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Reeves, B., & Read, J. L. (2009). *Total Engagement: Using Games and Virtual
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        In the book Total Engagement: Using Games and Virtual Worlds to Change the Way People Work and Businesses Compete, Byron Reeves and J. Leighton Read, set out to define ways in which businesses will inevitably need to change in order to maintain production, engagement, satisfaction, and interest in work on behalf of their employees. The authors contend that many employees find their work to be boring, void of real meaning, and not intrinsically motivating. In contrast to the mundane and monotonous drudgery often experienced in a modern office, Reeves and Read describe the highly engaging, intrinsically motivating, and sensory fulfilling attributes of many modern multiplayer online role-playing games and virtual environments. Employees who begrudgingly participate in work on a daily basis for a requisite number of hours and for compensation will, after hours, voluntarily spend as much if not more time participating in an online game – often paying for the experience. This level of motivation, created by game attributes such as timely feedback, teamwork, collaboration, problem solving, a sense of presence through avatars, vivid designs, and even virtual economies are used by the authors to support their thesis that businesses will need to begin to make work more like games in order to keep employees engaged and increase the bottom line.

        Total Engagement begins, not unlike many books, with an introduction that provides necessary insight into the motivation behind its creation and information about the authors. From these pages, the reader gains an understanding of the primary focus of the text, and it is the first time the authors' thesis is presented. To this end, many pages are dedicated to describing what those who play games (referred to as "gamers") want from work and how these demands could be aligned with a business's organizational goals. Both authors have rich academic and corporate histories. Byron Reeves is a professor at Stanford University and J. Leighton Read is a physician, biotechnology founder, CEO, and

venture capitalist. Together they convened a conference of many fortune 500 companies to explore the idea of using games at work. The authors also benefited from the Media X Partners Program at Stanford University. This group works to bring together business and academic researchers in the areas of information technology and human sciences. The combination of personal experience, research, corporate input, and partnering with Stanford University provides the foundation from which the authors build *Total Engagement*.

The early chapters of this book set the stage for the reader. This preparation for the remaining chapters begins with a description of gaming and statistics on who is playing games, why they are playing games, and how often they are playing them. The message that is delivered clearly depicts the overwhelming popularity of games, the amount of revenue they generate, and the surprisingly heterogeneous demographic composition of players. Counter to the traditional "gamer" stereotype not all are overweight teenage boys who reside in a dark corner of their parent's basement, faced pressed up against a computer screen, for hours on end. According to the authors, many gamers are much older (mid-thirties), work full time, and are well educated. This ironic twist on what is often considered the stereotypical gamer is an important message to the reader regardless of personal background or particular motivation for reading Total Engagement. Business managers or those whose interests lie in researching the multidisciplinary uses of games will benefit from understanding the breadth of individuals that comprise the gaming market. This knowledge can assist in revealing new target areas for future research. For business readers, this revealing definition of the gaming community helps make the case that many gamers potentially inhabit their offices.

In the chapter "Work Sucks, Corporate Problems that Games Might Solve," Reeves and Read explain how the highly engaging world of online gaming could help employees better perform work that is too easy and work that is too hard. Job tasks with high levels of redundancy or long periods of inactivity such as call centers or video surveillance, if performed within the context of a video game, could be made more engaging and therefore aid in reducing employee error. On the other hand, jobs that inundate workers with too much information, and become too difficult to manage, could benefit from the instant feedback, varied forms of communication, and built-in learning that is found in quality game design. In chapter six, "Virtual Money" the authors reference results from their 2008 published study, "A Marketplace for Attention: Responses to a Synthetic Currency Used to Signal Information Importance," to demonstrate the impact a game feature, virtual currency, can have on worker information overload [i]. In their study, approximately 12 people in a software development environment

had their email inbox modified to include a 100 unit per week allowance of virtual currency. In order to send a message a user had to attach any amount of currency not to exceed their account balance. Recipients could also send currency back to the sender. The recipient's reciprocity could be for any reason but the authors note that the returning of currency tended to occur when the recipient found the sender's message to be particularly useful. This study, based on a relatively simple modification to the use of email, yielded notable behavioral changes. As Reeves and Read note, "Senders behaved as economists would expect them to with real currency: they sent large amounts less often than smaller numbers, conserving currency for future use." A behavioral change was also noted on the part of recipients who opened messages that offered greater than the average amount of currency sooner than messages that did not. This study shows how even a relatively simple implementation of a common game attribute can help focus worker attention on what is important, decrease distraction, and help manage one source of information overload.

The remainder of the early chapters (chapters three and four) zoom in on details that refute possible reader apprehensions about the possibility of real work being performed inside a game. This counter-argument begins with an explanation of the types of computer games used as the basis for the authors' research. These games, known as massive multiplayer online games (MMO), are typically played online by teams of gamers. Genres range from war simulations to fantasy and can be played out in settings ranging from medieval times to futuristic locales. Once the reader is provided with a gaming background the authors begin the second portion of their counter argument – mapping game features to real work activities and skills. Utilizing information from a U.S. Department of Labor publication intended to assist corporations in the process of matching employee skills with specific job functions, the authors map 40 skills such as gathering, researching, and evaluating information and then demonstrate how these same skills are needed for successful game play. Building upon this mapping, the authors follow with a discussion of what they consider the 10 most important ingredients of a great massive multiplayer online game or MMO. Qualities such as three-dimensional environments, feedback, virtual economies, the use of avatars, and player reputations, ranks, and levels are all discussed. The ingredient list is the product of over four years of interaction between the authors and gamers and game designers. Through these interactions Reeves and Read are able to establish attributes of the most successful game titles. This research provides a foundation for their mapping of game attributes to work functions as well as the description of the science behind why these 10 ingredients make for a successful game.

Further elaboration and discussion of these ingredients become the primary focus of all but two of the subsequent chapters. For example chapter five, "Virtual People," provides a thorough discussion of how avatars, digital representations of oneself within a gaming environment, are used within successful MMOs. Staying with the theme of tying gaming to business, much of this chapter is also dedicated to why avatars should be used at work, caveats of avatar use, and the creation of corporate guidelines for avatar use. Chapter six, "Virtual Money," explains how games often have virtual economies with their own currency and market structure. Gamers earn "money" and can buy items needed to advance their game ranking. Read and Reeves suggest that adding a similar economic dynamic into a work gaming environment can add a level of fun and excitement to job responsibilities.

The concluding chapter, "Tactics for Change", touches on steps that businesses may consider when beginning a plan to develop gaming environments for their employees. Recommendations include performing a similar process performed by the authors of mapping work functions to game features. To this end, the authors reiterate their 10 ingredients of great MMO games and provide some general prompts for the reader to begin thinking about how the ingredients could be connected to their work. Each discussion point contains a series of questions to the reader related to the ingredient being discussed. The intent is to help the reader begin to perform a bit of self-reflection and consider how games may fit into their company. This is the first time in the text when the focus is primarily on applying the information from previous chapters. The explanations are general enough in nature to apply to any type of business scenario. Reeves and Read also recommended studying what other companies have done with games at work and starting out small with small areas of business concern or what the authors dub "pain points."

Regardless of the specific topic covered in the chapters of *Total Engagement*, Reeves and Read utilize a writing style that lies somewhere between casual and formal. Similar to how a business casual dress code can create a corporate environment that is respectable without being stuffy; the authors' prose captures the reader's attention by maintaining a sense of lightness without insulting the reader through oversimplification or forced and unnecessary formality.   Examples of this easy-to-read style can be found at the onset of each chapter. In order to place the covered topics and concepts into a context, all chapters begin with a short, sometimes fictitious and sometimes real, short story. Beyond the mere enjoyment of reading these scenarios, these short anecdotes not only help introduce the chapter but also further assist the authors in their attempt to map real work to games. Other examples of this more laid-back writing style can be found in chapter names such as "Work Sucks" and in a few locations

through a very sparing dose of light profanity. Together these textual elements make for a smooth read that mimics in tone and word choice rules of discourse that would be expected in a typical office environment.

It is no surprise that the authors' choice of writing style is closely related to the business world since *Total Engagement* is, after all, marketed as a management book. Although the primary topic, gaming, is technical in nature it is clear from the book's title, introduction, and even the reviews on the back cover that the intended audience is business people and, more specifically, those in organizational positions of influence. The authors stay true to this audience throughout. First and foremost, there is not an overabundance of technical jargon or acronyms. When technical content is unavoidable, it is kept to a minimum and explained. It is clear from the onset that the intent of this book is to connect with a business-oriented audience. However, despite the strong business orientation, readers coming from other disciplines or motivations could benefit from Total Engagement. The concepts described and research data collected by the authors could equally benefit anyone looking to motivate and engage individuals working toward a common, organizational goal. The multidisciplinary appeal of Total Engagement would apply to education, non-profit organizations, and researchers alike.

As the authors develop their case for using games at work they also develop a level of credibility in two ways. First, and in a somewhat ironic fashion, the authors state that they are not highly experienced gamers themselves. During the introduction, Reeves and Read state that in order to accurately observe how gamers are using work skills in complex MMO games it is best to have what they call "jungle guides." In order to gather their guides the authors placed an ad on the Stanford University campus offering students an opportunity to get "paid to play." Students submitted a gaming resume that explained both their academic and gaming achievements. Throughout the text, various hypotheses regarding how game elements such as MMO gamer rankings and leadership skills may benefit business are tested using these Stanford students. Although the authors have studied gaming for quite some time they admittedly do not possess a high level of personal experience playing the games they study. Bringing in individuals with high levels of gaming experience helps the authors create a sense of camaraderie with their intended audience and allows Total Engagement to include features of games that are only revealed at the highest levels. Readers who may be coming into the text already skeptical of any positive impact games can have on work are put more at ease when those delivering the message rely on individuals with many hours of gaming experience. The authors are not gaming fanatics who want to be able to play at work, to the contrary, they are business people who have realized the benefits

games can have on corporate pursuits and employee engagement. This business-oriented perspective not only increases credibility but also generates a sense of trust between the reader and authors.

In addition to author credibility, a corresponding credibility is also generated for the authors' thesis of using games for work. Much evidence is provided that goes beyond simple hunches or prognostications and is rooted in aspects of human behavior and psychology. For instance in chapter nine, "Play is not the Opposite of Work," Reeves and Read combat the notion that gaming is play and that play has no place in work. This is accomplished by discussing different types of play, how each can impact work, and how each type can shape human behavior. Interwoven into the discussion of play are references to other authors and studies on the topic as well as observations made by Reeves and Read. In this and other chapters the reader can feel assured that the assertions of the text are supported. This is visually apparent through the numerous endnote notations and the corresponding 20 pages of notes at the end of the book. One research-supported example explains how play can create a sense of community identity. The feeling of being part of a team is reflected in many MMO games, as teams of players work together to defeat an enemy or solve a virtual world problem. The authors contend that group identity is also vital to business collaboration and innovation and that it could be fostered through the use of games for work. By linking the use of gaming for real work to not only specific work functions but also to the underlying psychology and behavior that support those functions goes a long way to force the reader to look at gaming in a new, serious, and legitimate light.

Although elements of *Total Engagement* support the authors' thesis very well it is not without some imbalance.   One area of imbalance is related to the discussion of potential caveats related to implementing games in a business setting. The book is not completely void of mentioning potential issues that could arise from taking on a gaming initiative. In fact, chapter 10, "Caught Between Fact and Fiction" and chapter 11, "Danger" each discuss various areas of potential concern. In these chapters the reader is lead through a discussion of several areas in need of attention by businesses including employees who may make inappropriate choices for avatar representation, the potential for increased aggression for games that take on a more combative setting, the potential for information overload, and even concerns about the impact of repetitive stress injuries. Despite addressing potential pitfalls the authors only provide vague suggestions for avoiding them. For example, in chapter 10, Reeves and Read elaborate on the potential that gender stereotyping, often found in MMO games, could manifest in games designed for work. They provide evidence regarding the portrayal of male versus female characters in stereotypical ways (men as macho and women as slim and sexy) intended to appeal to

largely male-dominated gaming audience. After stating the case for this issue, the authors only offer one sentence to the reader to assist in avoiding or combating this potential problem. The sentence leaves the reader wanting more and does little to directly address the issue by simply stating that businesses should insure that "…the same protections, laws, and sensibilities designed to mitigate this bias are applied in-game as carefully and fairly as they are in real life." This leaves the reader asking the important question "but how?"

A second area of imbalance is noted by the small amount of the text that is dedicated to how a business should go about planning and implementing a gaming initiative. To be fair, the authors do not tout their book to be a "how to" manual for businesses looking to implement gaming. The intent of *Total Engagement* is to delve into the "why" of gaming at work and Reeves and Read state their reasons in a compelling fashion. Furthermore, the final chapter is dedicated to supplying some general guidelines and suggestions for businesses looking to move forward with gaming. As a result, the book is not completely void of "how to" instruction. This being said, the amount of information provided to the reader on the topic of implementing change is extremely out of balance with the previous chapters. Keeping in mind that the intended audience is business managers who will inevitably ask "well, this all sounds really great, but how do I make this happen at my company?", *Total Engagement* falls short of providing any direction beyond basic suggestions such as analyzing what other companies are doing and starting out small. Suggestions so basic they would leave even the most junior manager feeling sold on a concept only to be left adrift. The manner in which the book is concluded suggests to the reader that the cliffhanger sensation is intentional and that the authors are foreshadowing a possible book sequel.

In order to take the next step toward actual implementation of gaming at work other resources will be required. According to the authors' consulting company website, www.seriosity.com, their company has partnered with IBM in an effort to bring the topics discussed in Total Engagement to fruition at IBM. IBM's efforts toward virtualization of business processes are referenced throughout the text. However, in order to gain more insight and as a means of following the authors suggestion of looking at what other companies are doing before embarking on a gaming-at-work venture, a trip to the IBM website[ii] would be recommended. Here the reader can explore an actual implementation of gaming at work and realize how topics covered in Total Engagement are addressed in the real world. One particular example is the use of avatars discussed by Reeves and Read and the rules established by IBM for employees engaging in virtual work experiences[iii]. The rules covered by IBM discuss avatar

creation and would be a great resource for readers excited by the ideas in Total Engagement but wanting more detail regarding how to proceed.

In addition to the IBM web resources; readers looking for more in the way of "how to" may also look toward other titles. For instance, Learning in 3D by Karl M. Kall and Tony O'Driscoll provides both theory and practical guidelines for implementing virtual environments in an organization[iv]. Although this book is primarily intended for an educator audience there are many examples and case studies rooted in business. Furthermore, the implementation steps discussed can be applied to multiple disciplines and business scenarios. Entire chapters are dedicated to both the design and adoption of three-dimensional environments in an organization. Also, readers who are looking at a specific technology for implementing gaming at work can often find technology-specific guides. For example, The Second Life Grid: the official guide to communication, collaboration, and community engagement, by Kimberly Rufer-Bach, is dedicated to the use of the online, virtual, three-dimensional world known as Second Life[v]. Businesses sold on the idea of using gaming or virtual worlds at work could find details on what it takes to, according to Rufer-Bach, "…plan, manage, and run a successful project using [Second Life]." These two examples take the justification for gaming at work, provided by Total Engagement, and move into the realm of planning, designing, and implementing.

Despite some imbalances, overall, *Total Engagement* by Byron Reeves and J. Leighton Read, offers a very convincing look at how games will become a necessary component of many businesses. The books writing style, the authors' extensive research, and the connection of gaming to not only business functions but also human psychology and behavior create a sense of credibility and make for an enlightening read. Business leaders interested in how games could change their employee's production, innovation, and collaboration should be encouraged to read *Total Engagement*. However, businesses already convinced that games should be used at work and that are in need of an implementation guide, will need to look elsewhere. Perhaps such a guide will be the topic of a future book by Reeves and Read. In addition to business pertinence, Total Engagement would enhance the curriculum of multiple educational disciplines including business education, psychology, education, and computer science. The text, through its use of examples and research, displays how gaming is at the intersection of multiple disciplines. Regardless of how the reader feels about games or how staunchly they oppose their implementation at work, the authors make a compelling case for the impact of gaming on the future of work.

[i] Byron Reeves, Simon Roy, Brian Gorman, and Teresa Morely, "A Marketplace for Attention: Responses to a Synthetic Currency Used to Signal Information Importance." *First Monday* 13, no. 5 (May 2008).

[ii] IBM Innovation in Virtual Worlds: http://domino.research.ibm.com/comm/research_projects.nsf/pages/virtualworlds.index.html

[iii] IBM Virtual World Guidelines: https://domino.research.ibm.com/comm/research_projects.nsf/pages/virtualworlds.IBMVirtualWorldGuidelines.html

[iv] Kapp, K. M., & O'Driscoll, T. (2010). *Learning in 3D*. San Francisco, CA: Pfeiffer.

[v] Rufer-Bach, K. (2009). *The Second Life Grid: the official guide to communication, collaboration, and community engagement*. Indianapolis, Indiana: Wiley Publishing, Inc.