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# The Business Case For Rich Internet Applications

by Ron Rogowski

BEST PRACTICES

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This report includes two ROI models



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## The Business Case For Rich Internet Applications

Simple Models Show The Business Value Of RIAs

by **Ron Rogowski**

with Harley Manning, Megan Burns, Jeffrey Hammond, Henry H. Harteveltdt, and Steven Geller

### EXECUTIVE SUMMARY

Rich Internet applications (RIAs) attract site owners' attention because users like them, they enable interactions that HTML can't, and they get results. Yet many site owners considering RIAs wonder if they're worth the investment even as many who already employ RIAs struggle to assess their true value. Our research and conservative models show that well-designed RIAs can produce eye-popping results that can help prove the value of current investments and make the case for future RIA projects.

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Forrester interviewed eight vendors of RIA technology and design: Adobe Systems, Allurent, Critical Mass, effectiveUI, Molecular, Organic, Roundarch, and TravelCLICK. We also spoke with several of their top clients, who agreed to share detailed results produced by their site design projects under the condition of anonymity.

#### **Related Research Documents**

["Smackdown: Rich Internet Applications Versus HTML"](#)

December 7, 2006, Best Practices

["Web Users Want Rich Internet Applications"](#)

September 13, 2006, Trends

["Rich Internet Applications: Why And How"](#)

September 1, 2006, Best Practices

**TARGET AUDIENCE**

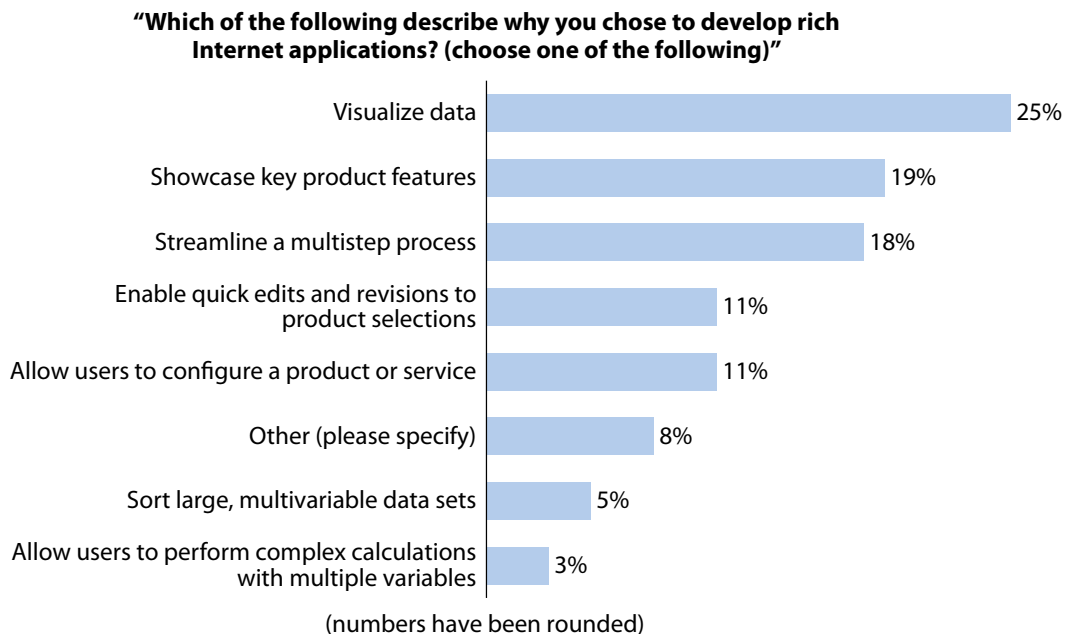
Customer experience professional

**RIAs HOLD GREAT APPEAL FOR SITE OWNERS**

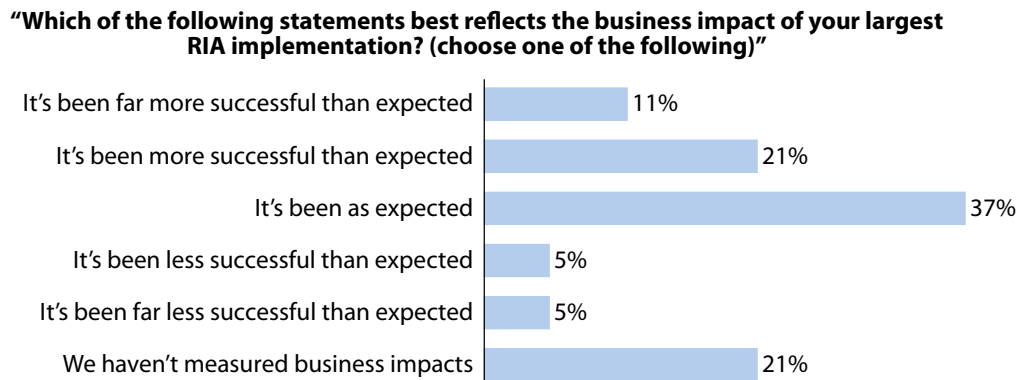
The increasing popularity of Ajax and Flex applications is changing the way companies do business online. Why are RIAs so attractive to site owners?

- **People know them and like them.** Fifty-two percent of online consumers have used highly interactive applications like Google Maps and Zillow.com. More importantly, the overwhelming majority of those who tried RIAs say that rich applications greatly enhance their Web experience.<sup>1</sup>
- **They enable tasks that HTML can't.** RIAs give companies a superior alternative to HTML for crafting customer interactions.<sup>2</sup> That's because RIAs provide a range of capabilities — like improved data visualization and streamlined processes — that go beyond the limitations imposed by HTML (see Figure 1).
- **They get results.** Firms that measure the business impact of their RIAs say that rich applications meet or exceed their goals (see Figure 2). As the RIA success stories of these early adopters become more widely known, site owners at mainstream companies also look to RIAs to boost online effectiveness.

**Figure 1** Firms Use RIAs For A Wide Variety Of Purposes



Source: Forrester's Q4 2006 Customer Experience Peer Research Panel Survey

**Figure 2** RIAs Usually Meet Or Exceed Business Expectations

Source: Forrester's Q4 2006 Customer Experience Peer Research Panel Survey

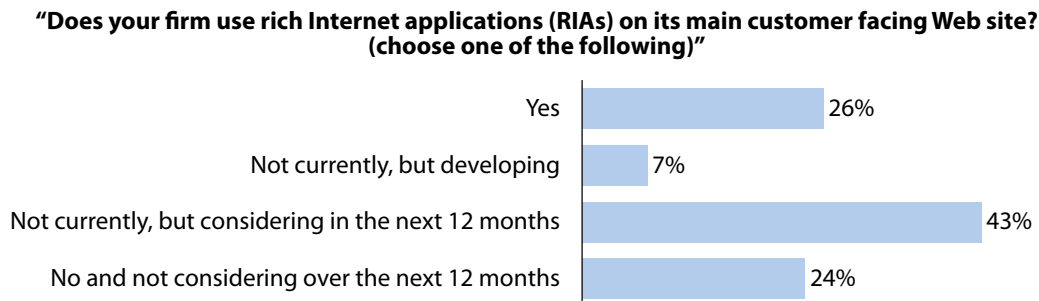
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Source: Forrester Research, Inc.

### To Reap The Benefits, Companies Must Overcome Barriers To RIA Adoption

In a recent survey of Forrester's Customer Experience Peer Research Panel, only 33% of respondents said they have RIAs or are actively developing them (see Figure 3). With so much going for RIAs, why haven't they become more widespread?

- **RIAs aren't an imperative for every site.** High-impact RIAs are productivity tools that enable complex online interactions like product configurations and single-screen transactions. Sites that are light on function, like corporate home pages and investor relations sites, don't necessarily need this level of functionality.
- **Skills for building RIAs are scarce and costly.** Many firms lack the necessary Flash and Ajax development skills to create their own RIAs. Renting skilled help can also be difficult because many agencies with high RIA competency are small vendors like effectiveUI and Roundarch. The competency drought not only makes it hard to get projects off the ground, but it also means that firms pay a premium for good work.
- **Making a quantifiable business case is hard.** Companies committed to being online leaders in their industries, like Dell and Fidelity Investments, take a leap of faith that rich technologies will boost their bottom lines. But when site owners at mainstream companies must build a business case to get budget approval, they struggle to define and quantify potential returns on their RIA investments.

**Figure 3** Many Firms Haven't Begun Developing RIAs

Source: Forrester's Q4 2006 Customer Experience Peer Research Panel Survey

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Source: Forrester Research, Inc.

### MODELS SURFACE THE VALUE OF RIAs

How can companies prove the value of RIAs and get the funding they need for key projects? To find out, we interviewed executives at leading Web design agencies to identify common business metrics that RIAs improve. Then we collected data from both agencies and their clients on the range of results achieved by their rich Internet projects. With this data we built two simplified return-on-investment (ROI) models: one for a manufacturer of complex goods that adds a Flash- and Flex-based configurator to its site, and the other for a hotel site that upgrades from a multipage HTML reservation process to a single-screen RIA version. The models include:

- **Development, testing, and maintenance costs.** RIA cost can vary greatly, from less than \$50,000 for small in-page applications to more than \$500,000 for complex configurators. Whether projects are tackled internally or outsourced to an agency, firms need to consider the full costs of RIAs, which include: tool kits and hardware, installation, training expenses, and developer costs (see Figure 4).<sup>3</sup>
- **Multichannel benefits.** RIAs exist as part of an overall Web experience, which is just one touchpoint in a wider array of channels like email, IVR systems, and call centers. Firms need benchmarks and metrics from all channels that are affected by increased use of RIAs. For example, companies can assess the benefits of improved contextual help on a site by measuring both completed transactions on the site *and* reduced call center traffic from customers who no longer need phone assistance.

**Figure 4** Sample RIA Cost Model

<b>Tool costs</b>	Flex builder		Number of developers		
	\$800	x	5	=	\$4,000
	Flex data services		Number of CPU		
	\$6,000	x	2	=	\$12,000
	<b>Total cost of tools \$16,000</b>				
<b>Ramp costs</b>	Intall and setup		Number of days		
	\$1,000	x	2	=	\$2,000
	Training costs		Number of days		
	\$2,000	x	5	=	\$10,000
	Short-term productivity cost		Number of developer months		
	\$10,000	x	10	=	\$100,000
	<b>Total cost of ramp-up \$112,000</b>				
	<b>Total cost of RIA \$128,000</b>				

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Source: Forrester Research, Inc.

### Manufacturers Will Boost Sales And Margins Of Configurable Products

Selling complex, customized products with a static, HTML-based configurator is difficult. Our model shows that streamlining the sales process by upgrading to a powerful, RIA-based configurator brings big economic benefits (see Figure 5). That's because:

- **Improved ease of use drives higher conversion rates and order size.** Our research found that more shoppers convert to buyers when they can easily trade off product options and costs in real time. Interestingly, we also found that average order size increases due to RIA configurators' superior ability to present options and add-ons. And because of increased ease of completing complex orders online, fewer customers give up and switch channels to higher-cost phone agents, resulting in significant savings.
- **Rich media helps boost margins.** RIAs not only enable better configurations, they also allow firms to embed video and other contextual help content into applications. The second part of our model reflects our findings that users who access these types of help features convert at

a higher rate than those who don't. And because they're better able to understand the value proposition for upgrading components, these users will generate even higher-margin sales than those who don't access video help.

### Hotel Sites Can Expect Increased Conversion Rates And Higher Reservation Values

Similar to buying a complex manufactured product, making a travel reservation requires shoppers to choose between complex variables — many with critical interdependencies like available dates, class of service, and price. Our model shows that hotel sites benefit by adopting RIAs to facilitate these multifaceted decisions because (see Figure 6):

- **Single-screen checkout reduces drop-off rates.** Companies can make the reservation process quicker and less prone to error with RIAs that expose available options and validate fields in real time. The result: fewer abandoned orders and lower customer service costs. According to our model, enhancements like these that keep users engaged and reduce system hiccups will increase online conversion rates and take some burden off of phone reservation agents.
- **Improved merchandising increases reservation size.** Hotel sites struggle to sell upgrades and bundles because multistep reservation processes can give users tunnel vision that makes them unaware of these possibilities. But RIAs like TravelCLICK's iHotelier's iStay put upgrades and add-ons in front of bookers, where they can be easily added on the fly.<sup>4</sup> As a result, our model shows that RIAs boost revenues by increasing average booking values — while decreasing phone reservation costs.<sup>5</sup>

**Figure 5** ROI Model For PC Manufacturer Site

	Starting assumptions	% improvement, low	Low benefit after 1 year	% improvement, high	High benefit after 1 year
<b>Increased sales</b>					
Total configurator visits	10,000,000		10,000,000		10,000,000
% that don't use help	75%		75%		70%
Configurator visitors that don't use help	7,500,000		7,500,000		7,000,000
Conversion rate (online purchases)	1%	5%	1.05%	20%	1.2%
Avg. order size	\$1,000	0%	\$1,000	5%	\$1,050
Gross margin %	10%		10%		10%
Gross margin \$	\$7,500,000		\$7,875,000		\$8,820,000
<b>Increased gross margin</b>			<b>\$375,000</b>		<b>\$1,320,000</b>
% that use interactive help	25%		25%		30%
Configurator visitors that use help	2,500,000		2,500,000		3,000,000
Conversion rate (online purchases)	1%	10%	1.10%	40%	1.4%
Avg. order size	\$1,000	5%	\$1,050	10%	\$1,100
Gross margin %	10%	10%	11%	30%	13%
Gross margin \$	\$2,500,000		\$3,176,250		\$6,006,000
<b>Increased gross margin</b>			<b>\$676,250</b>		<b>\$3,506,000</b>
<b>Total increased gross margin</b>			<b>\$1,051,250</b>		<b>\$4,826,000</b>
<b>Lower cost of sales</b>					
Call center orders per year	500,000	-5%	475,000	-10%	450,000
Cost per phone order	\$12		\$12		\$12
Cost per online order	\$1.00		\$1.21		\$1.13
Total phone order cost	\$5,500,000		\$5,124,063		\$4,893,300
<b>Total call center savings</b>			<b>\$375,938</b>		<b>\$606,700</b>
Gross benefit of RIA			\$1,427,188		\$5,432,700
Cost of RIA			\$500,000		\$1,000,000
Net benefit of RIA			\$927,188		\$4,432,700
<b>Total net benefit: ROI</b>			<b>185%</b>		<b>443%</b>

**Figure 6** ROI Model For Hotel Reservations Site

<b>Increased sales</b>	<b>Starting assumptions</b>	<b>% improvement, low</b>	<b>Low benefit after 1 year</b>	<b>% improvement, high</b>	<b>High benefit after 1 year</b>
Visitors to booking engine	1,500,000		1,500,000		1,500,000
Conversion rate (completed bookings)	10%	10%	11%	30%	13%
Avg. reservation value	\$97	5%	\$102	15%	\$112
Total reservation value	\$14,550,000		\$16,805,205		\$21,752,250
<b>Total increased reservation value</b>			<b>\$2,255,250</b>		<b>\$7,202,250</b>
<b>Lower cost of sales</b>					
Call center reservations per year	50,000	-5%	47,500	-20%	40,000
Cost per call center reservation	\$6		\$6		\$6
Cost per online reservation	\$1		\$1.55		\$1.39
Total cost of reservations	\$250,000		\$211,375		\$184,400
<b>Savings from online bookings</b>			<b>\$38,625</b>		<b>\$65,600</b>
Gross benefit of RIA			\$2,293,875		\$7,267,850
Cost of RIA			\$300,000		\$500,000
Net benefit of RIA			\$1,993,875		\$6,767,850
<b>Total benefit: ROI</b>			<b>665%</b>		<b>1,354%</b>

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Source: Forrester Research, Inc.

RECOMMENDATIONS

**CRAFT AN RIA MEASUREMENT STRATEGY**

To model the ROI from their Flash and Ajax projects, companies must first measure results. But RIAs have developed a reputation as being notoriously hard to measure. To capture the full range of benefits that an RIA produces, site owners should:

- **Define the full range of cross-channel metrics you want to improve.** Before launching into an RIA project, identify the metrics that matter most to your business across all the channels that your project will touch. For example, Urban Outfitters calculated that a mere .06% increase in overall conversion would make its single-screen checkout application worthwhile. However, that calculation — as encouraging as it is — neglects cross-channel benefits from lower cost of sales and reduced customer service expense. Firms that

successfully move transactions from higher cost channels like the phone, where interactions cost dollars per minute, to the Web where interactions cost pennies for an entire session, will see their overall cost of sales plummet.

- **Build measurement into the application to prove its value.** Not every RIA will perform optimally at launch. Therefore, it's important to track RIA performance, identify shortcomings, and then tune. To prepare for this ongoing process, firms should define measurement requirements in parallel with the application's functional requirements. How do you gather measurement requirements for an RIA? The same way you gather them for an HTML site: Start with business questions and goals, then choose the user actions, attributes, and analysis techniques that will provide the answers you need.<sup>6</sup>

## WHAT IT MEANS

### RIA ADOPTION WILL ACCELERATE

When they are well-designed, RIAs can have huge impact on customer experiences. Look for a sharp increase in the number of RIAs over the next 18 months as:

- **Online "labs" proliferate.** Companies may be understandably reluctant to bet key business processes on the success of a new RIA. Fidelity addressed this dilemma by creating Fidelity Labs, a section of its site devoted to testing RIAs in a controlled environment. Look for other companies in industries with a wide array of complex products — like financial services and travel — to set up their own labs where users can test and provide feedback on new applications.
- **Companies develop RIA envy.** The pace of RIA adoption will pick up as companies learn to model RIA benefits and overcome common problems related to accessibility and search engine optimization. The tipping point will come when companies see leaders in their own industry rolling out rich applications. At that point, retailers will feel the acute need to provide single-screen checkout, financial services companies will require sophisticated modeling tools, and auto manufacturers won't be able to make do without dynamically updating configurators — like those of their close competitors.

## SUPPLEMENTAL MATERIAL

### Online Resource

The underlying spreadsheet detailing the models behind Figures 5 and 6 is available online. Readers are encouraged to enter their own assumptions about their companies' site traffic, conversion rate, average order size, gross margin, call center traffic, and cost per call, then select from the possible ranges of improvement identified by our research.

### Methodology

To estimate ROI for RIA projects, we first interviewed executives at leading Web design agencies to identify common drivers of business improvement. Then we collected data from agencies and their clients on the range of results achieved by recent RIA implementations. Next, we researched industry-specific average improvement ranges on key metrics to build simplified ROI models for a PC configurator and a hotel reservation engine.

### Companies Interviewed For This Document

Adobe Systems	Organic
Allurent	Roundarch
Critical Mass	TravelCLICK
effectiveUI	
Molecular	

## ENDNOTES

- <sup>1</sup> The majority of online consumers who have used RIAs say these applications improve their Web experiences — primarily because they find RIAs easy to use. To take advantage of this enthusiasm, firms need to provide clear paths to RIAs, make sure they are free of well-known usability problems, and deploy RIAs when they are likely to have the best impact. See the September 13, 2006, Best Practices “[Web Users Want Rich Internet Applications.](#)”
- <sup>2</sup> We evaluated 11 RIAs and 11 HTML applications to determine the usability qualities of each. We looked for examples of rich Internet and HTML applications in each of four categories and compared how well they supported relevant user goals. We found that, on average, RIAs outperform HTML interfaces. See the December 7, 2006, Best Practices “[Smackdown: Rich Internet Applications Versus HTML.](#)”
- <sup>3</sup> When it comes to RIA technologies, application development professionals must choose between two paths: Ajax or Adobe. Ajax is the best bet for experienced Web development shops looking to incrementally evolve existing Web applications. Of course, selecting Ajax also raises the question of whether to go with a homegrown, open source, or commercial Ajax framework. In contrast, Adobe is best for shops looking to completely transform their Web experiences. But to do so, firms must acquire the skills necessary to use

Flex, which is the development framework for the Flash runtime environment. Early adopters with time-to-market concerns and comfort with either smaller vendors or open source can select Ajax with confidence. But firms that require support from a larger vendor and full-featured development tools will do better with Adobe. See the December 28, 2006, Best Practices “[Ajax Or Flex?: How To Select RIA Technologies](#).”

- <sup>4</sup> Even when users don't choose upgrades and additional services during booking, there is anecdotal evidence that the awareness created by presenting these features in context gives travelers a better understanding of amenities that might be chosen later.
- <sup>5</sup> Better merchandising can also help reduce some of the calls that come from customers who have questions after they've booked online. See the May 2, 2006, Best Practices “[Travel's Call Center Blues](#).”
- <sup>6</sup> Site owners look to analytics data to help them answer key questions about the effectiveness of their rich RIAs. But understanding user behavior within RIAs is tricky because RIAs have more trackable actions and change the meaning of metrics like page views and engagement, so it's harder to know which metrics matter in an RIA world. To top it off, tools for collecting RIA data fail to meet developers' needs. Firms can best understand RIA effectiveness and performance by: 1) using the full portfolio of tools to evaluate RIAs, especially qualitative tools that can be applied early in the process, and 2) building a solid plan for RIA measurement with measurement best practices like giving stakeholders time to define data needs, capturing metrics requirements alongside functional requirements, and describing what action people are going to take based on the data before its collected. See the February 7, 2007, Best Practices “[Measuring Rich Internet Applications](#).”

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