EXCEL BASICS TO BLACKBELT

Third Edition

This third edition capitalizes on the success of the previous editions and leverages the important advancements in visualization, data analysis, and sharing capabilities that have emerged in recent years. It serves as an accelerated guide to decision support designs for consultants, service professionals, and students. This "fast track" enables a ramping up of skills in Excel for those who may have never used it to reach a level of mastery that will allow them to integrate Excel with widely available associated applications, make use of intelligent data visualization and analysis techniques, automate activity through basic VBA designs, and develop easy-to-use interfaces for customizing use. The content of this edition has been completely restructured and revised, with updates that correspond with the latest versions of software and references to contemporary add-in development across platforms. It also features best practices in design and analytical consideration, including methodical discussions of problem structuring and evaluation, as well as numerous case examples from practice.

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An Accelerated Guide to Decision Support Designs, Third Edition

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Associated Links

Main resource/course portal: www.excel-blackbelt.com
Blackbelt Ribbon add-in: *Most current versions always updated on above site.*
Example workbooks from the text:
Available either through the Blackbelt course portal (left sidebar), or using www.bbexamples.com/ followed by the chapter number and the filename (provided in the text). For example, to access Chp2_IdentitiesList.xlsx, use www.bbexamples.com/Chp2/Chp2_IdentitiesList.xlsx
Demonstration Blackbelt projects:
https://sites.google.com/site/basics2blackbelt/home/Gallery
LinkedIn group (which contains Non-English language subgroups):
www.blackbeltsgroup.com
Data Visualization resources: www.ma-vis.com

Preface

Change can be daunting. People tend to resist it, and often for good reason. We can't control everything that life and work throws at us, but we can control a good deal of it. And it's that control that allows us to be effective in dealing with that which is unavoidably dynamic and out of our control. Without that stability, without a little bit of caution regarding change, we'd spend most of our time fighting fires and chasing shiny objects, and not actually getting things done.

On the other hand, when there are clear opportunities for doing things better through change, we need to capitalize on them. A little well-planned chasing can go a long way. It's how we learn. Again, this doesn't mean that we should drop everything the moment a new technology or framework pops up, with the hope that it might pay off. Instead it just means that we need to be deliberate in our *choices* of which changes to embrace and which, at least for the moment, to disregard.

The backdrop for this third edition is certainly one that is full of new opportunities in complementary and alternative technologies for robust and highly accessible decision support tool development. This growth has taken place both within the sphere of ubiquitous Microsoft applications as well as across myriad other development environments (G-Suite, R, Tableau, Swift builds for iOS, etc.). However, the backdrop also involves something far more personal. It is painted by my own experiences in tool development and, more generally, problem-solving processes in educational settings and in practice; experience studying the behavior of other individuals as they face these challenges; and exposure to best practices in leveraging intelligent structures in processes and intermediate products, including the effective utilization of visualization in the field.

In the time between the original edition and this publication, I've assembled some of these experiences into a handbook on human behavior in complex management decision-making settings, and others into a handbook on the psychology and practice around visualization for

management. Along with these texts, I've authored an additional 50-plus articles, largely on how individuals in the field and in controlled settings interact with technology. I've taught decision support tool development, business analytics, and management visualization courses to nearly one thousand individuals in master's, MBA, and undergraduate business programs, involving approximately 200 proof-of-concept builds for industry and individual users. Through all of this, I've seen some technical and process approaches overtaken (appropriately) by the march of technical progress, while others show continued strength and adaptability. It is high time that some of these learnings are folded into the discussions of decision support tool approaches in Excel/VBA.

Frameworks such as the OUtCoMES Roadmap, and its more contemporary descendant the OUtCoMES Cycle, have evolved. They now provide guidance beyond model development and into broader systems and design thinking applications, demonstrating alignment with and enrichment of other established frameworks (PDCA, A3, etc.). Specialized visualizations have been developed to support this as part of the Blackbelt Ribbon suite, whose functionality and structure provide examples we will discuss throughout the text. Conversations distinguishing and integrating descriptive, predictive, and prescriptive analytical intentions, and statistical versus computational approaches, have also proven effective in training individuals for (and placing them in) a wide variety of professional management, consultant, and analyst roles. These distinction and integration opportunities are similarly reflected in the current edition.

In the case of technical approaches that have been overtaken, there are also lessons in pragmatism to be learned. These include the replacement of MapPoint by PowerMap and the MS Power BI Suite; the supplanting of earlier interactivity between Excel and G-Suite, XLStat, and Palisade products by advancements in these respective applications; Microsoft's divestment of MSNBC, impacting MSN stock data connections; and the ever-shifting landscape of RExcel. Fortunately, we are not at a loss for technical guidance on how to adapt to many of these changes. There are countless blogs and publications that maintain this chase, and we are all indebted to the many expert developers who continue to inform us on these fronts.

With this in mind, and a shift in tactics from the second edition, the present text focuses less on examples that are likely to be overtaken in the near term, and more on examples of process and on specific technical guidance largely resilient to those changes, either because they are both sufficiently robust and extensively established in practice, or because I have direct influence on their maintenance (e.g., the revised Blackbelt Ribbon suite of tools). The biggest exception to this is the additional time afforded to technical discussions relevant to the mobile application space (use of the Power BI

desktop to share dynamic visuals, communication with G-Suite tools, Swift code examples, etc.). This is an area in which we need greater management analytic discourse, so I'm willing to do a little chasing here.

In all of this, it almost goes without saying that the course of our discussions will continue to focus on what today remains the most flexible, accessible, and relevant platform for management tool inception and testing in the world, namely the Excel and the VBA developer combined environment. With the scale and velocity of data available today, we don't approach these discussions with the rose-tinted view that this is the destination of our build-journeys. As a clearer picture of our needs in practice evolves, we seek out appropriate alternative tactics and technologies, gaining efficiency as we trade off flexibility for customized functional consistency. But before we get there – while we speculate on what we might need, explore the fuzzy front end of our development process, and seek convenient testing grounds for building out complex solutions – the Excel/VBA sandboxing environment will be regarded as terra firma for our work, a stable foundation for exploring the unknown. To this end, it is critical that we develop for ourselves a rich understanding of what is possible here – an understanding that surpasses that of the 95 percent of users who still think it's just a nice place to calculate sums. When individuals uncover the full range of control they can have here, it changes the way they confront all other challenges. I can ask no more but to help them along the way.

Best wishes in all that you do.
Dr. Elliot Bendoly, PhD