

Bottom Line: Defining Success in the Creation of a Business Simulation

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This paper describes Bottom Line, a hybrid technology/classroom business simulation (sim) designed to help interns at an auditing/tax/consulting firm better understand the industry they are entering and the resource trade-offs that professional services firms make to stay competitive. This paper describes the sim on three different levels, the simulation level, the game level, and the instructional level, and the design choices made at each level, some of which were influenced by significant resource constraints. Bottom Line's learning gains and ROI were not evaluated objectively—in fact, given objectives more focused on thought provocation than content teaching, it is unlikely it would score well on any level of the Kirkpatrick scale beyond the first. Despite that, and despite significant design and development weaknesses, it was seen as an unqualified success by the sponsoring organization. A discussion of what success means concludes this paper.

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Bottom Line: Defining Success in the Design and Development of a Business Simulation

Bottom Line is a simulation, or *sim* for short, designed to teach new interns at a mid-sized financial services firm in the Midwestern United States about the choices and trade-offs that certified public accounting (CPA) firms make in running their businesses. It is designed to give learners a glimpse into the world of the partners running the business. *Bottom Line* is hybrid sim, with some elements of the game driven by technology and others driven by the decisions of facilitators. Teams form their own partnerships, make decisions about how to utilize resources, bid for clients, run engagements, and then debrief about which strategies produce the highest profit per partner. The sim lasts four hours from start to finish.

The purpose of this article is three-fold: to describe *Bottom Line* at the simulation, game, and instructional levels; to describe the design process, successes, and mistakes made by the team under resource-constrained conditions; and to consider questions of success. *Bottom Line* was considered a great success by learners, stakeholders, and the firm; however, its success does not fit comfortably with typical measures of instructional success in business training, such as those described by Kirkpatrick (Kirkpatrick & Kirkpatrick, 2006). This paper briefly explores the notion of success.

The Design

Intent

Bottom Line was created to allow learners to experience the designing and running of their own financial services firms. The target audience was interns who had been with the firm only a few weeks. Its purpose was to provide learners with insight into the core tensions that underlie a successful firm—to provide a window into the difficult strategic decisions that face financial services firms in particular, and professional services firms in general, every day. *Bottom Line* was designed to provoke learners to ask questions such as “What makes one firm conservative and the other aggressive, and what are the risks?” “What are the implications of devoting significant resources to practice development—that is, spending money on advertising and the community, unbilled time developing relationships with customers, and so forth?” and “What drives customers to choose one professional services firm over another?” In short, *Bottom Line* was designed to help learners think critically about the firm and about their careers.

Bottom Line was created to be one piece of a multi-day conference for interns held twice a year. The initial offering of *Bottom Line* was for three rooms of 60 participants run in parallel. The conference itself was designed to be instructional in nature, with a focus on personal rather than technical development, but an important secondary purpose of the conference was “re-recruitment”—helping participants understand the values of the firm to

increase the likelihood that they will choose to stay with the firm beyond the internship. To that extent, creating a positive, fun atmosphere at the conference was important. That said, the conference could not just be all fun and games either; the firm wanted participants to leave feeling that they had grown, and that they were taking away practical lessons they could use. Bottom Line was conceived as a enjoyable, immersive way to meaningfully engage participants.

The success of Bottom Line would ultimately be measured by whether participants left the experience:

- Feeling like they better understood how clients choose firms and ways firms can utilize resources to address client needs while still remaining viable as a business entity.
- Asking questions about the firm, the field, and client service.
- Energized by experiencing an event they perceived as fun, innovative, well-executed, and thoughtfully-designed.

Bottom Line was designed by the author of this article, with support and suggestions from a number of subject matter experts in the firm, and programmed in Adobe Flash by a technical resource on my team based on my technical specifications for functionality and Adobe Illustrator files for visual design.

Finished Design Overview

Bottom Line is set in the fictional city of Iratown. Ten teams of six participants each are given a brief prospectus of Iratown itself and intelligence reports on major businesses in Iratown that are seeking assurance, tax, or consulting services in the coming years. Each business intelligence report includes information to help participants gauge the motivations of each potential client (e.g., price sensitivity, complexity of problems) and the size of each engagement.

The teams are instructed that they have each formed a partnership in Iratown and they are in competition with the other new firms for building a client base. At the end of four game years, the winning team is the one that achieves the highest profit per partner.

The sim itself is divided into three phases. The first is the design phase. Teams assign their members specific roles, such as managing partner or controller, and then, via an electronic dashboard, set the operating parameters for running their business:

- Infrastructure: from low tech and frugal to high tech and luxurious
- Training: from providing only enough training to keep employees credentialed to using extensive training as a differentiator
- Compensation: from lagging behind the market to leading the market
- Staffing: from running lean to running long
- Practice development: from relying on word of mouth to spending significant, unbillable resources on developing relationships with existing and potential customers; the practice development parameter also has a sub-parameter that lets teams decide whether to skew

practice development resources toward acquiring new clients or toward expanding business with existing clients

- Expertise: from generalists who are highly efficient at solving common problems to experts who are able to provide solutions to complicated, unique problems
- Philosophy: from aggressive (pushing work down to less experienced resources, requiring fewer procedures, more aggressive project planning) to conservative

BottomLine
Partner Together, Champion the Client
A business sim from McGladrey

Enter your firm's name here

Number of partners 0

Operating parameters

Infrastructure Duct tape ▲ Shiny

Training Credential ▲ Differentiate

Compensation Lagging ▲ Leading

Staffing Lean ▲ Long

Practice Development Minimize ▲ Emphasize

Prac Dev Balance New clients ▲ Existing

Philosophy Aggressive ▲ Conservative

Expertise Routine ▲ Unique

Enter target industries here, if any

Line of business mix

Assurance

Tax Consulting

Your tag

Describe your firm in one sentence or phrase (e.g., "The power of being understood.") here

Design your Firm

Design Run

Figure 1. Screenshot of the Bottom Line dashboard during the design phase of the sim.

Each operating parameter is set by default to the middle of the scale, meant to represent the average setting for CPA firms. In addition to setting the operating parameters, teams also are asked to pick a name for their firm, a tag phrase that summarizes their business philosophy, their target mix of business (among audit, tax, and consulting), and their industry specializations, if any. Teams are allotted 40 minutes for the first phase.

Each parameter affects three variables under the hood: the firm's costs, its efficiency, and its ability to satisfy its clients. For instance, setting the infrastructure slider higher than average significantly raises a firm's cost per hour—all that custom software and those modern office spaces are expensive—but it also increases its efficiency due to the possibilities of automation provided by leveraged technology.

In phase two, the teams compete against each other for clients by completing paper bid sheets. A bid calculator gives teams a starting point for

bids; it tells each team how many hours they would expect each engagement to last and what their cost per hour will be based on the operating parameters they have chosen. Each of the facilitators in the room represents one or more clients and decides which team to award bids to based on a number of factors that differ depending on the client—some are especially price sensitive, others are more interested in fit in terms of expertise or experience in their particular industry, some are even swayed by factors such as appearance as evidenced by factors such as lavish spending on infrastructure. The sim proceeds through a number of game years, with new clients coming up for bid each year. While there is no limit in the software for the number of game years, available time in its debut limited the simulation to four years.

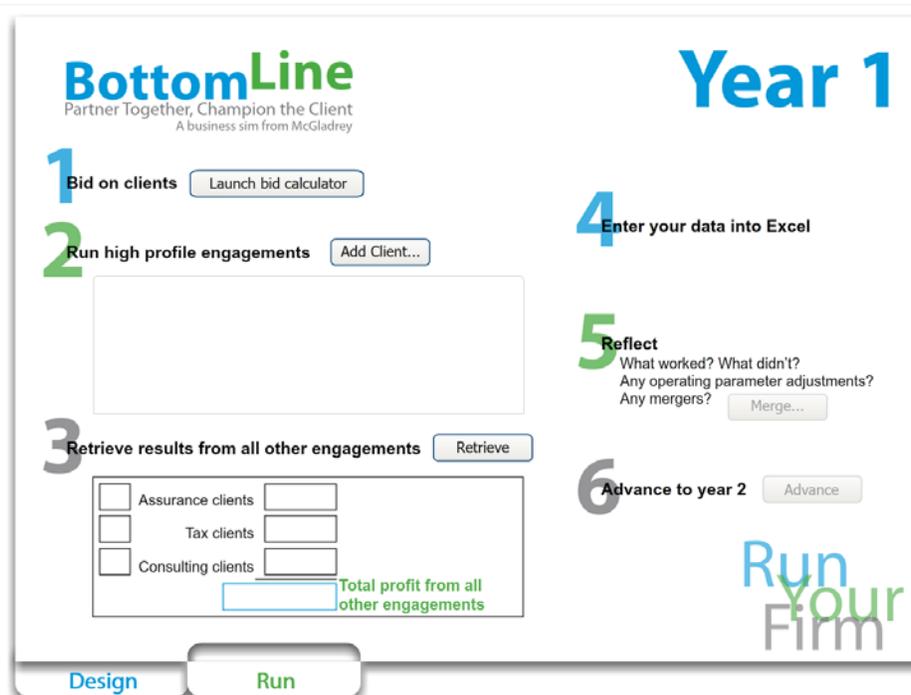


Figure 2. Screenshot of the Bottom Line dashboard ready for the run phase of the sim.

Teams also run their engagements for the year in this phase. Teams use the dashboard to find out the financial results of their engagements and the satisfaction of each client. Dissatisfied clients are more likely to drop the firm. Delighted clients are more likely to expand their business—at premium rates since they do not solicit competitive bids for the new work. The teams keep track of their financial results in a separate spreadsheet.

Phase three uses a written discussion guide to help a facilitator guide a debriefing session, where all the teams take part in group discussion about their strategies.

Design Challenges

A number of barriers had to be overcome in the development of Bottom Line, all of them in one way or another related to resource limitations. Standard operating procedures at this firm dictate that new courses have well-defined instructional objectives, protected access to one or more subject matter experts, and a development timeline established well in advance. Bottom Line had none of these advantages.

Bottom Line was conceived in September of 2010 when the senior director of Learning & Professional Development asked me to design a business simulation for delivery at an intern conference in January. I assigned myself to the project as the designer, along with my manager of instructional media and technology as the programmer, although neither of us would be able to devote more than sporadic, short chunks of time to the project before early December due to prior commitments. One design challenge, therefore, was time. It was difficult to predict the time I would need to design the simulation as I had never been involved with a sim of this complexity before. Bottom Line was inspired by a previous simulation I had designed entitled *Engageonomics*, which was a much simpler one-hour sim focused on running a single client engagement. And prior to joining the firm I had designed some branching-based simulations for language arts curricula, but Bottom Line was a whole different challenge.

Table 1. The design team for Bottom Line

Person	Role
Senior director, Learning & Professional Development	Initiated the project; challenged the designer to create a simulation for a specific upcoming conference
Senior director, Recruiting	Owner of the conference; reviewed conceptual designs and arranged for availability of appropriate resources to run the sim at the conference
Director of instructional design and technology	Designer of Bottom Line
Manager of instructional technology and media	Bottom Line's Flash programmer
Senior director, Mergers and Acquisitions	High level subject matter expert
Various subject matter experts	A number of individuals served as subject matter experts for specific aspects of the simulation by providing brief consultations

The other key missing piece was a dedicated subject matter expert, as I was not an expert on how the firm worked at the partner level. Since we would be asking participants to assume the role of partner in their simulated businesses, an ideal subject matter expert would have been an operationally-

focused partner in the firm. Partners are extremely time-constrained, but the senior director identified an excellent alternative- a senior mergers and acquisitions director in the firm who had significant experience evaluating professional services partnerships. Though given the lack of lead time, it was impossible for him to devote himself to the project beyond serving as an occasional sounding board. The other difficulty in terms of subject matter expertise that quickly became apparent was that no single individual had the depth of knowledge in all the germane areas to serve as a one-stop-shop.

Design strategies

Though I did not conceive of the project this way during development, it became clear to me while reflecting on the project later that it would be useful to think of the project in terms of three distinct layers: the simulation layer, the game layer, and the instructional layer. While this simplistic model does not particularly reflect any simulation design model in the literature I am aware of, the value of analyzing simulations in terms of layers has been noted in the literature base (Gibbons, Nelson & Richards, 2000).

The simulation layer

The simulation layer houses the underlying algorithm that allows someone to set the input parameters on one end and generate a plausible outcome on the other. A simulation is a model, and the faithfulness of the model to the real world depends on the purpose of the simulation. In the case of Bottom Line, it was not important that the simulation faithfully represented the mechanics of making partner-level decisions, but it was important that it represent, with reasonable cognitive fidelity, the strategic weighting of factors affecting those decisions.

Knowing that getting the simulation model right was a huge challenge, I set aside what time I could in October and November to at least get agreement on the simulation layer in principle. The first step in designing Bottom Line's simulation layer was isolating the critical operating parameters that represent the key tensions in running a successful firm. In the interest of time, I created an initial list for the subject matter expert to react to, rather than risk delay by asking him to generate the list from scratch. His suggestions and encouragement allowed me to move forward, but I knew I would need to reach out to other subject matter experts in order to more precisely define the impact of each operating parameter on other elements of the simulation. For instance, a subject matter expert in human resources was needed to answer the question, "What is the ultimate impact to the firm of paying below or above market wages?" I began identifying our "specialty" SMEs but knew that access would be precious, so I resolved to define all the elements of the simulation as precisely as possible prior to individual meetings with SMEs to minimize follow-up visits.

To this end, I mocked up the simulation in spreadsheet form. It was crude and full of tenuous assumptions, but it allowed me to "play" in the best

sense. With a few hours of work, I had a spreadsheet that allowed me to input values for the operating parameters and through a set of “best-guess” formulas, I was able to output values for *odds of high client satisfaction, anticipated number of hours per engagement, and cost per engagement hour*. This initial prototyping was absolutely invaluable; it allowed me to identify elements of the simulation that were ill-conceived, to isolate elements that were ill-defined or problematic, to identify elements that were missing, and, critically, to gain some level of confidence that the initial conception for the simulation was going to hold together. The prototype grew more sophisticated over time and provided unexpected value down the line, both as a testing tool (I could input values in the prototype and compare them against values produced by the production code) and as the basis for a simplified fallback tool when the production schedule slipped and we were in danger of not being able to deliver the final code for the dashboard in time.

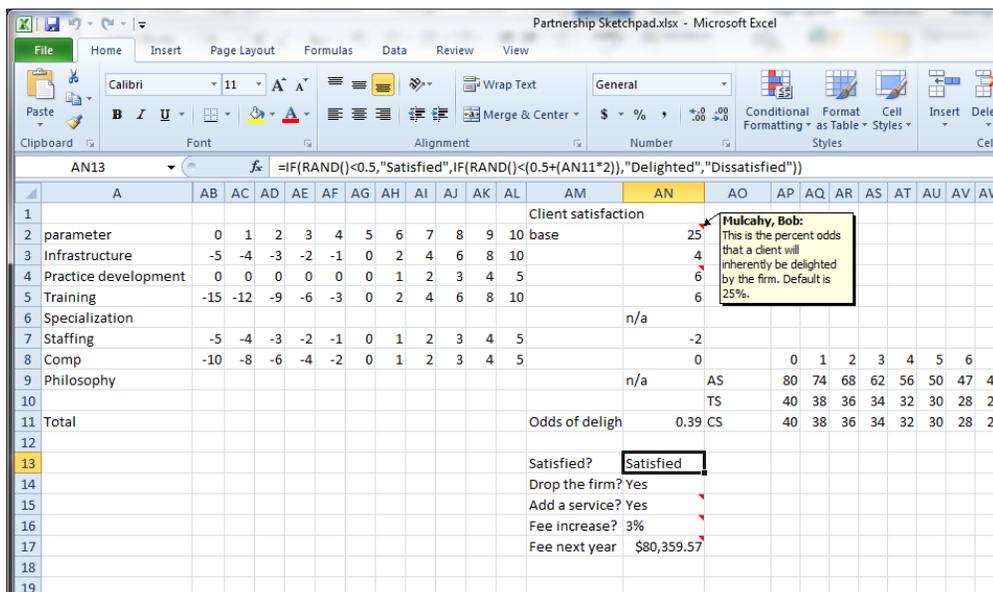


Figure 3. Partial screenshot of the mockup initially created in spreadsheet form as a proof of concept.

An important early decision incorporated into the prototype was the presence of some randomness in the system. The best a team could do would be to maximize the odds of high client satisfaction and minimize the odds of engagement overruns, but no series of moves would guarantee success. It is difficult to know if this was the right decision; randomness can cause teams with winning strategies to lose merely from bad luck, putting at risk the instructional outcomes. On the other hand, an important element in running a professional services firm is the realization that not everything is in your control. Firms frequently lose clients even when they make all the right moves—personalities, changes in management, bad luck, and myriad other factors play a role.

Inevitably, Bottom Line was about deliberate compromises and thoughtful simplifications. In the conceptual design document I documented them all as clearly as I could. One example of a fundamental simplification arose early in the design process as I briefed our main SME. Bottom Line, as I conceived it, was about learners assuming the role of partner and trying to maximize profits. The SME immediately challenged this notion—profit is not necessarily the primary motivator of partners. Some partners, having “arrived” after years of long hours, are motivated by worklife balance above all. Other partners are chiefly motivated by solving the complex technical problems that initially attracted them to the field, or they can be driven by the desire to create the best possible place to work or to be the best community partner. It was not hard to envision variations of Bottom Line where partners choose or are handed different motivations, but this increased complexity, and for our target population it was not clear that this would be useful complexity. After some debate, we documented it in the conceptual design document as a simplification and moved on. The simulation had to feel realistic, but at the same time we had to be careful to minimize complexity that did not support our learning outcomes.

Quantifying the relationships between the operating parameters and the key sim elements (efficiency, cost, and client satisfaction) was often an inexact science, even for our specialized SMEs. I posed the questions this way: “If I draw a straight line, and one end represents the firm that spends the least on compensation, and the other end represents the firm that spends the most on compensation, and the middle represents market rates, then what is the impact on a firm’s costs of pegging the needle at one end or the other? What about efficiency—how much more efficient are firms who pay top dollar for talent, all else being equal?” This provided a launching pad for the SME to talk about, in this case, the relationship between compensation and turnover and the impact of turnover on costs to the business and client satisfaction. Once we had the extremes mapped, we would talk about whether the basic relationship across the entire spectrum is linear, parabolic, or some other shape.

The SMEs found this quantification a difficult task. I pointed out that even if they are making a guess, their guess would carry the weight of their experience. Some offered me the names of other SMEs to crosscheck their numbers. The final question was the hardest. I had some evidence from one of my SMEs that firms expect about 50% of their clients to be satisfied, with the balance equally split between highly satisfied and dissatisfied. So I posed the question this way: “Let’s assume that for an average firm, about 50% of their clients would describe themselves as *satisfied*, about 25% as *delighted*, and the other 25% as *dissatisfied*. How would these percentages be affected, all else being equal, by moving this parameter to one extreme or the other?” Undeniably, the patchwork of quantifications that emerged was more directionally correct rather than truly accurate by virtue of being driven by (informed) guesses rather than empirical data. For the target population, this

was sufficient. Future plans to adapt the game to more advanced populations may require more rigorous analysis.

The game layer

Bottom Line was consciously never referred to as a “game” to participants, in order to lend the experience weight and credibility in terms of learning. However, it was our explicit intention to make it feel game-like. The play aspect of the sim needed to be innovative but clear, fast-moving but not frustrating, fun but not frivolous.

We decided that competition would be an element of the game, though we recognized that competition carries risk—the risk that motivation becomes externalized (Kohn, 2004), the risk that teams who are losing would become disengaged, the risk that players would concentrate on gaming the system to win, and so forth. A cooperative, non-zero-sum game might avoid some of these risks, but it was difficult to ignore the reality that a business simulation needs to model competition. In theory, the players could be banded together against some artificial intelligence or other form of non-player enemy. However, pitting teams against each other seemed the most straightforward way to generate competition.

In addition to the inherent risks around competition, we had identified a number of other risks and fallback positions related to gameplay. The technology was a big one—while in theory all the data for each team was kept on two laptops, one with the spreadsheet, the other with the dashboard, in reality the loss of either laptop or crashing of either application would be catastrophic to that team. While there were certainly technical solutions possible, implementation of a failsafe was not feasible in the available development timeframe. Our backup plan was to equate technology failure with real life catastrophic technology failure, akin to unrecoverable loss or inadvertent public disclosure of client information, which can be fatal to a CPA firm, and simply disband the team and distribute the players to other teams. Fortunately, none of the 60 or so laptops running across three instances of the sim that day failed.

Complexity was another worry. Bottom Line turned out to have a complex simulation layer, and if the game layer were equally complex this would have been confusing and frustrating for players. Our strategy for minimizing this risk was two-fold. One, having a technology component allowed us to hide much of the complexity under the hood—though on this point we had to be careful that we didn't hide so much of the complexity that no learning took place. Two, careful and explicit step-by-step pacing was instituted, particularly in the first game year. The key tool for this was simply an accompanying slide deck, which had the double advantage of being a crutch for the “mayor,” or head facilitator, of Iratown at each of the three sites. The deck included explicit timing and instructions to the mayors as well as granular step-by-step prompts for learners.



Figure 4. Example from the slide deck designed to help facilitators run the simulation with relatively little preparation. Some elements such as the bid timer shown above, were automated using PowerPoint's timing tools and embedded in the deck.

Leveraging technology extensively introduced a development risk, one that came back to bite us. The Flash programmer was not available until late December to begin the programming work, giving us essentially four weeks to program and test the sim. The programmer was relatively inexperienced in Flash and quickly fell behind our initial schedule. The technology was not ready to go until literally the night before, and we were forced to disable one planned feature, the ability of firms to merge. Reflecting back, the right call with such tight deadlines may have been to bring in a more experienced programmer at the first missed deadline.

Unfortunately, the programmer and I judged one bug, discovered at 11pm the night before the launch, as too obscure to be likely to affect gameplay. Our fear of introducing new bugs at that late hour was greater than our fear of the known bug. This proved to be the wrong decision. In one of the three games going in parallel, a team that was doing poorly and had few clients was playing with the operating parameters to see if they could offer any salvation. They inadvertently triggered the bug, which happened to have a significant positive effect on their profit and they ended up being one of the winners on that basis. Their actions were not malicious; they were trying to discover how all the various elements worked together and figured in good faith that they had found a combination of operating parameters that promoted success, even if they didn't understand why.

The instructional layer

The victory by the team that unwittingly exploited a bug was not necessarily as disruptive or conspicuous as it perhaps should have been. Even

the town mayor didn't realize what had happened. From the perspective of both the participants and the facilitators, Bottom Line was a complex glimpse into the real world of how a CPA firm operates—too complex to understand in depth in the allotted game time. From their point of view, having the opportunity to reflect on some of the tensions faced by a firm like ours in a fun, engaging way, was sufficient. It didn't matter to them that they didn't understand how all the simulation elements interacted.

The fact that one of the three winning teams won on a bug and no one noticed was a clear failure of Bottom Line's instructional model, however. If Bottom Line had done a better job of teaching learners the core principles of client service, the teams would have been in a position to question the validity of the win rather than merely accepting it. A robust instructional strategy would have facilitated this outcome; however, during the development effort, the simulation and game layers received much more attention than the instructional layer. The short shrift to the instructional layer was not intentional and had a lot to do with both resource constraints and relatively fuzzy instructional objectives—though, frankly, I should have known better. The instructional strategy relied heavily on the debrief at the end of the sim. The Irtatown mayors were provided with discussion guides for helping learners compare and contrast effective and ineffective strategies. The risk of this approach was that learners were given no tools to help them identify along the way critical relationships between elements of the simulation, creating an experience more in lines akin to discovery learning, which was not my conscious intention and probably not a good fit for the event given the high cognitive load of the simulation itself (Tuovinen & Sweller, 1999).

For future iterations of Bottom Line I have begun mapping out instructional supports to assist learners and raise the level of dialog in the debriefs. Augmenting the dashboard to provide a realtime display of the impact that changes in operating parameters will have in terms of client satisfaction, engagement costs, and engagement efficiency is one approach we are pursuing. Another is asking teams to maintain a visible board that charts their decisions and outcomes in such a way that all teams can gain visibility and insights into their competition. Such a system would allow, for example, a team that lost a bid for a particularly appealing client to contrast their operating parameters with the winning team's. Done well, it should also allow teams to look around the room to get a better sense of who is not only winning clients and why, but who is retaining clients and growing relationships with them. Once more data is available for learners to make connections, it should be possible to provide appropriate scaffolding to encourage meaningful discussions within teams during gameplay.

Discussion

Defining Success

The success of workplace instruction ultimately hinges on how much learning takes place and how much impact the learning has on the business achieving its strategic goals (Kirkpatrick & Kirkpatrick, 2006). By that measure, Bottom Line's success is at best unclear, since no assessments were given and no efforts are planned for attempting to measure the business impact of interns having a better conceptual understanding of the business.

Yet, despite a lack of measured or perhaps even measureable learning objectives, an undervalued simulation model, an unfortunate software bug having a material effect on the outcome, and a weak instructional model, Bottom Line was considered an overwhelming success by the stakeholders: the conference owner, firm management, the facilitators, and learners. Feedback from learners on the end-of-course evaluations included:

- "It was a good teambuilding exercise, it was a good networking experience, and it gave me insight into the decisions a partner may make about clients."
- "I thought the entire simulation was beneficial. It really helped me see that not everyone thinks alike, and some people will want to be sneaky when doing business and others will want to be straightforward. I think it was a very good simulation of character and what we will have to deal with not as partners, but working with people every day."
- "This was my favorite part of the conference by far. And that includes Vegas night so that is really saying something."

In the participant evaluation, Bottom Line scored 4.5 on a scale from one to five on the prompt, "Overall, I was satisfied with this experience."

Facilitators were also extremely satisfied with their experiences with Bottom Line. Feedback from facilitators included:

- "The Bottom Line simulation was the highlight of the conference for me, as well as for most of the interns I spoke with – what a fantastic way to give them insight into how an accounting firm works!"
- "All of the Baltimore interns that I flew home with thought the simulation was great and enjoyed the opportunity to see what it's like to be in the decision making role."
- "Everyone in the firm should be required to go through this simulation."

Most importantly, perhaps, our direct customer, the owner of the conference, was thrilled.

From an instructional design standpoint, the accolades created some dissonance. If an instructional project is doomed on the Kirkpatrick scale, are any accolades hollow?

Based on their comments, the perception of success by the stakeholders—learners, facilitators, and leadership—was driven by a number of factors. In a firm and industry dominated by traditional, relatively passive instruction, Bottom Line naturally drew attention to itself. Many participants contrasted the difference between Bottom Line and the relatively passive

learning that took place during the rest of the conference. By engaging learners in a high energy simulation, and by thoughtful integration of technology, Bottom Line felt cutting edge, exciting.

Certainly, Bottom Line does not stand alone in terms of simulations that have been considered successful despite a lack of quantitatively-measured learning outcomes. The Diffusion Simulation Game, for instance, has been used for decades to teach change management strategies to master's students in Instructional Systems Technology. Yet, when the designers of the current version described the historical success of the simulation, they framed it in terms of longevity and licensing rather than in terms of success meeting learning outcomes, the measurement of which is planned as a future task (Lara, Myers, Frick, Aslan & Michaelidou, 2010).

Good instruction should be grounded in the first principles of instruction (Merrill, 2002), but instruction can also strive to be elegant, to uphold a thoughtful, insightful cohesiveness—a sense of aesthetic (Parrish, 2009). Achieving a coherent aesthetic was certainly our intention. An *aesthetic* implies a certain physical beauty and, indeed, it was important to us that Bottom Line look clean and attractive. An aesthetic is more than that, though; an aesthetic design has to delight in its details, have its own personality and sense of narrative. To help bring Iratown alive, for example, it was important to develop its identity and backstory.



Figure 5. Iratown logo. I generated Iratown's tag phrase by feeding the firm's tag, "The power of being understood," into Google Translate for translation into Latin.

The clients in Iratown had to be realistic but they also had to have their own individual identities. The company intelligence reports had to reflect the reality that businesses have personalities that reflect their leaders.

Most importantly, there had to be an aesthetic of gameplay (Schell, 2008). The pacing, the challenge, the surprises, the immersion in the roles, all had to feel finely tuned, animated, and rhythmic. We set out to give Bottom Line players a sense of theme, character, and story. This sense of aesthetic was, I believe, a significant factor in its success. To those involved with it, it felt like they were part of something elegant and exciting, something new and well-designed. Our chief goal for the next iteration of Bottom Line is to bring that same elegance to Bottom Line's instructional layer.

In the end, Bottom Line was viewed as a success by learners because they had fun and felt like they learned about the business, even if it is not clear how much they learned and how well that learning aligned with the instructional objectives. The internal owner of the conference, our main customer, was happy because learners walked away excited. The senior director of Learning & Professional Development was pleased because the customer was happy. Years of instructional design practice and study led me to significant dissonance over Bottom Line's vague, difficult to quantify objectives and its apparent success, yet I detected no signs of this conflict in the other stakeholders in the project. It was a great reminder for me that stakeholder's objectives don't necessarily align perfectly with the outcomes I value.

Conclusion

The firm sees Bottom Line more as incunabulum than finished product, which is driving part of the internal excitement. Bottom Line is helping influential members in the organization see new options for learning. To that extent, some of the success of Bottom Line is as catalyst.

The team has begun discussing what it would take to adapt the sim for use with different audiences, such as newly-promoted managers. Certainly, the tenor of the debriefs would be different with this audience, as rich topics such as "Where is the simulation realistic, and where does it oversimplify?" and "Where has *our* firm set its operating parameters, and do you agree with the settings?" would become central.

Bottom Line has sparked interest in creating new simulations. On the drawing board is a sim called *Leverage*—a fully electronic, independently replayable sim that lets participants explore the upsides and downsides of pushing work down to less expensive resources. The firm also has increased interest in selectively utilizing third party sims. Bottom Line has even generated excitement in unexpected places. The internal communications groups has been asking about the slider-based user interface of the dashboard, for example, and whether it can be adapted for other uses.

Kirkpatrick's evaluation model is ill-equipped to measure success along these vectors. Owston (2008), in his review of major evaluation models, observes that Kirkpatrick's model is important in the corporate training sphere, but notes that it has "little in common" (p. 608) with other evaluation models because of its lack of focus on the interests of stakeholders and a strong

emphasis on outcomes as opposed to process. Bottom Line may be an example of a corporate training program where more nuanced models would be necessary for rigorous evaluation of impact.

The success of Bottom Line may ultimately be judged by how it evolves and what it inspires. My hope is that we can prove Bottom Line and its descendants successful on the Kirkpatrick scale—that my team and I will be able to tie performance on simulations to business outcomes. For the moment, though, it's fair to wonder whether inspiration itself is a reasonable basis for defining success. Instruction of course can inspire learners. Part of the purpose of Bottom Line was to inspire learners to picture themselves as partners in the business, to envision the long term possibilities, to say to themselves, "I'm fascinated by all the competing interests a partner has to balance; I'd like to be that person one day." If instruction inspires positive affect among the target population, making them a little bit more likely to choose to stay with the firm long term, maybe that's a reasonable basis for success, even if myriad other factors will weigh on that decision. From a measurement perspective, *inspiration* would have to be precisely defined and measured both immediately after the event and over time. In theory, a well-controlled study could link inspiration to business outcomes such as increased retention. Philosophically, this approach is similar to Kirkpatrick's, only with the emphasis shifted from instructional outcomes to inspiring or affective outcomes.

An instructional event can create inspiration beyond learners as well. If an instructional event creates excitement about learning and the possibilities of instructional design, is that alone a reasonable basis for calling an instructional project a success? My experiences with Bottom Line would suggest this is the case; while we are unlikely to ever really know the impact on learners in any kind of rigorous way, it was clear that the design experience itself created growth by suggesting new possibilities, to myself, my team, and many others in the organization. To look at success holistically, or at least beyond achievement of preset learning objectives, is not to ignore the importance of tying measurable learning gains quantitatively to business outcomes, but to also consider complementary measures that are equally important in the designer's lived context, a context where managers and leaders make decisions based on emotion and impression as well as numbers, and where inspiration can pay dividends down the line.

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