

# Results-Based Interaction Design

*Reach beyond use and usability and focus on impact by combining marketing and interaction design to improve academic website development*

By **Meredith Weiss**

The Internet plays a critical role in how academic environments interact with their key audiences. Consider the role your website plays with prospective students and their decision to apply; alumni and their contributions to your latest campaign; scholars and their interest in joining your faculty; or employers seeking to hire your graduates. What role does your website play in supporting institutional, departmental, or school goals? If, for example, your school's goals include enrolling the highest caliber of student as defined by your admissions committee, increasing annual fundraising by two percent a year for the next three years, attracting and retaining top faculty, and increasing the rate of students employed at graduation to 99 percent, does your website advance these goals? Does it persuade your visitors to act? Is it designed to do so? Do you know?

In the new world of Web 2.0, which focuses on user engagement and collaboration, websites should not be seen solely as online brochures or as tools for pure information dissemination. Instead, a website should create an engaging user environment.<sup>1</sup> Many disciplines and professions inform effective website development, including user interface design, user-centered design, experience design, and interactive system design. All can be summarized under the umbrella term *interaction design*.<sup>2</sup>

Interaction design is a user-centered approach to development in which users and their goals are the driving force behind a project's design.<sup>3</sup> Interaction design principles are fundamental to the design and implementation of effective websites, but they are not sufficient.<sup>4</sup> This article argues that, to reach its full potential, a website should also serve as a key component of the institution's, department's, or school's marketing strategy by advancing organizational goals and collecting data to enable evidence-based decision making.<sup>5</sup>

Building an engaging, user-focused site that gathers needed data and advances organizational goals is not simple. To do so effectively requires a willingness to approach a website development project in a way that capitalizes on both interaction design and marketing principles. This article proposes such an approach, referred to as results-based interaction design. Successfully implementing a website using results-based interaction design requires a development team with technology and marketing expertise, as well as an administration that supports the effort and views marketing as appropriate in higher education.

As we navigate the Web 2.0 Internet, the desired norm is an environment of engagement, collaboration, web-based functionality, and a rich user experience.<sup>6</sup> This is evidenced by the recent proliferation of web environments such as Facebook, MySpace, Second Life, Blogger, Digg, and Del.icio.us that support dynamic social relationships enhanced by new computer-mediated communication tools. With these new tools come new user expectations. Today's

web development teams face the challenge of delivering websites that engage their audiences by providing visitors the functionality they have grown to expect while remaining focused on the goals of the institution, department, or school. I propose that this can best be achieved by having a development team that understands both interaction design and marketing.

Interaction design professionals are critical to a web design project because they understand and can incorporate standards of usability. Furthermore, technologists specializing in this area are experts on how people find information and on creating a positive user experience. Interaction design focuses on helping the user find information, perform tasks more efficiently, and enjoy a positive interactive experience.<sup>7</sup>

Marketing research provides data on the information users want, what factors into their decisions, and how this information can be integrated into the site to influence a user's behavior. Marketing experts gather and use data strategically to meet an organization's goals and objectives.<sup>8</sup>

To develop a comprehensive results-based strategy, it is first necessary to understand both the underlying interaction design and marketing disciplines in more detail. The following sections introduce these topics.

## Contributions from Interaction Design

Interaction design focuses on user goals. Three key principles of a user-centered approach are

- an early focus on users and tasks,
- empirical measurement, and
- iterative design.

The focus on users and tasks involves knowing the users, observing them doing tasks, and involving them in the design and evaluation processes. The goal is to develop a product, in this case a website, that is *usable*, meaning easy to learn, useful, and an enjoyable user experience. The interaction designer (or design team) strives to create user experiences that enhance the way users com-

municate and interact. To do this, the interaction designer looks at potential site visitors to evaluate the project throughout the process and strives to understand users (their abilities, needs, desires, frustrations) and what they do, including how they interact with each other, with the technology, and with information.<sup>9</sup>

Empirical measurement assesses performance and reactions to prototypes. According to Sharp, Rogers, and Preece,<sup>10</sup> usability and user experience goals should be identified and agreed upon at the beginning of a project; they are what the interaction designer strives to achieve. Progress toward these goals is empirically evaluated throughout the development process. Usability goals include being effective, efficient, simple to learn, and easy to remember. User experience goals focus on the users' perspectives of their experience, including such qualities as being enjoyable, satisfying, engaging, helpful, aesthetically pleasing, frustrating, annoying, and so forth. Interaction designers use design principles such as visibility, feedback, constraints, consistency, and affordances to meet user experience goals.<sup>11</sup>

Iterative designs are developed, tested, measured, and redesigned throughout the process. Interaction design has four steps that may be repeated throughout the design process. First, user experience needs and requirements are identified. Second, several designs are created to satisfy those requirements. Third, interactive versions are developed for assessment. Finally, user evaluation is conducted throughout the process to ensure usability and positive user experience.<sup>12</sup>

In summary, interaction design strives to understand, include, and satisfy users. It focuses on developing interactive products that help users achieve their goals and provide a quality user experience. Interaction design does not exclude marketing experts to inform decisions (in fact, the design is often done by interdisciplinary teams), but it does not hold that marketing expertise is vital to a successful project.<sup>13</sup> This article argues that, when done strategically, marketing focuses on additional

business-oriented goals that are critical to maximizing the impact of an organization's web presence. Following interaction design principles, if the user finds the site easy to learn, useful, and enjoyable in terms of user experience, the project is considered a success. What if, however, site visitors are extremely satisfied and enthusiastic about the website but their use of the site does not result in the attainment of the institution's, department's, or school's goals? Following the earlier example, what if the site use does not result in an increase in applications from students the school is seeking to attract, an increase in annual fundraising, an increase in qualified faculty applying, or an increase in the rate of students employed at graduation? If so, even if the site is used, usability is achieved, and user experiences are positive, the project is not successful—or at least is not reaching its full potential. This is where marketing expertise is essential.

## Contributions from Marketing

The American Marketing Association defines marketing as

the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.<sup>14</sup>

Marketing, like interaction design, is customer focused. As early as 1960, the marketing concept held that the problem of all businesses is to develop customer loyalties and satisfaction by focusing on the customer's needs.<sup>15</sup> The role of the marketing function is to effectively communicate the organization's purposes, keep in constant touch with the consumers, discover and understand their needs, and develop products or services that meet those needs.<sup>16</sup>

In the context of academic website development, it is critical that the administration determine:

- The messages they are trying to deliver and to whom.

- What they expect to receive in return if the messages are successfully delivered in a way that creates value.
- The role the website plays in that process.
- How to clearly evaluate the website's effectiveness.

Developing an online marketing strategy will answer these questions. Marketing should not be viewed as competing with user interaction design but as a complement to it. Both aim to deliver value to customers and maintain positive relationships. Additionally, marketing adds an organizational and stakeholder focus to ensure that strategically identified business goals are met.

Marketing encompasses the set of activities used to identify customers, get their attention, motivate them to do something desired by the marketer, and persuade them do it repeatedly. Traditionally, marketing includes defining, promoting, and distributing a product or service as well as maintaining a relationship with customers. Marketing specialists spend considerable time identifying and researching their potential customers (or target markets) before developing plans intended to influence them. Once marketing plans are executed, evaluations are conducted to analyze results and test and amend original assumptions for the future.<sup>17</sup>

Traditional marketing mix theory holds that products are marketed using a mix of the 4Ps: product, place, price, and promotion. Although this theory was developed primarily in regard to physical products, the concepts can be reframed to fit an educational environment by envisioning the organization itself as a product. "Product" refers to the product or service being offered, including its brand identity.<sup>18</sup> A positive brand image<sup>19</sup> is critical to competitiveness in business and in higher education.<sup>20</sup> Product positioning refers to how a target market,<sup>21</sup> which may be segmented to reach different types of users, defines a product or service in relation to its competitors. In order to succeed, a product or service must be differentiated in the user's mind

from competitors in a way that they believe adds value. Differences should be important, distinctive, superior, communicable, preemptive, affordable, and profitable.<sup>22</sup> It is important to know a product's or service's "value proposition" so that one may communicate the value a person will get in choosing this item over what they perceive they are giving up in choosing another.<sup>23</sup>

"Place" refers to the distribution channel or channels chosen to reach the customer, in this example, the website. "Price" is the value exchanged for the product or service. In the case of an academic institution, "price" may be seen as tuition, fees, donations, volunteer hours, cost of hiring a graduate, and so forth. "Promotion" is the mix of advertising, personal selling, promotions, and public relations used to meet predetermined marketing goals by guiding the target market through the steps of awareness, knowledge, purchase intent, and purchase.<sup>24</sup> The organization's website is one promotion mechanism.

Another framework for web strategic market planning, particularly directed toward e-commerce applications but arguably extendable to an academic website, is the 4S (scope, site, synergy, system) Web-Marketing Mix (WMM) model.

- *Scope* includes identifying strategic and operational objectives, conducting market analysis (target market, competition), determining strategic roles (informational, educational, service, relational, transactional) of the medium and conducting an internal analysis (resources, processes, values) to refine web strategic objectives to ensure the organization is in a position to achieve sustainable benefits from the proposed project.
- *Site* includes the primary goal of attracting visitors, establishing contact with target markets, and branding the organization. It also refers to the site's mix of business objectives depending on the defined strategic roles. Success in this area is challenging in that as roles are added to the site, its functionality and usability must be maintained.

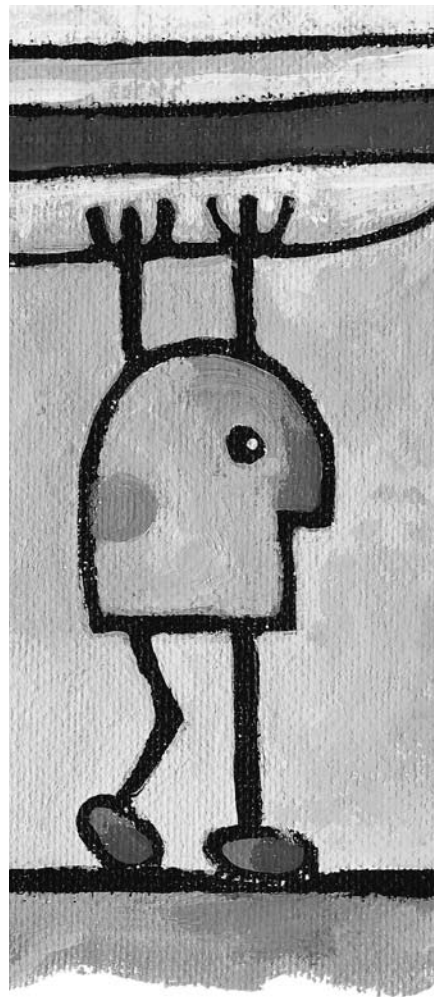


- *Synergy* focuses on integrating the online environment with the physical one. This includes integrating communication strategies, distribution channels, physical support activities (customer service, request processing), legacy systems, company value systems, and third parties with which the organization operates.
- *System* refers to technological and service issues including such items as website administration, hosting, content management, security, functionality, and backup.<sup>25</sup>

All of the marketing concepts above involve understanding and influencing markets.<sup>26</sup> Those who use marketing to serve customers through the Internet should focus on online customer behavior, implications for the marketing mix, determinants of customer loyalty, managing online relationships, and electronic delivery of services.<sup>27</sup> Ultimately, the intent of marketing communications is to assist customers in realizing the value they will receive from undertaking a strategically identified task, such as applying to your school or donating to your campaign, and persuading them to undertake it.<sup>28</sup>

## Results-Based Interaction Design Approach

The concept of results-based interaction design for academic website development brings together interaction design and marketing to create a more comprehensive strategy for website success. The first step begins with a traditional marketing planning process based on understanding the institution's strengths, differentiating factors, and target audiences. Once this analysis is complete and a plan for general marketing activities is defined, the institution, department, or school should identify goals for its marketing and communication efforts and the role the website will play as one channel for implementation. The site's specific strategic goals should then be identified. (The website should not be designed to meet all marketing and communications goals; rather, it should be one piece of an integrated marketing communications strategy.<sup>29</sup>)



In addition, site requirements for meeting these goals should be determined and evaluation metrics for each requirement and goal explicitly stated. Once these are understood, the site's target markets can be segmented and further researched to determine visitor needs, motivators, goals, and characteristics.

Site tasks and text should be built and written in such a way that they not only build relationships and provide positive user experiences but also persuade users to interact with the system in a way that meets organizational goals and supplies needed data to the institution. For example, does your site simply inform alumni about school events? If your goal is to significantly increase fundraising, this is not enough. Do alumni have any compelling reason to visit your site? Do you know if an alumnus/alumna has visited? If so, did your site gather

information about his or her interests and activities that can later be used for targeted messaging and relationship building?

It is at this point that interaction design expertise takes over. Interaction designers should further research identified target markets in order to determine such things as the users' technological abilities, needs, desires, frustrations, and how they interact with technology and information. Interaction designers are experts at implementing site requirements in ways that ensure usability and that support a positive user experience.

In taking a results-based interaction design approach to academic website development, you should ask the following eight questions:

1. How will your website facilitate the achievement of institutional, departmental, or school goals?
2. How will your website's effectiveness in terms of facilitating organizational goals be evaluated? What metrics will be used?
3. How will website content be written to inform and persuade visitors in support of organizational objectives?
4. What are your institution's, department's, or school's strengths and differentiating factors? How will this be communicated in a way that builds value and a positive brand image in the eyes of website visitors?
5. On what assumptions are you completing your website design or redesign? Have you tested these assumptions?
6. Have you conducted marketing research to identify and understand your target markets? Your competition?
7. What data would be helpful to have that your website can collect for your organization? How might this data be collected? How will this data be analyzed and made available to decision makers?
8. How will your website be integrated into your other marketing communication efforts? Into your organization's physical environment?

Table 1 shows the differences between traditional and results-based web design.

## Framework of Results-Based Interaction Design

Perhaps the best way to illustrate how one might implement a results-based interaction design strategy is look first at the REACH (research, experiment, assess, construct, and honor) framework proposed in this article. The name comes from its goal—to reach beyond usability and focus on actual impact.

REACH is an iterative series of steps often performed in varying order. The five elements of the framework interact and influence each other to achieve impact.

### R = Research (Marketing)

The research element encompasses target market research and institutional research.

For target market research:

- Determine the website's target markets.
- Identify assumptions and gather data to confirm or revise them.
- Logically segment the website's target markets and determine such things as:
  - How they prefer to communicate and receive information
  - Their needs
  - What factors into their decisions
  - What influences them
  - The information they seek
  - What motivates them

Institutional research looks at:

- Competitors
- Differentiating factors
- Identifying assumptions and gathering data to confirm or revise them
- Strengths, weaknesses, opportunities and threats (SWOT analysis)
- Value proposition
- What image (brand) should be portrayed
- The website's role in achieving organizational goals
- The messages the organization wants to deliver to each target audience

<b>Traditional Design</b>	<b>Results-Based Design</b>
Driven primarily by user goals	Driven by both user and business goals
Informs users	Informs and persuades users
Provides data	Provides data and facilitates strategic data gathering
Builds engagement	Builds engagement and value

With respect to the organization's messages, what does the institution expect to receive in return if the messages are successfully delivered in a way that creates value?

A number of activities can be used to conduct market research:

- Look at competitor websites
- Hold focus groups
- Conduct interviews
- Carry out a literature search
- Create and test prototypes
- Conduct surveys

### E = Experiment

You can conduct real-time website experiments by manipulating or implementing the following features, among others:

- Audio
- Blogs
- Chat
- Layout
- Photography
- RSS
- Style sheet
- Text (language)
- Video
- Wikis

### A = Assess and Analyze

A number of options are available for assessing and analyzing your website:

- Determine evaluation metrics for both the user and the organization.
- Gather data.
- Develop reporting capabilities.
- Analyze the reports.
- Evaluate performance based on pre-determined evaluation metrics.

### C = Construct (Interaction Design)

Designing (constructing) your website involves two main considerations:

- Develop the website based on its role in facilitating organizational goals and on marketing research.
- Use interaction design methods and principles to ensure usability and a positive user experience. These include:
  - Experience design
  - Interactive system design
  - Iterative design
  - User-centered design
  - User interface design

### H = Honor Your Findings to Improve Results

To achieve the results you want, you need to pay attention to your findings:

- Review analyses and evaluations.
- Use data gathered to achieve organizational goals.
- Use data gathered to improve user experiences.
- Review and update website goals.
- Refine the website.
- Continually measure the website's impact and REACH toward building institutional value.

### Example of Results-Based Interaction Design

The following example illustrates how one might implement the REACH framework to website design. Assume the *business* goal is to increase by 5 percent the number of entering freshman who were in the top 10 percent of their

high school class. The *website* goal is to increase by 15 percent the number of applications received from high school students in the top 10 percent of their graduating class.

### **Research**

The first step is to conduct research. For this example it would be important to learn who students in the top 10 percent of their high school class are, how these students prefer to communicate and receive information, who your school's competition is, and what information needs to be conveyed to these prospective students.

Moving through the research process, it is important to identify assumptions and challenge them. Assumptions should be uncovered and tested before making decisions that rely upon them. In this example, it might be assumed that students in the top 10 percent of their class base most of their decision on where to apply based on a school's rankings. If this were true, rankings might be addressed on the website. If upon further investigation, however, you discovered that students in the top 10 percent of their graduating class chose to apply to your school based on recommendations (from friends, family, or guidance counselors), scholarship offerings, lower tuition, climate, or some other factor, the focus on ranking would not be as successful as focusing on one or more of these other factors.

You might begin your research by conducting focus groups with current students at your institution who were in the top 10 percent of their high school class to determine what factored into their decision to apply to your school as well as where else they applied and why. Ask them why they chose your school. Now that they attend the institution, what do they think is important for prospective students to know that was not apparent to them when they applied? What do they believe sets your institution apart? What builds value in their eyes? What do they see as your institution's strengths? Find out about their interests, needs, experiences, goals, and backgrounds. Ask them what excites, motivates, influ-

ences, and interests them. Focus groups, interviews, or surveys should also be conducted with high school seniors who expect to graduate at the top of their class to understand what factors into their higher education selection process.

Second, you should research your competition. Who else is competing for these applicants? Why do students choose to attend schools other than yours? Make sure those involved in web design, marketing, and communications efforts know your school's competitors. Survey or interview students at your peer institutions and those who applied to your school but enrolled elsewhere. View competitors' websites and read their marketing materials.

Third, find out how your top students learned about your school. Use interviews, focus groups, or surveys, for example, to find out how students gathered the information they needed to make the decision on where to apply to school. Did they consult your website before applying? Did they read anything that persuaded them to apply? Was it a brochure, view book, or other marketing piece? If not, what persuaded them to submit an application? Was it an admissions or guidance counselor, friend, or family member? If so, what did this person say that convinced the student to apply? What types of messages encouraged them to apply? What messages were missing that they would have liked to receive? Would it have helped persuade them to apply if they had received a personal invitation from a current student, admissions counselor, or faculty member?

Fourth, you should logically segment your target audience (in this example, students in the top 10 percent of their high school class) based on what you have learned about them. Perhaps there is a large group of students particularly interested in the medical profession who would like specific in-depth information regarding your premed program. Develop student prototypes for each of these market segments that can later be used to inform design and content decisions and to develop website evaluation metrics.

Fifth, conduct an internal analysis. Why should students apply to your school? What is your value proposition? What image would you like to portray? What differentiates your institution? What are your strengths? How will you convey this information to the students you seek to attract in a way that matters to them and persuades them to apply?

Finally, read and incorporate the findings of relevant research studies and articles written by industry experts. Many well-respected publications publish research related to education, interaction design, marketing, and psychology. Findings in these disciplines, among others, can help designers better understand, communicate with, and persuade their website audiences.

### **Experiment**

Beyond relying on market research, your institution, department, or school can gather data and insight through experimentation. A website offers a perfect environment for real-time research. Yahoo, for example, has a history of treating its site as a prototype with 20 or more experiments going at any given time.<sup>30</sup>

Higher education websites can and should do this as well. Challenge yourself to have at least one experiment at all times on your website. Experiments that might be designed to increase the number of top undergraduate applicants include:

- Randomly display three different admissions pages, one with detailed text you believe—based on your market research—a prospective student in the top 10 percent of his or her class would find persuasive; one with bulleted lists and photos containing the same information; and one with very brief text and videos disseminating the messages. Have a link to your online application from each of these pages and see which one results in the most applications from the students at the top of their class.
- You might try altering your message to see if you can further increase applications.

- You might experiment with offering live chat with one of your top current students to see if that affects applications received.

The possibilities are endless!

### **Assess**

A website, when strategically built, should gather data for decision-making and site-evaluation purposes. Too often, site reporting consists primarily of metrics such as hits, page visits, frequently traveled site pathways, or other traffic-type analyses. These metrics do not mean much to most academic organizations. A good results-based interaction design team will build systems that gather the data that institutions, departments, or schools need to facilitate achieving larger goals. To assess a website's success, evaluation metrics must be determined, data gathered, reporting capabilities built, and data analyzed.

For this example, the design team might develop interfaces that prompt the gathering of class rank information. Perhaps they would implement a survey that asks the prospective student about his or her interests and current academic standing. A feature on the site could offer the opportunity to "Chat with a student with interests similar to yours." Upon submission of the survey (assuming the prospective student agrees to be contacted), a current student with similar interests would follow up, as would the admissions committee with a targeted message inviting the student to apply.

The success of this functionality would be determined by evaluating how many top students submitted surveys and how many of those students eventually applied. Experiments could then be conducted by altering the text, layout, graphics, survey questions, and so forth to see what leads to the best response.

### **Construct**

The website should be designed to facilitate the achievement of institutional, department, or school goals based on the marketing research

## **To measure the website's impact, you need to review and analyze the data gathered and then use what you've learned to further your institution's goals**

conducted. Additionally, interaction design methods and principles should be used to ensure website usability and a positive user experience.

The design team should determine how each market segment uses technology. This can be done by watching users navigate the website or through focus groups, surveys, or interviews. Are they adept at using technology? Which technologies would they prefer to use to find out more about your institution, school, or department? Do they prefer your website, Facebook, or iTunes U? What about RSS feeds, podcasts, videocasts, personalized e-mails, chat, blogs, or wikis? How about interactive surveys, gaming technologies, or personal phone calls? What technologies do they expect? What influences their decision making? What persuades them? What deters them? What could you do to set your organization apart? How do they define a positive user experience?

Potential users of the website should be actively involved throughout the design process. In this example, high school seniors and college freshmen should be involved as much as possible in the site development process. It is just as important for the website to achieve usability and meet user experience needs as it is for the site to positively impact institution, department, or school goals.

### **Honor Your Findings**

To measure the website's impact, you need to review and analyze the data gathered and then use what you've learned to further your institution's goals. This process is ongoing: decisions, metrics, assumptions, experiments,

research, and data gathered should continuously be evaluated, and the website and its goals should be updated and revised based on that evaluation. In doing so, you can measure the website's actual impact rather than look at traffic type metrics or people's impressions of usability. It is important to continually REACH toward building institutional value through your website.

In this example, it is important to make sure that the institution has indeed seen a 15 percent increase in applicants in the top 10 percent of their high school class and to check that, in combination with other initiatives toward this goal, there has been a 5 percent increase in entering freshman who were in the top 10 percent of their high school class. The overall goal, as well as the site's contribution to it, should be evaluated and revised on an ongoing basis. The interaction design team should continue to use the REACH framework to achieve site goals and positively impact the organization.

A final note: Remember the importance of making the website part of an integrated marketing communications strategy. In this example, the website should not be working independently to reach the school's applicant goal. Other communications should also address—or at least not inhibit or contradict—the goal of increasing by 5 percent the number of entering freshman who were in the top 10 percent of their high school class. The aim of other efforts might be to attract top students, directing them to gather more information and apply on the website.

## **Barriers to Implementation in Higher Education**

Embarking on a results-based interaction design strategy for academic website development is a challenging undertaking. Barriers to implementation might include limited staff expertise, funding constraints, lack of executive sponsorship, inadequate time allotted to complete the project, or undefined organizational goals and priorities. Challenges also remain following implementation. Issues such as communicating design decisions to internal stakeholders (who



may not understand why their issue is not a top priority for the website) and determining who is best able to manage site content in light of site strategy (marketing/communications personnel or other staff) may arise. Additionally, the need continues for ongoing evaluation and data mining in order to ensure the organization benefits from its investment in the site.

## Conclusion

In this world of heightened competition for the best and brightest, today's academic websites must do more than look good—they should deliver content that engages, informs, and persuades in support of organizational objectives and generates data for evidence-based decision making. Usability, appeal, and user satisfaction are important and should be evaluated, but they are not end organizational goals. Additionally, the site development team must identify what differentiates the institution, department, or school; the messages they are trying to deliver and how to deliver them in a way that builds value; and how to clearly evaluate site effectiveness in terms of meeting organizational objectives.

The goal of combining interaction design and marketing principles into a results-based interaction design approach to academic website development is simply to allow an institution, department, or school to leverage the web to its full potential in order to meet organizational goals. Which do you think is a better indication of a website's effectiveness? A 50 percent increase in the number of students able to reach the online application without error, or a 50 percent increase in the number of students with a 4.0 GPA who apply to the school—along with instant notification of their name and interests, enabling immediate strategic recruiting efforts? Which goal would *your* school like to achieve? *e*

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