it. ***They only had to go get it.***

We wrote this book with a simple idea in mind: to help you develop and run an efficient and effective research operation in any field you choose. We designed the program to solve your individual needs, not those of someone at the next desk or the institution down the street. You don’t need to be tech-savvy or part of the Internet generation. Importantly, we don’t want you to reinvent the wheel.

The truth that Samuel Johnson recognized has not changed, although the information storehouses have evolved. The research field has improved. It will continue changing as resources and methods are modified. Modern researchers will continue to meet new challenges and improve their methods and techniques. Many modern methods are free, the basic ideas are simple, and many lessons are amazingly easy. But there are many, many lessons; we have tried to make the complexity easier to navigate.

The Internet has become the great equalizer, offering unprecedented knowledge and information capabilities to a global audience. It provides a measure of intellectual equality to those who use it wisely. From woodworking to North Korean politics,

cooking eggs to the first milliseconds after the Big Bang, research into questions – simple or complex – has become easier and more effective. Data and information are everywhere. Research through multiple dimensions and resources has arrived, though it remains imperfect. There is no instant gratification when researching open sources. The process doesn't offer instant knowledge, only a better chance to find the accurate information you need.

The Information Age is a double-edged dagger; there are challenges. Modern technology provides the best information – and surveillance methodology – ever available. It provides information about all manner of things, including you, to those who know how to employ it'. S techniques.

Moreover, we are drowning in an information sea. Like ocean water, most of what we find is worthless to drink in. Anything you can think of is there. We live amid an information ocean but in a knowledge desert. Annual reports, corporate government filings, press releases, libraries of useless information, social media on people you don't care about, the Dark Web, associations and publications, standards groups, conferences you won't attend. It all comes at you like flying monkeys. Glynda is not another name for the Internet.

While tidal waves of useless data threaten to drown us, the need for correct and personally useful information to drink in grows. In a time of false news, alternative facts, and phony data there is an ever-greater need to find, gather, evaluate, and use only the valuable information that applies to us, our lives, and those we work with. We need relevant results; we need insight, not an information stew.

A successful prospector seeks gold wherever; in an ever-flowing river with a gold pan, in the crusty earth with a pick and shovel. A good prospector knows where to look, uses many tools, and has a variety of tricks of the trade available. Good prospectors know the

value of their finds. They understand the difficulties they will encounter finding it. They know well that the golden flakes are mixed with dirt, sand and pebbles, or that the valuable vein is concealed beneath tons of rock.

Others compare the process of finding information to the difference between window shopping and working as a purchasing agent. Purchasing agents sometimes window shop, but when they are serious about their purchases they apply more sophisticated techniques to optimize their results.

Whatever analogies seem best to you, the fact is that you are looking for something of value, locating it, and moving it to a place you can use it. It may be called Information Tactics (INFOTAC).

INFOTAC is the process of finding, collecting, storing, analyzing, and using useful information. INFOTAC is the process of legally and ethically gathering, analyzing and acting upon information. It is practical work, research conducted in multiple dimensions.

INFOTAC is far more than an ability to use the Internet. From databases to off-line resources, numerous rich veins of information remain largely secret; they are unknown and untapped by most people, including many professionals who are expected to know the finer points of research. INFOTAC provides the “how to” capabilities and skills that allow you to dig into the Internet and other resources for information about any item, person, group, organization, or activity. INFOTAC is child’s play for the knowledgeable, but a bridge too far for many. This book acquaints you with some essential, practical, skills and assets of INFOTAC so you can optimize your time and effort.\

Our purpose is to guide you in developing a plan, your plan, and competencies in information gathering, whether on-line or off. We urge you to develop a research plan that fits your unique needs. You need a standard operating procedure (SOP) for your research

efforts. We are mindful of the need to apply security procedures in research, the need to plan, to gain proficiency in search techniques and resources, and the importance of evaluating and validating your sources.

INFOTAC uses the best lessons, tools, and methods that have proved useful in half-a-dozen major research fields. INFOTAC's steps combine largely-secret methods and break-through technology with simple, well-known techniques. INFOTAC incorporates and combines the skills, techniques, and procedures learned from many different, but related, research areas. It improves and optimizes knowledge acquisition. Primary contributors to INFOTAC are the fields of Computer-assisted Research (CaR) in Journalism, Open Source Intelligence (OSINT) in Government, Information Literacy (IL) in Library Science, Opposition Research (OPPO) in Political Science, and Competitor/Competition Intelligence (CI) in Business.

These fields all seek highly-specific, usable, and timely information about someone or something – a person, group, company, enterprise, activity, or nation. Their sources may be experts, leaders, followers, employees, suppliers, or associations. The collected information often provides actionable ideas. But these research areas are not well-integrated.

All these fields share common threads in research techniques. Each field has strong points, weak points, and some areas that are total blanks. OSINT, for instance, lacks practical instruction in social media exploitation while IL is light on security. Some fields rely heavily on execution scripts and automatically-collected databases rather than humans and thoughtful search strategies.

However, when you concatenate the techniques and practices of all these areas as we do, choose the best options of each, recognize the weaknesses, fill in the blank spaces, and integrate their methods and capabilities, you have bleeding-edge knowledge about current

open source research methods and techniques. The strengths of some fields fill in the weaknesses and faults found in other leading research areas. All the fields hold major pieces of the puzzle of the Information Age; all lack pieces and ideas that the others have.

INFOTAC takes in the wide picture. It tries to integrate all the puzzle pieces so that you, as a knowledge consumer in the Information Age, can go where you need to go, get the information you need when you need it, analyze it for its usefulness, and apply it to the things in your life, your concerns, and your business. INFOTAC is an immediate, essential, urgent, critical, and vital need in today’s world. It can provide answers – and sometimes pose new questions – rapidly, accurately, and in a wide scope. Yet INFOTAC is a means to an end. It is not the end itself.

INFOTAC needs can be as simple and obvious as locating a part for a car, finding a restaurant in Paris that caters to your taste, or tracking down a high school friend. The need can be as complex and hidden as teasing out leadership shifts in the North Korean hierarchy, identifying whose face is in a crowd picture on the news, or finding the building plans for the structure where terrorists are holding hostages. All these problems have been successfully solved using INFOTAC methods. INFOTAC turns thinking and facts into accomplishment.

The need for information grows constantly. People require more information today than yesterday; tomorrow they will need more than they did today. Finding and using useful public information has become an essential life skill in the Information Age; it is a skill set that flows into every aspect of living. But is that a skill people and institutions know how to carry out effectively? Some do; many do not.

The more-complete research area known as INFOTAC is in fact a constantly growing, transformational, and integrated system of systems. It gives the advantage that only information can provide –

the knowledge advantage. Key parts are planning, gathering, analyzing. Executing on the knowledge advantage is essential, but is not usually part of the role unless you are operating for yourself. Some components are well-known; other parts are obscure. Competency requires knowledge of, and abilities to use, a variety of different systems. However the knowledge requirements and capabilities must be tailored to the needs of individual researchers and their unique information needs, such as yours.

Anecdotal evidence shows some common threads in most research defeats. Information searchers sometimes abandon their quest when initial searches – often in the first effort and the first dozen or so search engine returns – fail to produce results. Multi-dimensional research – not just popping a word or two into a search engine – produces results rather than failure.

Many workable and effective research options and avenues are available. Some will work well for you; some miss your unique needs today. And some options you don't need today will be required next week. Every INFOTAC operator needs familiarity with all research areas, and the techniques that each requires, in order to mix and match to changing individual requirements. Only with that how-to knowledge can users choose wisely from the research smorgasbord. At the same time, just as at a smorgasbord, seldom will people need or want their fill of everything available on the table. Researchers learn to pick and choose at the information table, just as in a restaurant.

Information literacy (IL) is strong on storage and retrieval of information, particularly from databases and fiber-based materials. Knowledge of IL helps a researcher file and retrieve the information collected elsewhere. IL is also particularly good when it comes to using on-line databases and non-digital materials. It is not particularly strong when dealing with some other research techniques or security.

Opposition research (OPPO) has proven its strengths through many election cycles. Its techniques are wide-ranging, but focus largely on individuals. That laser-focus, and the fact that the most effective OPPO techniques tend to be close-held, keep this field’s special techniques largely unknown and unused by other researchers.

Competitive intelligence, or competition intelligence (CI) is widely used in the business community to provide the facts and background needed by decision-makers. Competitor intelligence focuses only on the competitors, and what they do or plan. Competition intelligence involves a wider view, taking into account any aspect that affects the field and opportunities, anything that provides insight. CI has a long history of success but, again, many of the techniques and resources needed for this work are close-held.

Computer-assisted Research (CaR) is an extension of journalistic techniques. It has great strength in gathering information from social media and excels in web scraping and analysis. CaR, like many other research fields, is light on security and safety.

Open Source Intelligence (OSINT), used by intelligence, military and police organizations, has a spotty capability. It features extensive penetration of Web, use of specialized databases, and is heavier on security than virtually any other research type. Security is positive for the safety of the researcher, but the rigidity of OSINT’s numerous rules often interferes with the research process and may severely limit results.

INFOTAC can help you balance these problems with solutions, providing an information advantage to those who master its integrated techniques and tools.

Business, schools, universities, and libraries, political organizations, the media, and security organizations world-wide are now investing in the equipment needed for information exploitation, by whatever name. It combines and balances

technology, process, and people. All fields badly need the talented personnel required to do the research. Many fields are putting a foot in the water; some have already advanced to swimming. Some use outsourced services to fill their needs; others employ their own dedicated personnel and equipment. All are looking for INFOTAC-capable people.

The need is already there for people knowledgeable in:

- Open Web information
- Gathering and analysis
- News analysis
- People, equipment, and programs
- Social media monitoring and analysis
- Deep Web and Dark Web capabilities
- Database use and Big Data capabilities
- Use of web scrapers and offline browsers
- Multi-media acquisition and video analytics
- Visualization tools
- Cyber-security and red-teaming

The ongoing explosion in social networks, groups, forums, multi-media resources, and user-generated sites – and the plethora of material these can provide – drives the need for capable INFOTAC researchers.

Some people think of themselves as information gurus because they know how to put a word or two in a website's search box. That's it, and that's magical thinking! They believe they have mastered information searches. In reality, they are in the pre-kindergarten of the INFOTAC discipline. Others become disgusted with information searching. They quit trying because the reality of their search forays fails to meet the promise of their anticipation.

There is more, much more, to obtaining quality information. Few people have been taught how to scrape their information

environment or to get what they need by using integrated information tactics. Learning how to achieve in the Information Age is not always simple, not when you consider that the Internet and computers are overlaid on a matrix of other, older, information resources that remain usable and useful. Nor is it made easier by the desire of those who actually know how to harvest information to keep that capability to themselves. There is often a demonstrated reluctance to share even simple techniques to exploit the wide world of information. Competition may be unwelcome to some. We have no aversion to sharing.

Internet search engines, rightly or wrongly, are believed by many to be the 21st Century successor to Samuel Johnson’s library. While the search engine is one resource, it is not the only – nor always the best –one. Some resources are on the Internet; many are not.

Key INFOTAC resources include products of academia, from courseware to research papers. Other resources include commercial and public information services that provide news and special reports – some of which are expensive but are often available cost-free to library patrons. Groups and individuals produce everything from leaflets and graffiti to letters and posters – getting on mailing or emailing lists helps in collecting information for medium- and long-term projects. Social media postings and even overheard street-corner discussions qualify as open source information resources.

The resources for information gathering are almost inexhaustible for those who want to mine the knowledge trove, who understand how to use the tools of INFOTAC. Simplifying your access to the information treasure trove is the purpose of this book’s authors.

Our challenge has been to simplify and clarify without dumbing down. The task was to make knowledge of effective research techniques available to all, and usable by everyone.

Many books touch this subject. Any of them are quite good in what they strive to do. What makes this book different from others is that it sets up a form and format to follow from the very beginning. Others piecemeal the knowledge, without a discernable order or goal. This book is designed to develop your research ability in a step-by-step fashion.

From the start it was clear to us, as it is to you, that all searches are individual. There is no one-size fits all technique, nor does even one-size fit many. Information needs are never the same. Moreover, there is the danger of getting locked into instructions related to today's (or yesterday's) technology and techniques, detailed instructions that are bound to change in months, weeks or even days. We decided that the best way to develop the book was to focus less on the *minutiae* how to do something but emphasize the "what to do." Useful "how to's" are found everywhere on the Web and are available readily from good search engines; they generally keep up or even race ahead of the changes in technology. Information on the wide range of techniques and resources to use in your research – more importantly what to use when in solving your unique problem – is more difficult to find.

Simplifying is not dumbing-down. For those who are satisfied by putting a couple of words in the search box this book is useless. Nor is it your cup of tea if you want infallible checklists that will give you the right answer every time. This is a book for those who know enough that they want to learn more, for those who seek structure to their learning and the research process. This book is for those who understand that the authors don't – and cannot – know everything. Nor can they peer into the future. This is a book for those who understand that what the authors know and will impart is a first step, a foundation and a floor to build up from. The walls, roof, and furnishings are yours to design and construct. This is a book that starts rather than caps a process. You will – and should – consult other books, learn from other web sites, and perhaps even

change your approach to suit your particular needs in the future. We seek only to provide the foundation for you to build on.

This book and the authors only want to start, but do not pretend to end, your personal growth into mastering the Information Age. College courses, certificate courses, seminars, journals, the Web and other books, may provide additional growth opportunities. Today's researcher – you – has to be adept at adapting. In this book we want to use the best teacher for what you are hoping to accomplish – you.

No single “correct” process, method, or technique serves everyone. You will have to choose the “correct” processes, methods, resources, and techniques that meet your unique research needs. Assume there are no “experts.” The field is too large; techniques and capabilities change too often to allow anyone to know how to use everything. No one can truthfully say they know and can impart everything you need to know.

This book presents some alternatives, but you need to understand how to “Target Holes In My Knowledge.” You will need to think out of the box throughout this book, and in the future. When things aren't quite right, you will have to find work-arounds that get you where you want to go, that get you the information you need. You will become expert at selecting and rejecting resources among the many processes, methods, and techniques that are available. Not everything in this book is precisely right for you or your research needs. You have to select the tools and alternatives that are most likely to fill the hole in your knowledge. You will reject things that don't work for you. You have to adjust the words in this book to your own needs.

This book attempts to provide encyclopedic knowledge of the research field. Encyclopedic knowledge is not necessarily expertise. Encyclopedias provide a useful knowledge baseline, a working familiarity with the area in question and information on

key resources and similar areas. After you acquire encyclopedic knowledge you need to know how to quickly improve your ability in, and knowledge of, particular processes, methods, or techniques in those research fields that serve your own needs. We did not write this book to make you an expert; we wrote it to put you solidly on the path to expertise. We created an eclectic set of links – some helpful to you, some more helpful to others – but all designed to illustrate an idea, make a point, or help you to find resources that resolve your needs.

You will rise beyond encyclopedic knowledge in areas that are important to you, and achieve the better-than-baseline ability that you will build on later, as needed.

Good researchers are kin to Sherlock Holmes, observing, remembering the important points, connecting the key elements, and reaching sound conclusions based on the totality of the available information. INFOTAC operators are not Internet spies, they are modern Sherlocks. Information wizardry is not a matter of waving a wand. The edge you need, the information supremacy that goes with success, requires your participation. To gather pertinent information and put it in a usable form requires knowledge, study, and attention. But it need not be convoluted or scattered.

This book was error-free only in the first minutes it was written. Internet changes do not wait for the dawn of a new day or the publishing of the next book. Each tick of a clock brings changes that may – make that will – outdated parts of this book. Sites and resources we have used for years suddenly disappeared on us – along with the useful capabilities they provided. And it will happen to you. We accept that of the hundreds of sites cited here, some will have disappeared into the ether by the time you read this. At the same time, the world of information is so large and changeable that new things pop up even as old ones are consigned to the trash bin.

We understand and presume you probably already know a great deal, but there is always more to learn. (For those who feel a need to review some Internet basics, we suggest Appendix A, Internet Basics)

We concentrate much, but by no means all, of our attention on the Internet and Web. Since the most common Web searches are conducted through a Windows operating system we act as if that is what you are using. We know many of you may be using some other operating system but we also have confidence that if you are using something else you have the knowledge to convert our information to make it compatible with whatever operating system you are using.

We did not write this book for people who wanted to know details of using many special programs, or to explore the specialized sources that many professionals use. There are already books and classes that drill down to minute technical details. We decided people need the broad outlines of acquiring knowledge in the Information Age. We wanted to provide the “Big Picture.” At the same time we also looked for ways to individualize the experience, knowing that your needs are unique, different from the requirements of any other reader.

For you, we decided to handle this difference by having you write your own personal book, creating a living document, a personalized standard operating procedure (SOP) that includes the information, tools, and techniques applicable to your particular needs. You have to know the ins and outs of any program, app or site that you use. You have to create, and write down your own SOP for using those resources. And you need to explore the nooks and crannies of those resources. You have to know what the resources are capable of, what they can do for you, what they cannot do to you, and where you can get in trouble with them. Your SOP will change, it is not static. It will grow more personalized as you meet the challenges and changes of the Information Age.

The book you write for yourself, your own work plan, your SOP, will be useful far beyond us and the last chapter of this book. As you acquire skills and knowledge you will continually add new tools and capabilities to your SOP. INFOTAC is a journey without end.... You will, and should, learn from others as well as from us.

Many people, some of them our competitors, have valuable information. You need to be aware of their capabilities and resources. Some Open Source link sites to explore include:

- **IntelTechniques:** <https://inteltechniques.com/links.html>
- **Mario's Cyberspace Station:** <http://mprofaca.cro.net/>
- **Netbootcamp (Videos and links):**
<https://netbootcamp.org/osinttools/>
- **ONSTRAT (Randall Hock):**
<http://www.onstrat.com/news/>
- **OSINT Framework:** <http://osintframework.com/>

Life is always in a flux. Aspects change, some faster than others; but situations always change and you need to be knowledgeable of the altered pathways. You will change things in your own SOP book because you will find new methods and the new tools of tomorrow that work better than those of yesterday and today. Sometimes you will eliminate things as your experience, abilities, and expertise grow.

Your toolbox should never be locked. There are always new products and concepts that appear; occasionally some disappear. But you will know the best ways to find the information you need – *and you will do it your own way. We don't presume to tell you what you need.* While we outline some projects for your SOP, you are likely to come up with your own ideas for customizing your individualized plan. Add in any information or ideas you believe will help. Create new chapters and sections of the SOP. Change any part of your personal SOP at any time you wish.

The result of your research, and your success in the Information Age, depends on you and the way you THIMK – “Target Holes In My Knowledge.

Project:

Create, on your computer, a directory or section titled Online Research.

Project:

In the online research section you just made, create a word processing file named “My Research SOP.” In that file create folders titled:

- Overview
- Technology
- Techniques
- Digital Library
- People, Software, and Equipment
- Browsers
- Security and Legal Issues
- Planning
- Search Engines and Directories
- Links to look at
- Web 1.0, Web 1.5, Web 2.0
- News Media
- Deep Web and Dark Web
- Databases, Gray Literature and Ephemera
- Pictures, Videos and Audios
- Translations
- Analysis, Evaluation, Vetting and Production

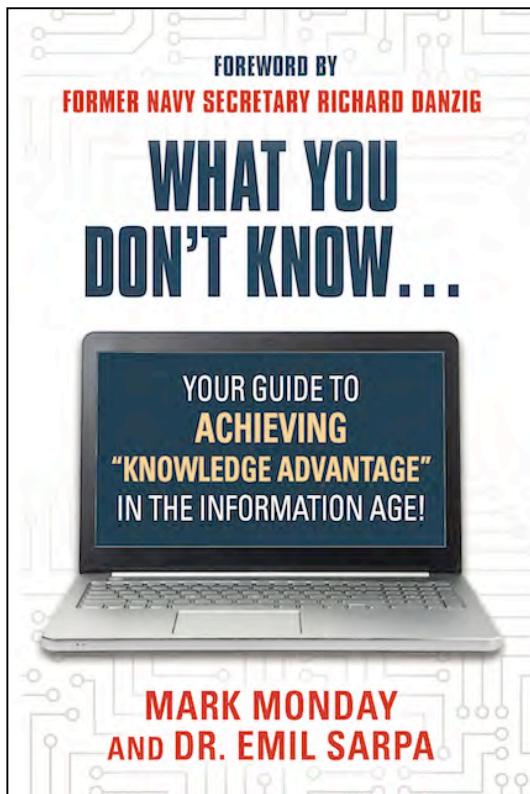
Project:

In the Overview section of your SOP write at least five, and no more than 10 sentences, explaining what you want to accomplish once you have improved your research capabilities through INFOTAC. Remember that any part of an SOP can be changed later if you see a better method of handling material. Most find it best to add ideas

now and refine and revise those, or even eliminate them, in future versions as their knowledge and understanding changes.

Project:

Explore the links available from theresearchschool.com and others. In the “links to look at” section of your SOP list any found above, or later in the book, that you feel will be useful to your research. You may want to create categories of, and add notations to, those links you feel will be useful. Consider this an ongoing project that continues from chapter to chapter and throughout your work in the field.



"What You Don't Know" is your guide to using information sources -- from libraries to the Internet -- to gathering facts and understanding that are vital to your success. Successful people share a common trait -- they gather the facts they need before they act. Learn how to gain the Information Advantage.

What You Don't Know... Your Guide to Achieving "Knowledge Advantage" in the Information Age!

by Mark Monday and Dr. Emil Sarpa

**Order the complete book from the publisher
[Booklocker.com](http://www.booklocker.com/p/books/9694.html?s=pdf)**

<http://www.booklocker.com/p/books/9694.html?s=pdf>
or from your favorite neighborhood
or online bookstore.