

# Entertainment Science

“Thorsten Hennig-Thurau and Mark B. Houston—two of our finest scholars in the area of entertainment marketing—have produced a definitive research-based compendium that cuts across various branches of the arts to explain the phenomena that provide consumption experiences to capture the hearts and minds of audiences.”

—Morris B. Holbrook, W. T. Dillard *Professor Emeritus of Marketing, Columbia University*

“*Entertainment Science* is a must-read for everyone working in the entertainment industry today, where the impact of digital and the use of big data can't be ignored anymore. Hennig-Thurau and Houston are the scientific frontrunners of knowledge that the industry urgently needs.”

—Michael Kölmel, *media entrepreneur and Honorary Professor of Media Economics at University of Leipzig*

“*Entertainment Science's* winning combination of creativity, theory, and data analytics offers managers in the creative industries and beyond a novel, compelling, and comprehensive approach to support their decision making. This ground-breaking book marks the dawn of a new Golden Age of fruitful conversation between entertainment scholars, managers, and artists.”

—Allègre Hadida, *Associate Professor in Strategy, University of Cambridge*

“Finally, a pioneering step from conventional power-political and gut-feel decision-making to a research-based guide that can readily be applied to all segments of the entertainment and media universe. More than anything that has been previously available, *Entertainment Science* provides readers with a deep understanding of what makes the industry tick and what raises the probability of profitability. Media executives, scholars, students, and buffs will find this book an invaluable reference.”

—Harold (Hal) L. Vogel, *author of “Entertainment Industry Economics: A Guide for Financial Analysis”*.

“Hennig-Thurau and Houston have done a terrific job organizing, summarizing, and articulating lucidly cumulative scholarly research on the entertainment industry. *Entertainment Science* challenges convincingly the “Nobody-Knows-Anything” old mantra, making empirical-based knowledge and findings accessible to a wide range of audiences.”

—Jehoshua Eliashberg, *Professor of Marketing, The Wharton School*.

“*Entertainment Science* offers a new dimension of how statistical analysis can be applied to the intersection of art and science.”

—Jason E. Squire, *editor of “The Movie Business Book” and Associate Professor of Practice, USC School of Cinematic Arts*.



Thorsten Hennig-Thurau

Mark B. Houston

For the latest developments in *Entertainment Science* and to engage with the authors and other readers, please visit our website <http://entertainment-science.com> and our Facebook page at <https://www.facebook.com/EntertainmentScience>.

#EntertainmentScience

Thorsten Hennig-Thurau · Mark B. Houston

# Entertainment Science

Data Analytics and Practical Theory for  
Movies, Games, Books, and Music

 Springer

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*To Claudia and the boys, for their love and support and inspiration, as well as their sheer infinite patience with me during the writing of this book. And to Sergio and Clint, for making me fall in love with the movies and the art (and science) of entertainment.*

T. H.-T.

*To Nancy, Jon, Elise, Wil, and Shane for their love and laughter, regardless of circumstance.*

M. B. H.

*And to Bruce Mallen, without whose inspiration and efforts this book and a large part of the research from which it arose would never exist. We will always be thankful for your contributions to Entertainment Science and hope that there will be a way through which our words will reach you.*

T. H.-T. & M. B. H.

# Preface and Acknowledgements

The entertainment industry, enlightening billions of people with movies, games, books, and music, is often characterized by its “Nobody-Knows-Anything” mantra. This mantra, coined more than 30 years ago by screenwriter legend William Goldman, argues that survival and success is a function of managerial intuition and instinct *only* and refuses the existence of economic rules and laws for entertainment products.

The Goldman adage strongly collides with today’s production and marketing budgets for entertainment products which often exceed \$100 million and can reach up to \$500 million—for a single new movie or video game. This book introduces *Entertainment Science* as an alternative, and more timely, paradigm. *Entertainment Science* builds on the assumption that in the era of almost unlimited data and computer power, the combination of smart analytics and powerful theories can provide valuable insights to those who have room for them in their decision making. Our aim to retire the Goldman mantra must not be confused with any desire to retire creativity and intuition—*Entertainment Science* considers data analytics and theory as *complementary* resources to these basic skills, not as their substitutes.

*Entertainment Science* (the book) offers a systematic investigation of the knowledge that has been accumulated by scholars in various fields such as marketing and economics regarding the factors that make entertainment products successful—or let them flop. This knowledge has gone unnoticed by many who manage entertainment products and determine the industry’s course. But the knowledge has also suffered from a lack of integration, with most studies being relatively isolated scholarly endeavors of particular aspects of the entertainment business.

A main contribution of this book is that we open a unique vault of more than 35 years of high-quality scholarly research on the entertainment industry and make it accessible to future and current decision-makers. In other words, we link the practical skills of Hollywood with the intellectual powers of Harvard, UCLA, Wharton, TCU, and Münster University, just to name a few of the many places around the globe where scholars have contributed to the development of *Entertainment Science*. But our goals are even more ambitious—the idea is to offer our readers a comprehensive approach toward what defines “good” marketing and management in the entertainment industry, something that requires an integration of the many different scholarly pieces into a coherent puzzle. This integrative nature makes this book an attempt in theory-building itself—in its totality, this book can be considered the first draft of a theory of *Entertainment Science*, at whose core is the explanation of what makes an entertainment product successful (and what doesn’t work in entertainment). You will note that it is a theory with many remaining gaps and blank spaces, and some parts of it are supported by stronger arguments, richer data, and more rigorous statistical methods than others. But this developing character is typical for theories of any kind, which are, by definition, hardly definite and final.

At the core of *Entertainment Science* (the book and the theory) is a *probabilistic* worldview. The book substitutes the deterministic perspective, which—often unnoticed—underlies the Goldman adage, with the argument that success in the entertainment industries is all about probability, not determination. Whereas the devotees of Mr. Goldman have been right that nobody will ever be *sure* that a new entertainment product will succeed in the marketplace, the insights about industry mechanisms, consumer patterns, and marketing instruments compiled in this book will increase every manager’s *probability* to be successful with his or her next offering if taking them to heart.

It’s this probabilistic perspective that adds value to the findings that have been generated when scholars apply rigorous analytical methods to big data sets on the performance of movies, games, books, or music. But we argue that a theory of the entertainment industry and its actions cannot really work if it does not take into account the powerful theories that scholars of entertainment and other fields have already developed regarding the actions of firms and its customers. This is why we have configured *Entertainment Science* as the combination of creativity, data analytics, and good theories. In other words, and paraphrasing a classic saying, we argue here that for being successful in today’s entertainment industry, there is nothing so practical as the combination of powerful analytics and good theory to complement entertainment’s traditional elements of creativity and intuition.

Our book is targeted to various groups of readers. It is targeted to those who are, as students of business or the creative arts, or as employees in another industry, fascinated by entertainment and the firms that provide it. We hope that *Entertainment Science* helps you to deepen your fascination with this unique industry and to better understand its economic mechanisms. Arranging the many fragments of scientific studies on entertainment into a holistic theory of *Entertainment Science* should inspire scholars' next explorations and help to identify exciting "unknowns," but also frame scholars' work and help to interpret new findings. We also have written our book with those current decision-makers in entertainment firms in mind who like to have their thinking challenged, who are looking for ways to grow as a decision-maker, and who seek to improve their firm's ability to pick winners and avoid losers. Our digital times provide us with the tools that enable and facilitate a lively exchange between all these groups about the many fascinating facets of *Entertainment Science*. We invite you to join the community at our website <http://entertainment-science.com> and on Facebook at <https://www.facebook.com/EntertainmentScience>. This is also where we will keep you updated on new discoveries and developments.

There are some more things we want to explain before you, our reader, dive into the world of *Entertainment Science*. We (THT and MBH) are both marketing scholars by training, and so it should not come as a surprise that our book takes a market-centered perspective that focuses on winning customers in a competitive world. It deals to a much lesser degree with the internal organizational processes which are required to ensure that customers are actually won over, and that market-related goals are achieved (one exception is the organization of the innovation process, because here organizational and procedural issues are literally inseparable from crafting powerful new offers for customers). The market-centered approach implies decisions that refer to the overall firm strategy, and we highlight how success, or failure, can result from market-centered decision making. We believe that there is enormous value in taking a market-centered perspective, and we feel that a lot of the changes that are happening in the entertainment industry these days are caused by firms that share our line of thinking—Amazon and Netflix, for example.

We also want to note that writing a book that aims at bringing together the often-separate worlds of entertainment practice and academia sometimes requires the use of terminology which runs counter to either one party's or the other's standard language. One of the more drastic examples is that we will refer to movie theaters as distributors of movies, not as "exhibitors," as a result of our value-chain analysis of the entertainment industry: studios/labels are those who "sell" their products to those who distribute it to the

consumers, just like retailers distribute products to them. Distribution still remains an important part of the marketing mix (we assign a full chapter to it), but from an *industry* perspective, it's the theaters that distribute entertainment to those who are longing for it. It is important for us to stress that we by no means dispute the adequacy of the industry's choice of terms. Our ambition though is to disseminate knowledge also from other markets and industries, and doing so requires some harmonization of concepts and terms, as general theories and models occasionally run counter to established "industry language." We hope that the industry representatives among our readers (who are used to refer to showing films to audiences via theaters as "theatrical distribution" themselves) will pardon us this procedure, for the sake that both parties will be able to learn from each other.

Moreover, the combination of two authors from two parts of the entertainment world carries additional value. We both have an international perspective, but combine our "geocentric" approach with our knowledge of regional specifics in North America (MBH) and the European continent (THT). This also enabled us to cover entertainment insights unveiled in different parts of the world and in different languages. Of course, the world of entertainment is, in our globalized times, one that is much larger than just those two continents, and readers will certainly note that although we aim to bring in insights from other parts of the entertainment universe, as well, those parts have ended up somewhat underrepresented in the book. Please forgive this bias—at least we've tried.

It is often heard that writing a book is a collective effort, and there couldn't be more truth to this phrase. We are deeply grateful to the various groups of people who have shaped our thinking—often challenging our ideas—and inspired our work. Let us begin by saying that *Entertainment Science* would not exist without the direct and indirect contributions by many, many colleagues. Specifically, we would like to thank our co-authors on various entertainment industry research projects, namely (in strict alphabetical order) Suman Basuroy, Sabine Best, Matthias Bode, Björn Bohnenkamp, Subimal Chatterjee, Haipeng "Allan" Chen, Michel Clement, Dominik Dallwitz-Wegner, Felix Eggers, Jehoshua "Josh" Eliashberg, Fabian Feldhaus, Stefan Fuchs, Tim(othy) Heath, Torsten Heitjans, Victor Henning, Barbara Hiller, Julian Hofmann, Ram Janakiraman, Shane Johnson, Alegra Kaczinski, Ann-Kristin Kupfer (Knapp), Bruno Kocher, Raoul Kübler, André Marchand, Paul Marx, Juliane Mathys, Sangkil Moon, Eunho Park, Nora Pähler vor der Holte, Rishika Rishika, Henrik Sattler, Ricarda Schauerte, Reo Song, Shrihari "Hari" Sridhar, Franziska Völckner,

Gianfranco “Johnny” (a.k.a. Frank) Walsh, Charles “Chuck” Weinberg, Berend Wierenga, Caroline Wiertz, and Oliver “Olli” Wruck. Whenever we refer to “our” work in this book, we’ve got you in mind too. Ann-Kristin and also Björn deserve special credit for co-developing the entertainment and media lectures which provided the foundation of this book, in addition to earlier attempts by scholars to structure the field of entertainment research (Hadida 2009 and Peltoniemi 2015 were among the works which inspired us the most). And Ronny Behrens deserves a very special mention—he co-authored the book’s innovation management chapter with us, provided feedback, and also helped with numerous editorial issues.

Further, it is literally impossible to express how much we have benefitted from interactions with the collection of scholars who congregate each year for the Mallen Economics of Filmed Entertainment Conference, which will take place for the 20th time in this book’s release year. Bruce Mallen was the driving force who motivated and created this conference, and we will always be thankful to him for his initiative and long-term support—we dedicate this book to him. S. Abraham “Avri” Ravid and Olav Sorenson have kept it rolling full speed ahead, and many individuals have contributed through the years to make the gathering such an amazing incubator for ideas, including Darlene Chisholm, Art De Vany, Anita Elberse, Natasha Foutz, Allègre Hadida, the one-and-only Morris Holbrook, Amit Joshi, Yong Liu, Jordi McKenzie, Jamal Shamsie, Michael (D.) Smith, Jason Squire, and Harold “Hal” Vogel, as well as several of our co-authors we have mentioned above, such as Josh and Chuck and Suman and Ann-Kristin.

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But our book could not succeed in building bridges between scholars and the industry without the help from all the great people who are part of the entertainment industry in so many different roles and functions and

who have shared their insights and cooperated with us on projects, providing data and context. We cannot list them all by name here, but among those who we benefitted from mostly (and enjoyed interacting with!) are Andreas Bareiss, Malte Probst, Michael Kölmel, Jan Rickers, Wilfried Berauer, Dietmar Güntsche, Andreas Kramer, Caroline Bernhardt, and Jannis Funk, who co-chaired the Big Data, Big Movies Conference with Thorsten in Potsdam and Berlin in 2016. We thank Michael and Dietmar's Weltkino team, Bernhard Glögger, Christine Weber, Roger Grotti, and Robert Rossberg at Disney Germany, Fox Germany's Volker Lauster, Germar Tetzlaff, and colleagues, Kalle Fritz and his StudioCanal Germany team, and Marcel Lenz and Guido Schwab from Weimar-based ostlicht ("meer is immer!"). Of course, if there should be anything in the book with what you, the reader, do not agree, we, the authors, are the sole and only ones to blame.

In addition, let us stress that lots of the insights we report in this book would not exist without the help of several generations of Bachelor's, Master's, and doctoral students at Bauhaus University of Weimar and University of Münster, who have helped us shaping ideas and theories and have provided great help, as research assistants, by compiling the databases which were the sources for several key findings and which we make heavy use of in this book. Several of them are listed above, as they have become entertainment scholars or managers themselves. Nora Pähler and Ricarda Schauerte, along with Tanja Geringhoff who manages Thorsten's *Lehrstuhl* in Münster, helped also with the finalization of the manuscript and with the proofreading, as did Alegra Kaczinski and also Utz Riehl. Further, Jack Grimes and Preyan Choudhuri from Texas A&M helped us with some technical aspects of the book, and Kira Schlender from Münster so marvelously crafted the website. Kai Pohlkamp created the title photo with the "data analytics" and "theory" chairs (and its variation inside the book), and Maris Hartmanis and his Studio Tense team have helped us with the design of several figures and also turned the chairs into the book's logo.

Finally, we have to express our gratitude to our families and close friends. Thorsten thanks his longtime pals Olli, Alex Deseniss, and Ronnie Zietz for numerous hours of joint "entertainment action research" which have shaped his entertainment taste in countless and ongoing debates over the decades. But most of all, he is grateful to his wife Claudia (of 20+ years) and the most entertaining of all boy groups, featuring Frederick (watching *THE WALKING DEAD*'s first season together certainly is a bonding experience...), Patrick (we'll always have EA's FIFA!), and Tom ("to infinity and beyond!") for the unlimited love and support he has received. Mark is thankful to his wife

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Münster, Germany  
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