

# THE ANALYTICS REVOLUTION IN HIGHER EDUCATION

Big Data, Organizational Learning,  
and Student Success

---

Edited by

*Jonathan S. Gagliardi, Amelia Parnell,  
and Julia Carpenter-Hubin*

Foreword by *Randy L. Swing*

**AIR** ASSOCIATION FOR INSTITUTIONAL RESEARCH  
Data and Decisions for Higher Education

**ACE** American  
Council on  
Education

**Stylus**

Published in association with AIR and ACE

STERLING, VIRGINIA

# CONTENTS

|   |     |
|---|-----|
| FOREWORD  | vii |
| <i>Randy L. Swing</i>   |     |
| PREFACE   | xi  |
| <i>Jonathan S. Gagliardi, Amelia Parnell, and Julia Carpenter-Hubin</i>                                       |     |
| ACKNOWLEDGMENTS   | xv  |
| 1 THE ANALYTICS REVOLUTION IN HIGHER EDUCATION  | 1   |
| <i>Jonathan S. Gagliardi</i>  |     |
| 2 HIGHER EDUCATION DECISION SUPPORT   | 15  |
| Building Capacity, Adding Value   |     |
| <i>Daniel R. Cohen-Vogel</i>  |     |
| 3 CULTURAL AND ORGANIZATIONAL STRUCTURES<br>AND FUNCTIONS OF INSTITUTIONAL RESEARCH                           | 31  |
| <i>Julia Carpenter-Hubin and Jason Sullivan</i>   |     |
| 4 DATA ANALYTICS FOR STUDENT SUCCESS  | 43  |
| Elaborate Profusion of Institutional Research Into Student Affairs  |     |
| <i>Amelia Parnell</i>   |     |
| 5 THE IT-IR NEXUS   | 55  |
| Three Essentials for Driving Institutional Change Through Data and Analytics                                  |     |
| <i>Timothy M. Chester</i>   |     |
| 6 PURSUIT OF ANALYTICS AND THE CHALLENGE<br>OF ORGANIZATIONAL CHANGE MANAGEMENT<br>FOR INSTITUTIONAL RESEARCH | 71  |
| <i>Angela Y. Baldasare</i>  |     |
| 7 ENROLLMENT TO CAREER  | 89  |
| Dynamics of Education and the Workforce   |     |
| <i>Stephanie A. Bond-Huie</i>   |     |

|    |   |     |
|----|---|-----|
| 8  | STATE SYSTEM RESEARCH<br>Increasing Products, Data, Roles, and Stakeholders<br><i>Angela Bell</i>   | 103 |
| 9  | MOVING FROM DATA TO ACTION<br>Changing Institutional Culture and Behavior<br><i>Desdemona Cardoza and Jeff Gold</i>   | 119 |
| 10 | NEW AND EMERGING FRAMEWORKS FOR DECISION ANALYTICS<br>A Data Governance Perspective<br><i>Ronald L. Huesman Jr. and Steve A. Gillard</i>                                    | 139 |
| 11 | EXAMINING HOW THE ANALYTICS REVOLUTION MATTERS TO<br>HIGHER EDUCATION POLICYMAKERS<br>Data Analytics, Systemness, and Enabling Student Success<br><i>Jason E. Lane</i>      | 155 |
| 12 | EVOLVING FROM REFLECTIVE TO PREDICTIVE<br>Montgomery County Community College and Analytics<br><i>Celeste M. Schwartz, Kent Phillippe, David Kowalski, and Angela Polec</i> | 173 |
| 13 | UNPACKING THE MESSINESS OF HARNESSING THE ANALYTICS<br>REVOLUTION<br><i>Jonathan S. Gagliardi</i>   | 189 |
|    | EDITORS AND CONTRIBUTORS  | 201 |
|    | INDEX   | 209 |