

STRATEGY & PLANNING

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Rich Internet Applications: What's the Business Case?

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Rich Internet Applications (RIAs) blend the benefits of instant Web access to centralized data with a user experience that is both easy to use and cool to watch. But just because they're cool, doesn't mean that they're always a good investment. Evaluate the business case for RIAs and learn key design factors that ensure their success.

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Executive Summary

Learn to evaluate the business case for Rich Internet Applications (RIAs) based on one or more of the following opportunities:

- » Saving money by enhancing employee productivity.
- » Saving money by reducing contact center costs.
- » Making money by increasing conversions and cross-channel sales.
- » Making money by increasing upsell.
- » Making money with a better user experience than the competition.

With RIAs rapidly gaining in popularity, soon the choice will not be whether to roll out an RIA, but rather what type to roll out. Get the jump on the competition by planning an RIA strategy now.



Strategy Point

Rich Internet Applications (RIAs) use technology like AJAX and Flex to free Web users from HTML's often painfully slow post-reply mechanism. Rather than endless rounds of click-submit-reply, punctuated by the occasional server request for missing data, RIAs combine desktop-like interactivity with a rich media aesthetic. Done right, RIAs blend the benefits of instant Web access to centralized data with a user experience that is both easy to use and cool to watch. For more information on Flex, refer to the ITA Premium research note, "[Adobe Flex Gaining Muscle for Rich Internet App Development](#)." For more information on AJAX, refer to the Info-Tech Advisor research note, "[AJAX: A New Hero for the Web](#)."

Google Maps, implemented in AJAX, is a good example of a successful RIA (for examples of Flash/Flex implementations, see [Adobe.com](#)). The quality of the Google Maps user experience leapfrogged past AOL's MapQuest, a brand that's been the market leader since the early 90s. Google Map's market share has grown to reflect its user-experience advantage: while 2007 saw no growth in MapQuest's site traffic, [Google Map's traffic grew by 135%](#). Although Google Map remains in second place behind MapQuest (but ahead of offerings from Yahoo! and Microsoft), it is unlikely to stay there long.

RIA Pros

So RIAs work for Google, but will they help the bottom line for other companies? In most cases yes, because a well-designed RIA that addresses the right business problem will do the following:

- » **Improve user experience.** Users like the interactivity, visual appeal, and rapid response time provided by RIAs. Users spend more time and money at sites they like.
- » **Simplify complex tasks.** Users have short attention spans for complex tasks, especially when a quick Web search might provide an easier alternative. Taking the pain out of complex Web transactions like product selection or custom product configuration means more transactions will be completed and more sales will be closed.
- » **Reduce transaction costs.** When customers can't complete a task online, they pick up the phone and speak to a call center agent. This costs dollars per call versus pennies per Web transaction. Even for internal applications, HTML forms take longer to complete than RIA forms because server round trips leave employees waiting (and cost the business money). In the enterprise space, RIAs can act as a kind of "poor man's integration," merging data from disparate sources at the UI level and dramatically reducing task time, all for an investment significantly lower than a full Customer Relationship Management (CRM) rollout.



- » **Increase online and cross-channel sales.** Shopping cart abandonment rates are higher on multi-page HTML forms than on a single-page RIA. Lower abandonment translates into increased sales. Even if sales are completed over another channel – for example, in a retail location or during a personal sales call – RIA can help predispose the prospective customer to buy.

RIA Cons

RIA cons are as follows:

- » **RIAs are expensive.** The RIA development process is more complex than HTML development and therefore more costly. Simple RIAs start at \$30K and complex ones can quickly climb to \$500K, whether internally developed or outsourced. Keep this cost in mind when evaluating the RIA business case.
- » **Not always required.** Some sites do not require the RIA treatment. For example, a content-heavy site such as an online newsletter or newspaper will gain little from an RIA facelift. They can be jazzed up with some simple JavaScript. Keep RIA development for transactional or rich media sites.
- » **Hard to resource.** The shallow pool of developers skilled in RIA languages (JavaScript, ActionScript, and supporting frameworks) combined with the increasing interest in RIA development by a broad range of businesses, has created a talent crunch. Expect to look longer and pay more for skilled RIA talent whether developing in-house or outsourcing to a design firm. If converting developers skilled in other languages, remember to include training in project budget and timeline.
- » **Must be designed for user experience.** RIA technologies provide an opportunity to improve application usability. However, to take advantage of this opportunity, developers must follow a user experience engineering (UXE) process. UXE is a structured research, design, and evaluation process with the goal of improving an application's usefulness and usability. UXE is not about a particular technology. It's about observing and listening to end users and incorporating what is learned into the design of their UI. For more information on UXE, refer to the ITA Premium research note, "[User Experience Engineering: Cost Effective User Satisfaction](#)." Be sure that the RIA budget includes resources for UXE.

Although the points above outline RIA pros and cons in general, the decision to move forward with RIA development is largely influenced by the particular business case under consideration. The next section outlines the most profitable contexts for RIA development and provides example ROI calculations for each context.



Key Considerations

RIAs are cool and becoming more and more popular, but that doesn't mean they're always a good investment. Development dollars are likely to provide solid ROI if one or a combination of the following business goals are targeted:

- » Saving money by enhancing employee productivity.
- » Saving money by reducing contact center costs.
- » Making money by increasing conversions and cross-channel sales.
- » Making money by increasing upsell.
- » Making money with a better user experience than the competition.

If one of these goals seems appropriate, complete an ROI calculation based on the examples provided in this section or by using the forthcoming ITA Premium RIA ROI calculator.

Collecting data. An ROI calculation is only as good as the data it's based on. Collect data from the following sources to construct a solid business case.

- » **Usability testing** of existing HTML applications reveals average task time, points of frustration, and shopping cart abandonment.
- » **Web analytics** reveals abandonment points in current HTML applications and unfilled user behavior (for example, attempted but abandoned product configuration) with high levels of accuracy. For more information on Web analytics, refer to the Info-Tech Advisor research note, "[Web Analytics 101: Taking Off the Blindfold.](#)"
- » **Financial documents** provide loaded cost of staff, product prices, and margins.
- » **Call center statistics** provide average call time and proportion of calls that are shifted from the Web channel.
- » **Development bids or estimates** provide cost of RIA development. Remember to include UXE costs in RIA estimates.

Designing RIAs for data analytics. It is important for Web professionals to be able to track user behavior within RIAs in order to understand post deployment usability issues and market trends. But RIAs can be difficult for Web analytics tools to track because their state isn't always reflected in the URL, and the URL is the primary means by which analytic tools track Web behavior. One way to work around this problem is to use the "#" character and [HTML anchor tag](#) for each unique RIA state. This solution has the additional advantage of allowing users to bookmark RIAs in any state. Whether this solution or another is used, make sure the proposed RIA design is Web analytics-friendly.



Saving Money by Enhancing Employee Productivity

Replacing HTML forms with RIA forms for data entry will reduce the number of server round trips and allow faster task completion. On-page error checking also reduces server round trips. The value of this rapid interaction is not only in the time saved because users have fewer server responses to wait for, but also in the improved cognitive performance that comes from concentration uninterrupted by server lag.

Table 1. Reducing Data Entry Costs with an RIA Implementation

Source: Info-Tech Research Group, based on [test data](#) from [Nitobi Software Inc.](#)

Data Entry Example: HTML vs. RIA	Present Site	Improved Site	
		Conservative	Best Case
Projected reduction in transaction time. (30% reduction is based on performance testing by Nitobi.)	-	-30%	-40%
Transaction time in seconds. (Measure actual task time with usability testing. The more page loads required, the greater the savings with an RIA.)	120	84	72
Cost per transaction (at \$20 per hour, loaded)	\$0.67	\$0.47	\$0.40
Transactions per year	350,000	350,000	350,000
Costs per year	\$233,333	\$163,333	\$140,000
Savings	-	\$70,000	\$93,333
Development costs	-	(\$30,000)	(\$30,000)
Net savings	-	\$40,000	\$63,333
ROI	-	1.33	2.11



Saving Money by Reducing Contact Center Transactions

If poor site usability prevents customers from completing a transaction on the Web (whether a sale or a customer service request), they will pick up the phone and talk to a contact center agent. The loaded cost of this transaction will be orders of magnitude greater than on the Web.

Table 2. Reducing Contact Center Costs with an RIA Implementation

Source: Info-Tech Research Group

Order Taking Example: HTML vs. RIA	Present Site	Improved Site	
		Conservative	Best Case
Projected call reduction. (Based on a review of Web analytics and call center logs.)	-	-10%	-20%
Calls per year	60,000	54,000	48,000
Cost per call	\$14	\$14	\$14
Costs per year	\$840,000	\$756,000	\$672,000
Savings	\$0	\$84,000	\$168,000
Development costs	-	(\$30,000)	(\$30,000)
Net savings	-	\$54,000	\$138,000
ROI	-	1.80	4.60



Making Money by Increasing Conversions and Cross-Channel Sales

Whether in a B2C or B2B context, RIAs help convert Web surfers to Web buyers in the following ways:

- » **Rich media boosts sales.** When rich media is used to help prospective customers understand when a product is right for them (and when it's not), rather than simply as hype, sales and customer satisfaction climb. Providing a detailed, but easy to digest sense of product features and benefits with video, audio, and interactive presentations creates this understanding.
- » **Single screen checkout reduces abandonment.** Shopping cart abandonment rates are higher for shopping carts designed as multi-page HTML forms, than for a single-page RIA. Lower abandonment translates into increased sales.
- » **Dynamic error checking reduces abandonment.** Providing immediate feedback on user data entry errors (things like too few digits in a credit card number) reduces user frustration and shopping cart abandonment, and thus increases sales.

Even if sales are completed over another channel, like a retail store or in-office sales call, RIAs can help warm the sales lead. Be sure to include projected sales increases from other channels in the business case.

Table 3. Increasing Conversion to Sales with an RIA Implementation

Source: Info-Tech Research Group

E-Commerce Example 1: HTML vs. RIA	Present Site	Improved Site	
		Conservative	Best Case
Projected conversion improvement. (Estimated from Web analytics and usability testing.)	-	20%	30%
Average sale	\$1,200	\$1,200	\$1,200
Unit margin %	20%	20%	20%
Unit margin \$	\$240	\$240	\$240
Annual site visits	100,000	\$100,000	\$100,000



Table 3. Increasing Conversion to Sales with an RIA Implementation (Continued)

E-Commerce Example 1: HTML vs. RIA	Present Site	Improved Site	
		Conservative	Best Case
Conversion rate (% of visitors who buy)	2%	2.40%	2.60%
Development costs	-	(\$30,000)	(\$30,000)
Net income	\$480,000	\$546,000	\$594,000
Profit	-	\$66,000	\$114,000
ROI	-	2.20	3.80

Making Money by Increasing Upsell

One way to increase profitability is to provide customizable add-ons to basic products. This keeps the basic sticker price low while allowing high margin add-ons to maximize revenues. However, if understanding the value of add-ons and configuring them is too difficult, users will simply buy the basic product. A well-designed RIA can help users visualize their options and simplify custom configuration (see Table 4 below).



Table 4. Increasing Upsell with an RIA Implementation

Source: Info-Tech Research Group

E-Commerce Example 2: HTML vs. RIA	Present Site	Improved Site	
		Conservative	Best Case
Projected increased value per sale. (Estimated from Web analytics and usability testing.)	-	25%	33%
Average sale	\$1,200	\$1,500	\$1,600
Unit margin %	20%	20%	20%
Unit margin \$	\$240	\$300	\$320
Annual site visits	100,000	100,000	100,000
Conversion rate (% of visitors who buy)	2%	2%	2%
Development costs	-	(\$30,000)	(\$30,000)
Net income	\$480,000	\$570,000	\$610,000
Profit	-	\$90,000	\$130,000
ROI	-	3.00	4.33

Making Money with a Better UX than the Competition

In the late 90s, some companies were still doing business with postal mail, a fax machine, and no Web site. Today, a Web presence is a de facto requirement of any business that hopes to gain and retain customers. Moving forward, we will see user demand make RIAs a similar de facto requirement. Users who find a Web site difficult to use will simply switch to one that isn't. For greenfield ventures, RIAs are an opportunity to penetrate markets previously dominated by an established market leader (as in the Google Maps vs. MapQuest example above).



For market leaders, RIAs are a way to protect existing markets and gain efficiencies from streamlined business processes. Soon the choice will not be whether to roll out an RIA, but rather what type to roll out.

Recommendations

Shape your RIA strategy around these three key points:

1. **Choose the right business problem.** RIAs are cool, but that's not a good enough reason to invest in one. Look for real business problems like those outlined in this research note and develop an RIA to address those problems.
2. **Develop an accurate business case.** Collect data from Web analytics, usability testing, financial documents, and other sources. Estimate development costs and include UXE among these. Crunch the numbers using the examples provided in this note as a model or with the forthcoming ITA Premium ROI calculators for customer-facing or employee-facing RIAs.
3. **Plan for RIA measurability.** Make sure the RIA development team understands that post-deployment user measurement is a priority and have a plan to make the RIA measurable.

Bottom Line

RIAs blend the benefits of instant Web access to centralized data with a user experience that is both easy to use and cool to watch. But just because they're cool, doesn't mean they're always a good investment. Evaluate the business case for RIAs and learn key design factors that ensure their success.

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