

Digital Publishing in a Multi-screen World: How Responsive Design is the Way Forward

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Abstract

As smartphone and tablet adoption increases, it has become imperative for magazines to publish digital editions that work well on every device. This report discusses how Responsive Web Design meets this challenge, and offers insight into how it delivers a better user experience. This report uses *BCBusiness* magazine as a broad case study, as its digital edition, bcbusiness.ca, was redesigned in 2012 implementing a responsive design strategy. Mobile traffic to the site had doubled in the previous year in spite of the fact that the magazine's website was not at all mobile friendly, and to address this growing audience, the company decided on a responsive design solution. Finally, this report also reviews other magazines' websites using Responsive Web Design and records best practices.

Keywords: responsive web design, adaptive design, digital publishing, mobile websites, flexible layouts

Dedication

A big thank you to my wonderful professors in the program, especially John Maxwell and Roberto Dosil for their patience, encouragement and insightful notes.

I am grateful to the team at *BCBusiness* and *BC Living* for being so welcoming during my internship and allowing me to learn and sharpen my skills.

Huge thanks to Jenn for being an ace cheerleader and to Chloe for her editing prowess. Finally, this report is dedicated wholly to my wonderful family back home in India. My talented mom inspires me every single day, I am in awe of my dad's quiet strength and generosity and I am so lucky to be able to call my sister my best friend. Thank you for your unconditional love and countless late night phone calls. I hope I made you proud.

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Introduction

It's not the strongest species that survives, nor the most intelligent. It is the ones most responsive to change.

—Charles Darwin

When the iPhone launched in 2007, it was the start of the mobile device explosion and it didn't take long for the rest of the industry to follow suit with smartphones of every size and shape. This explosion didn't die out but led to other inventions, such as the tablet and "phablet" (a class of mobile devices that combine the functions of a mobile phone and tablet). And with these new devices, for the first time, the Internet could be accessed on the go.

There is no doubt that mobile usage is making steady gains in global market share; as of 2013, fifty-six percent of Canadians smartphone users access media content daily as compared to 41 percent of desktop users¹ and 31 percent of US mobile users say they only use their mobile devices to go online². The tablet space has been exploding as well with new devices, and studies show tablet users are not only growing in size, but also that they are important online consumers—a study by

¹ Magazines Canada, Digital Magazine Fact Book 2013, Magazines Canada, <https://www.magazinescanada.ca/uploads/File/AdServices/FactBooks/2013/DigitalMagazineFactBook2013Final-Eng.pdf> (accessed February 2013).

² Aaron Smith. "Cell Internet use 2012." Pew Internet. June 26, 2012. <http://www.pewinternet.org/Reports/2012/Cell-Internet-Use-2012.aspx> (accessed March 2013).

Adobe Digital Marketing Insights³ in 2012 showed that tablet visitors spend more money online than mobile or desktop users.

Because of these statistics, it has become imperative that mobile and tablet users are able to access websites that work well with these devices. And as a result of these new technological and behavioural developments, thought leaders such as Ethan Marcotte started writing about potential strategies to cope with these new challenges. His ground-breaking article, published in 2010, on responsive web design for *A List Apart*⁴ made this approach one of the most talked about in the web design industry. For the last four years responsive web design has changed the way websites are designed, with more and more companies adopting this model. It is a much-needed *response* to the surge in popularity of mobile devices like smartphones and tablets, their growing marketplace adoption and how people are using these devices today.

Responsive Web Design gives designers and web developers the tools for creating pages that automatically respond to changes in the size of a browser window by adjusting the width of the site to fit the device's screen. It uses fluid grids, flexible images and media queries⁵ to get the layout looking consistent and working well regardless of the screen dimensions—from the relatively small mobile device to the medium-sized tablet, and the increasingly larger computer screens.

While everyone from the President of the United States to *Maclean's* magazine has a responsive site, it isn't the only option when trying to attract and keep mobile users. A publisher has the following choices when it comes to digital editions: it can choose to continue using the desktop version, go with a dedicated mobile site or

³ Adobe Digital marketing Insights, 2012,
http://success.adobe.com/assets/en/downloads/whitepaper/13926_digital_marketing_insights.pdf (accessed June 2013).

⁴ Ethan Marcotte. "Responsive Web Design". *A List Apart*. May 25, 2010.
<http://alistapart.com/article/responsive-web-design> (accessed January 2013).

⁵ Media Queries is a CSS3 module allowing content rendering to adapt to conditions such as screen resolution (e.g. smartphone vs. desktop).

develop a responsive site. This paper discusses the pros and cons of each of these options, especially with regards to an editorially driven website like *BCBusiness* (bcbusiness.ca).

Publishers implementing responsive design need to consider all the facets of the process, along with best practises they should implement. Developing a responsive website is a major undertaking and a properly planned and executed responsive site requires a large investment of time and money. As more websites are given mobile-first redesigns, we have the opportunity to learn from them how to handle content effortlessly, create lean, elegant, responsive layouts and give the user easy-to-navigate websites that translate well over multiple devices.

In April 2012, the management at *BCBusiness*, a magazine published by Canada Wide Media Limited, took the decision to revamp its website, bcbusiness.ca and to explore the implementation of a responsive design model. The company came to this decision after studying its Google Analytics tracking reports, which pointed to a substantial growth in the traffic coming from their mobile audience. The analytics showed that mobile users to the site increased from 5 to 11 percent from 2011 to 2012, and was growing, while the number of desktop users to the site had remained steady. The company decided it could not ignore its growing mobile audience and began planning for a site revamp. The decision was also fuelled by the desire to have one website instead of a separate mobile site as well and avoid the cost and complications of updating and maintaining a separate site for each platform, and the fact that new industry trends were leaning towards the use of HTML5 and CSS3 Media Queries.⁶

This report covers the period from July 2012 to September 2012, when *BCBusiness* was in the planning stages of its redesign and was developing mock-ups for the new site. The site launch was initially set for November 2012, however, in

⁶ Personal communication with Holly Pateman, VP of Marketing, Canada Wide Media, August 17, 2012

September that year, the then newly appointed *BCBusiness* editor Tom Gerasimczuk proposed further changes, which are not fully covered by this report (as I had finished my internship time there) and delayed the launch of the site to the first quarter of 2013.

The first chapter examines *BCBusiness*' past web models, analytics and what factors led to the decision to implement a responsive site. The second chapter describes what responsive web design is and its key components, and examines the workflow of responsive websites.

The main focus of the third chapter is the new bcbusiness.ca responsive website and the design and editorial changes it underwent. It also details how the new website performs, taking into consideration load time, usability and overall performance. The challenges of online advertising are discussed here and we take a look at how *BCBusiness* is handling these issues, and what options are available to responsive websites.

The fourth chapter looks at industry standards and best practises for responsive web design: *The Boston Globe* and *Time* magazine are both successful examples of responsive web design, and we take a look at what we can learn from their processes.

We know that mobile Internet browsing will soon overtake desktop Internet browsing and that websites don't just sit on a desk anymore. The objective of this report is to highlight responsive web design as a step in the right direction towards future-friendly websites and to show how *BCBusiness* and other responsive sites are benefitting from this undertaking.

Chapter 1.

BCBusiness Magazine and its Website, bcbusiness.ca

BCBusiness is published by Canada Wide Media Limited, a large independent print and online media company based in Burnaby, BC. The company publishes 49 print and digital products.

BCBusiness is the company's lead title and focuses exclusively on business in British Columbia. It has established itself as an authority in the business magazine market. Winner of the 2007 BC/Yukon Magazine of the Year and nominated for the Best Digital Design in 2012's National Magazine Awards, "The objective is to provide readers with relevant, comprehensive, and provocative commentary on the issues, trends, and people shaping business in British Columbia."⁷ As such, it is imperative that *BCBusiness* play a leadership role in its adoption of technology and acknowledgement of trends affecting businesses.

In print, the most popular issues of *BCBusiness* are the annual listing of BC's Top 100 Companies (published in July), Entrepreneur of the Year (October) and the Best Companies to Work for in BC (November). Regular columns by experts, practical workplace tips and profiles of unique local ventures all contribute towards making *BCBusiness* a successful regional business magazine. The magazine has been in publication for over thirty years, and has a circulation of 25,000 copies per month, with an audience that is educated and affluent.⁸

The magazine's website, [bcbusiness.ca](http://www.bcbusiness.ca/about-us), has come a long way since its inception in 1997. The initial purpose of the website was to promote the magazine to advertisers and potential subscribers, and for the next ten years, its overall look,

⁷ *BCBusiness*. <http://www.bcbusiness.ca/about-us>

⁸ Ibid

purpose and function did not change. Paola Quintanar, who interned at *BCBusiness* in 2007 recalls: The reader experience was poor mainly because only the first 400 words of magazine features were transcribed—it did not include exclusive online content nor did it offer any online services like subscription renewals⁹.

In 2007, the site was relaunched under the guidance of Shannon Emmerson, then newly-appointed Director of Digital Media, along with a digital team whose goal was to increase online traffic, complement the *BCBusiness* brand and create a new revenue model.

In 2008, the site began using Google Analytics and with its adoption of SEO and social media practises, saw a marked increase in visitors over that year. A Digital Editor, John Bucher, was hired for the first time and under his guidance, the site produced web-only content complementing the print edition. From 2009 to 2010, there was a 42.9% increase in unique visitors to the website.¹⁰

Currently the site receives an average of 13,500 unique visitors per week (as of September 2013), has more than 29,920 followers on Twitter and as of January 2014 has more than 2,311 followers on Facebook.

1.1. Catering to the Mobile Segment

Although *bcbusiness.ca* has undergone three redesigns and adopted crucial digital strategies, discoverability has remained an issue, which is a problem not unique to *BCBusiness*. Since May 2011—despite having more web-only content, and

⁹ Paola Quintanar, *A New Digital Strategy at Canada Wide Media: Case Study of the Relaunch of BCBusiness Online*, Master of Publishing Project Report, Vancouver: Simon Fraser University, 2009

¹⁰ Hilderman Kristen, *Life after Print: Revising the Digital Editorial Strategy in Magazine Publishing*, Master of Publishing Report, Vancouver: Simon Fraser University, 2011

more active Twitter and Facebook accounts—total time on site, total visitors and page views were trending down.

On the other hand, bcbusiness.ca mobile traffic had more than doubled from 5 to 11 percent in 2012—this in spite of the fact that the site was not mobile-friendly at the time.

In order to keep the *BCBusiness* digital brand alive, compelling and relevant into the mobile future, Holly Pateman, VP of Marketing at Canada Wide Media, recommended the brand be built into a mobile web framework.

In April 2012, Pateman, in her presentation to the company's executives about the need for a responsive site highlighted other key statistics like:

- In general, mobile web traffic was estimated to overtake desktop traffic by 2014.
- Tablets in Canada were estimated to double from 1.5 to 3 million in 2012.
- 50% of all searches on Google were currently performed by mobile devices.

Furthermore, in-house research from Google Analytics showed that mobile users on bcbusiness.ca were spending 24% more time on the site but had a 13% higher bounce rate^{11,12}. Pateman and her team were interested in finding a way to keep these users engaged with the site—and the first step in that direction would be a smartphone-optimized website.

As for changes in revenue, it made financial sense for the company to go responsive as well. As publishers look for more and more mobile ad space to sell,

¹¹ Bounce rate - the percentage of visitors to a particular website who navigate away from the site after viewing only one page.

¹² Personal communication with Holly Pateman, VP of Marketing, Canada Wide Media, August 17, 2012.

BCBusiness could streamline its operations. Instead of having to separately sell mobile ad and desktop ad space, a responsive site increases the value of the *BCBusiness* website because their mobile audience is growing and for the ad buyer there is no split audience. The advertiser can reach its desktop and mobile audience with one ad bundle.

Recently, eMarketer, a leading research firm in the digital marketing sphere, found that digital ad spending is growing faster than total media ad spending worldwide, making digital a key factor in total ad expenditures across the world¹³. And with mobile ad spending estimated to grow from 17 to 73 percent by 2016¹⁴, magazines with a strategic plan for online advertising on their responsive digital edition could be meeting their financial goals faster, gaining opportunities for further expansion, and seeing a marked improvement in long-term revenue. Mobile advertising will be discussed further in chapter two.

¹³ Alison McCarthy, "Worldwide Ad Spending Forecast," eMarketer, January 2013, <http://www.slideshare.net/augustinefou/emarketer-worldwideadspendingforecast2013> (accessed December 2012).

¹⁴ Ibid

Chapter 2.

Responsive Web Design – What Publishers Need to Know

Every mobile user has had a frustrating experience with a website at one point or another: being unable to read the content without swiping or pinching (zooming in or out) several times or having to wait for graphics that never load. As smartphones and tablets become more popular and more affordable, users and businesses alike stand to benefit from websites that translate well from desktop computers to mobile devices.

Directly related to the ‘mobile first’¹⁵ strategy—the idea that web sites should first be designed for mobile devices, including only those tasks/items that website visitors use most and then adding in features as screen real estate increases—are two terms all web designers should be aware of: responsive web design and adaptive design. Both terms refer to developing a website that gives users access to content without technical restrictions.

2.1. Responsive Design vs. Adaptive Web Design

Responsive web design is an approach to web page creation that makes use of flexible layouts, flexible images and cascading style sheet (CSS) media queries. “Fluid grids¹⁶, flexible images, and media queries are the three technical ingredients for responsive web design, but it also requires a different way of thinking,” says Ethan Marcotte. He argues that we need a better way to present content to the variety of

¹⁵ Luke Wroblewski, “Mobile First,” LukeW, April 2010,
<http://www.lukew.com/presos/preso.asp?26> (accessed January 2013).

¹⁶ Fluid grids are defined using a maximum width for the design. This allows the widths and heights to adjust accordingly in relation to the parent container.

canvas sizes available today (which include mobile phones, tablets, netbooks, large screens, TV screens and others).

Put simply, the goal of responsive web design is to build web pages that detect the user's screen size and orientation and automatically re-organize the content to provide an optimal experience based on the device being used to view them. The result is that desktop users get an enhanced interface with extra columns, videos, large images and animations, smartphone users get a pared down website that runs fast without the flashy extras (i.e. heavy images and graphics), and tablet users get an intermediate version, with some of the functionality of the desktop version, and the adaptability of the smartphone version. The concept is simple: there is a familiar look and feel to the site even if the user switches devices.

Fixed web design is secured firmly in place like print, with all elements fixed on screen by pixel placement and built to the constraints of the intended viewing environment. A responsive website responds to changes in the size of a browser window by fluidly adjusting the width to fit the space available. It uses a mix of CSS3 and media queries, so that even if a browser is at full size on a large screen or a reduced size as on a mobile device, the content has been coded to display elegantly.

Adaptive design uses a series of static layouts based on breakpoints. For example, a webpage may be designed at three different sizes: 320 pixels for mobile phones, 760 for tablets, and 960 for desktop browsers. Unlike responsive (where the design responds while you adjust a browser window), adaptive files don't respond once they are loaded. It detects the device and calls up the properly sized layout to view. Adaptive files detect the device and call up the properly sized layout to view. Designer and writer Janine Warner explains: "The most advanced adaptive web designs use a sophisticated auto-detection script to identify each device that

visits the site and then deliver the best version of the site, adapted to display based on the size and capabilities of each device.”¹⁷

The best adaptive websites are capable of delivering a page that hosts video, audio and animation to desktop users, and then able to adjust that page for mobile devices by removing video and heavy extras. For example, some businesses might make contact information like phone numbers more visible for their mobile audience, while featuring an animated video introduction more prominently for desktop users.

Both responsive web design and adaptive web design seek to improve web-browsing experiences on different devices. However, “adaptive design fixes features one by one, while responsive design involves creating a scalable site that tries to correct all screen size problems at once,”¹⁸ says Sandy Williams, co-founder of interactive design firm Cloudberry.

Responsive web design may be the more well-known approach, but it takes more money, time and work to apply to a site. When coded well, responsive websites need provoke little worry about future changes in technology. Adaptive sites on the other hand, call for frequent updates as technology changes rapidly.

2.2. The Nitty-gritty of Responsive Web Design

There are three main components to consider when developing responsive sites—fluid grids, media queries and flexible images.

¹⁷ Janine Warner, “What’s the difference between Adaptive and Responsive web design?,” Digital Family, April 11, 2013, <http://www.digitalfamily.com/tutorials/css-article/whats-the-difference-between-adaptive-and-responsive-web-design/> (accessed February 2013).

¹⁸ Sandy Williams, “Adaptive Design vs Responsive Design,” Cloudberry, September 24, 2012, <http://www.cloudberrycreative.com/blog/adaptive-design-vs-responsive-design-2/> (accessed May 2013).

The first key idea behind responsive web design is the use of what's known as a fluid grid. In traditional web design practise, fixed-width layouts are commonly used: page designs that are a fixed number of pixels across and then centred on a page. However, to adapt to the variety of screen resolutions becoming continually available, responsive web design works with fluid grids – the layout flows with whatever the screen size may be.

The fluid grid technique calls for page element dimensions to be in relative units like percentages rather than fixed units like pixels or points¹⁹—it is designed in terms of proportions. This way, when a layout is squeezed onto a tiny mobile device or stretched across a huge screen, all of the elements in the layout will resize and adjust their widths in relation to one another.

Fluid grids are the foundation of responsive web design, but certain issues arise when they are used on their own. For example when the width of the browser becomes too contracted, the design begins to unravel—due to the small screen size of mobile devices, an intricate three-column layout won't load well in this case and one column may not be visible at all. And so we move on to the next important component, media queries.

The main development tool used in responsive web design is the use of *media query* functionality in CSS3 (Cascading Style Sheets). Greg Meek, head of design and development at Stickeyes explains: Media queries let developers apply CSS to a webpage based on device parameters, such as display height, display width, device orientation and screen resolution—hence allowing the site to respond appropriately.²⁰ Media queries can target specific device types (e.g. Android vs. iPhone), and also

¹⁹ Ethan Marcotte, "Fluid Grids," A List Apart, March 3, 2009, <http://alistapart.com/article/fluidgrids> (accessed December 2012).

²⁰ Greg Meek, "Top Tips for responsive Web Design: A case study," Stickyeyes, July 6, 2012, <http://www.stickyeyes.com/2012/07/06/top-tips-for-responsive-web-design-a-case-study/> (accessed May 2013).

examine the physical features of the device that delivers the page. GGS Blog gives us this example to understand media queries better:

“For example, let's say we want to target iPhones, Android, and such devices which typically have a maximum screen resolution of 480px horizontal. We would establish the media query by applying two components, first setting the media type equals screen, and second, the actual query, which is enclosed in parentheses, that contains the media feature to inspect, and the target value.

```
<link href="mobile.css" type="text/css" media="screen and (max-device-width: 480px)" rel="stylesheet"/>
```

The query above will apply this style sheet only to a device that has a screen and only if the browser window on that device has a horizontal resolution no wider than 480 pixels, otherwise the link will be ignored.”²¹

Flexible Images

Images are important aspect of any well-designed website—but they also pose a challenge. When it comes to flexible grids, images will always display at 100%, but when they are viewed on small mobile screens, they could stretch out of their container.

One way to resolve this problem would be to use the following CSS:

```
Img {  
    max-width: 100%;  
}
```

²¹ GGS Blog. “Responsive Web Design – Media Queries”. GGS Blog. January 15, 2014.
<http://ggs.grapecity.com/blog/html5/responsive-web-design-media-queries-css3> (accessed May, 2014).

The above code makes sure that the image will match the width of the container in which it is included; the height of the image will scale in proportion to its width. If the image is smaller than the width of its container, it stays its regular size. The same approach can be applied to rich media such as Flash and video.

2.3. Workflows and Project Management

According to a 2012 study by Google²², 75% of customers prefer a mobile-optimized site, which means that if a business does not have one, it needs to take into consideration that mobile sites matter. But putting technology before strategy can be detrimental to a project and when making the decision to go responsive, companies should first take a look at their site's analytics. If more than 10% of customers are accessing a site by mobile devices, and it is seen from on-site behaviour data that the time on site is significantly lower and bounce rate significantly higher, this is an indication that mobile visitors are choosing other content, abandoning the site and possibly changing their opinion of the brand.

As noted in Section 1, bcbusiness.ca mobile traffic more than doubled in 2011-2012 from 5 to 11 percent of the total site traffic accessing the content via a smartphone. Given *BCBusiness*' target audience of tech-savvy and affluent readers, it is also likely that their audience base has a high adoption rate when it comes to smartphones and tablets. So the company could not afford to alienate its new, growing audience base; it would have to develop a site that was optimized for smartphones.

A website's analytics can also help in discovering users' needs and behaviour. This is useful in coming up with a content strategy, which is usually the next stage in

²² Google, "Mobile-friendly sites turn visitors into customers," Google Mobile Ads Blog, September 25, 2012, <http://googlemobileleads.blogspot.ca/2012/09/mobile-friendly-sites-turn-visitors.html> (accessed June 2013).

the workflow. Content planning and reorganization is an ongoing job, one that must be considered carefully throughout the lifespan of the project. Understanding the structure and hierarchy of content is incredibly important in a responsive site. As the design for different resolutions is adjusted, simply reducing the number of columns for viewing on smaller screens is not enough.

"In responsive design, understanding the priority of content is essential due to the possibility of content order fluctuation depending on device. Overflowing of content is a common issue due to the requirement of fitting the same amount of content on a desktop screen and a mobile device." says Josh Chan from Web Designer Ledger.²³

A content audit can reveal information about the structure, location and maintenance of each page and can serve as an excellent aid in the content migration as it drives what needs to stay on a page. A form using the headers like the one below is simple but effective and can help in deciding which content/pages stay and which go.

- Page ID: A unique identifier for the page.
- Page Name: The title of the page.
- Link: The url where the page resides.
- Document type: The prototype of the page.
- Topics, keywords: The topics the page is about and the keywords to be used.
- Owner/Maintainer: Who is responsible for the content on the page.
- Notes: Any general commentary about the page. This could be broken images, HTML problems, or just reminders for later.

²³ Chan, Josh. "Responsive Web Design Workflow Considerations." Web Designer Ledger. March 13, 2013. <http://webdesignledger.com/tips/responsive-web-design-workflow-considerations> (accessed July 2013).

Related to the ‘content first’ strategy is the mobile first method of designing—when there is only have a small amount of screen width on a phone, there isn’t space for everything that would usually be thrown onto a desktop site and you have to prioritize. With mobile first, a designer starts with something small and builds up from there. After their own content audit, the new *BCBusiness* site does away with two menu bars, allowing the user’s eye to focus on key content and columns, and pushing everything else into the archives.

Once the content audit is done, designers can start to draw mock ups/wireframes by sketching on paper or developing a live, HTML mock up. Designing in the browser has the added benefit of putting the focus on the content and its structure. Considering the form of the markup this early in the process can only be a good thing. After all, for most sites, it’s the content that brings the visitors. Prototyping will be an ongoing process i.e., using HTML, CSS and for more complicated graphics, Photoshop. Prototyping early and often on a variety of devices will show how functional a site is and what works and what isn’t.

Publishers should consider other factors like time investment, context, support and how much content reorganization will have to be undertaken. A responsive redesign will require a greater investment of time upfront as there are numerous devices with varying capabilities to consider. *BCBusiness* started to look into a responsive design project for the site in April 2012 and was initially hoping to launch the new site at the end of 2012; delays and changes by the new editor in September 2012 pushed the launch date of the new site to the first quarter of 2013.

The typical “waterfall” process (a framework for software development in which development proceeds sequentially through a series of phases) for designing and developing a website is as follows: start with a plan, then draw up a design (using Photoshop and static wireframes), the next step is the HTML and Java Script application and finally analytics employment. The main feature of the waterfall

process is that it moves from one step to another without any deviation: once a stage ends, the next one immediately begins. If problems occur along the way, they accumulate and then changes lead to interruptions in the process.

So the old model of web design with its fixed Photoshop layout and separate coding doesn't translate well to the responsive web. With the old workflow, the design process could start with a blank page while the responsive design workflow requires a content inventory and audit right up front. In the old approach designers created static images, publishers gave the go ahead and then finally saw the design in the browser.

In the responsive workflow everything happens in the browser—and designers can interact with the application. Answers can appear more immediately: problems like browser bugs, slow transitions and layout organization are solved almost as they happen.

Chapter 3.

Responsive Design – the Way Forward

Businesses considering ways to engage their mobile audience have a few options: do nothing (and risk alienating their mobile users), create a dedicated mobile site (known as an “m. site”), or create a responsive website.

A mobile site is fundamentally a copy of the main website, wherein the server is in charge of delivering an optimized page that’s smaller and easy to navigate. Mobile sites are designed for the small screen, with the needs of mobile users in mind. Brad Frost, a leading mobile web strategist says, “Historically, the mobile web has been viewed as the Web Lite™, whose users get served only a subset of content and functionality.”²⁴ But today’s savvy browsers expect a user-friendly experience from every site they visit—and they simply won’t return to a website that hangs, is heavy to load or is difficult to navigate.

The early response to this conundrum—to create a separate, dedicated mobile site (m. site)—seemed to work. Every website would have its own mobile site along with its regular desktop version. However, with the sheer number of new devices, screen sizes and resolutions increasing almost on a daily basis, creating a different version of a website is not only time consuming and costly, it’s also not very practical.

Dedicated mobile sites fall short when it comes to sharing links, redirects and social media. Desktops users who accept links sent from mobile devices are likely to pull up a site designed for a palm-sized screen on their massive 27 inch monitors, making the page extremely user-unfriendly.

²⁴ Frost, Brad. “Separate Mobile website vs Responsive Website.” Smashing Magazine. August 22, 2012. <http://mobile.smashingmagazine.com/2012/08/22/separate-mobile-responsive-website-presidential-smackdown/> (accessed May 2013).

Having an m. site means having to update both the desktop site as well as the mobile one, and this takes a greater investment in time and maintenance—something that most companies, including *BCBusiness*, would most certainly like to avoid. Sidestepping this problem is complicated, even with sophisticated content management systems.

Having separate URLs means the splitting of data analytics, which is bad for SEO, and that is why Google is now pushing for responsive web design instead of a separate mobile site. Having one site will enable Google Analytics reports to provide a more accurate picture of the site's usage because the data from mobile and desktop users will be consolidated.

When responsive web design first came into practice, it was seen as a clever way to address the problems mobile sites were facing. A responsive approach typically, and probably not surprisingly, requires a greater investment of time up front than a nonresponsive approach. There are numerous devices to be considered with varying capabilities and that takes time. There are a lot more variables in play.

Not all of this time is lost. Much of it will be made up in the long run, when you're maintaining one site instead of many. So what is lost in the initial design of the project, is most likely made up in maintenance costs.

Responsive websites have one code base²⁵ which means less time is spent developing and testing the site, which is good news for publishers who are already short on staff and other resources—a factor taken into consideration at *BCBusiness*. A single version of a website that works on every screen width and device is a great one-time investment and is future-friendly as well, especially if designed in such a way that is flexible to screen size and not device dependent.

²⁵ The term code base is used in software development to mean the whole collection of source code used to build a particular application.

On June 6th, 2012, the official Google Webmaster Blog was updated to advise the use of Responsive Design for any smartphone-optimised website. Google says that going responsive gives companies the best chance of performing well in Google's search engine rankings²⁶. One URL will make it easier for your users to interact with, and from an external linking and social media sharing perspective, users will only have one URL to link to, as opposed to multiple. Google can discover content more efficiently; it wouldn't need to crawl a page with the different Googlebot user agents to retrieve and index all the content.

3.1. Successful Responsive Websites

Many companies have chosen to take the responsive web design route and a few are standouts in terms of effective tips and strategies that can be incorporated by *BCBusiness* and other content-rich websites. These companies and their designers have been generous in openly sharing their experiences online, so it has become easier to develop user-friendly responsive sites.

The *Boston Globe* – Early Adopter of Responsive Design

bostonglobe.com was one of the earliest content-heavy websites to incorporate responsive web design. The company enlisted the services of two web design houses, The Filament Group and Upstatement, along with the father of responsive web design, Ethan Marcotte, to handle this massive undertaking. The *Globe* editors wanted a clean design and to let the journalism do the rest. In addition, the HTML5/CSS3 code combo allowed web developers to use progressive enhancement techniques. This means content can be enhanced or targeted it for

²⁶ Google. "Recommendations for building smartphone-optimized websites." Google Webmaster Central Blog, June 6, 2012.
<http://googlewebmastercentral.blogspot.co.uk/2012/06/recommendations-for-building-smartphone.html> (accessed May 2013).

specific platforms to create a richer storytelling experience. For example, responsive design can sense if a user has a touch screen (content could include a carousel of picture content).

Globe editors said that the site would feature fewer stories than a typical website. They wanted to echo a newspaper front page, which offers a snapshot of the most important stories at a moment in time ie to show readers what the most important story is right now.

And the only way to do that was to make sure the layout could change to reflect the content. So the team designed several flexible approaches that anticipate different news situations—the homepage layout would change and adapt to best fit the type of content that needed to be displayed.

Following are three snapshots of the *Boston Globe* homepage showing how the layout changes to suit the story and images to be published. In Figure 1, a horizontal box displays a lead story and image, in Figure 2, the lead story is displayed in a vertical grid to accommodate the image that goes with it and in Figure 3, the lead story takes up two-thirds of the page.

On mobile devices, the layout for all three examples is the same—the lead image is smaller to fit the width of the device.

You can now read 10 articles in a month for free on BostonGlobe.com. Read as much as you want anywhere and anytime for just 99¢.

BOSTON.COM | CARS | JOBS | REAL ESTATE

Wednesday, September 17, 2014

SUBSCRIBE | DIGITAL | HOME DELIVERY | LOG IN

The Boston Globe

56° Partly cloudy WEATHER | TRAFFIC

NEWS METRO ARTS BUSINESS SPORTS OPINION POLITICS LIFESTYLE MAGAZINE INSIDERS TODAY'S PAPER



Finding death cause for 3 infants a difficult task

Working with little more than skeletal remains, the state medical examiner is tasked with a critical part of the Blackstone criminal prosecution.

Boyfriend said to be unaware of 2 children in Blackstone

Ramon Rivera III was in "complete shock" after learning he was probably the father of two small children taken from the house.

Timeline of events in the Blackstone case

Photos: Officials empty home

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ALAN M. DERSHOWITZ | PART 3
Detentions of war
How can the US keep suspected terrorists with no hope of being brought to trial, but espouse due

Figure 1. Lead story and figure from *Boston Globe*.

BOSTON.COM | CARS | JOBS | REAL ESTATE

53° Clear and sunny WEATHER | TRAFFIC

TUESDAY, NOVEMBER 30, 2010

TEXT SIZE | MIRANDA'S ACCOUNT

The Boston Globe

SEARCH

NEWS METRO BUSINESS SPORTS ARTS FEATURES OPINION MAGAZINE MULTIMEDIA TODAY'S PAPER MY SAVED

MARATHON
Mutai sets course record in photo finish



BOSTON police chief denies that Northeastern student was left to die

The New York police chief overseeing the investigation into the fatal shooting Sunday morning of a popular college football player from Boston said yesterday that it took medical crews.

US asks that rule on gays remains

D.O.J. seeks to continue "don't ask, don't tell" policy. Another line of tease text to make it more real.

Massachusetts economy rebounding, employment lags

Experts say state leads nation, but hiring still a concern. More realistic word count goes here

MORE NEWS

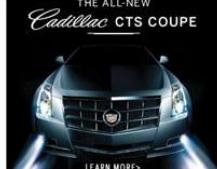
Supporting headline goes here and here and maybe it breaks to two lines

Headline support goes here and here

Supporting headline goes here

Supporting headline goes here here

THE ALL-NEW Cadillac CTS COUPE



LEARN MORE>

Most Popular

1 State Street to cut 400 Mass. jobs

2 On Christmas, their cushion will vanish

3 New questions on Harvard researcher

4 \$1b grant puts MGH in good health

5 Forest Hills brings new life to cemetery

“

Neither candidate is really talking about the hard decisions that need to

Figure 2. Lead story in a vertical grid.



Figure 3. Lead story taking up two-thirds of the page.



Figure 4. *Boston Globe* as seen on a mobile.

Time Magazine – Focusing on Performance

Like *BCBusiness*, when time.com made the move to being a fully responsive site on October 22nd, 2012, they wanted to attract more users and keep them engaged longer. The website has 10 million unique visitors each month, with 15 percent of those coming from tablets and smartphones. “We’d begun to see our mobile traffic increase steadily throughout 2011, both tablet devices and smartphones. We had a separate mobile site, what used to be called a WAP site, but we saw that a lot more people were accessing the desktop site from their phones. Heading into 2012, we were approaching 10% of our audience coming from mobile and tablet,” said Craig Ettinger, General Manager for time.com in an article for magazine.org.²⁷

Their growing social media audience was another important factor in time.com’s move to responsive design. “Social media accounts for at least 12 percent of referrals to time.com, and most people who click on *Time* links from Facebook, Twitter and the like are doing so on a mobile device. Going forward, they’ll be getting a much better experience”, said Ettinger.²⁸

And the results of the new responsive site certainly lived up to the expectations of the team. In just a few short months, Ettinger said that mobile visitors were up 23 percent. On their homepage, unique visits were up 15%, and time spent

²⁷ Ethan Grey, “Time.com GM Craig Ettinger on bringing responsive web design to the iconic brand,” The Association of Magazine Media, December 10, 2012, <http://www.magazine.org/timecom-gm-craig-ettinger-bringing-responsive-web-design-iconic-brand#sthash.EQMTm8eZ.dpuf> (accessed June 2013).

²⁸ Lucia moses, “Time Moves to Responsive Design News brand tries to capitalize on mobile traffic,” Ad Week, October 21, 2012, <http://www.adweek.com/news/technology/time-moves-responsive-design-144666> (accessed May 2013).

was up 7.5%, with the mobile bounce rate decreasing by 26%. "We're really happy with what we're seeing, and it's just getting started," said Ettinger.²⁹

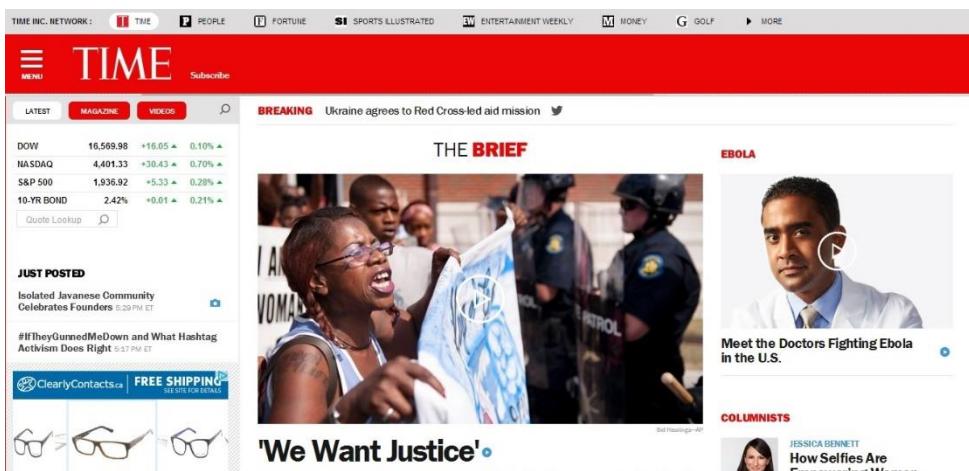


Figure 5. Time.com as viewed on a desktop.

²⁹ Ethan Grey, "Time.com GM Craig Ettinger on bringing responsive web design to the iconic brand," The Association of Magazine Media, December 10, 2012, <http://www.magazine.org/timecom-gm-craig-ettinger-bringing-responsive-web-design-iconic-brand#sthash.EQMTm8eZ.dpuf> (accessed June 2013).



Figure 6. The time.com homescreen as viewed on a mobile phone.

3.2. Best Practices for Responsive Web Design

Most companies want their website design to be as relevant for as long as possible without having to constantly update it, so it is best to think about how much people use mobile devices and tablets not just today but how much they will be using them in the future. As more websites have been built to be responsive a set of best practices has emerged that could prove invaluable to publishers considering the responsive web model.

Focus on the Audience

The way people read on a mobile device and the type of content they are looking for is very different to desktop—a study done by StatCounter, a web traffic analysis tool, shows that people preferred to use the desktop for in-depth research and to pay bills and mobile browsers were more likely to perform specific one-word searches and use

their phones for reading for short periods of time³⁰. In some cases, there might even be a completely different audience on mobile. Knowing one's audience and taking some time to think about who will use the mobile site is very important. The most successful responsive sites know what tasks their audience will be looking to complete and what content is most useful to them on the go.

The key features important to one's mobile audience are usually a different list from the one they'll have for their desktop audience, so it is vital to understand who one is targeting before creating the content. Knowing the audience and understanding their interests when coming to the site can help focus the all-important content strategy.

Develop from Mobile First

Almost every web designer understands and endorses this key strategy for web design in the responsive age: start with the smallest resolution and then build upwards. Developing for mobile allows designers to start with the important elements first and then build up to accommodate for added space later. This strategy helps weed out the non-essential matter, making for an overall better site. As the content and design strategy evolves, space can be made to creatively expand what is lacking or needed. Designing with a mobile-first strategy will ensure the website isn't too heavy to load quickly on smartphones—making performance a top priority and not an afterthought.

Moving past breakpoint fixation

Responsive design layouts are based on breakpoints—points at which the website responds to provide the best layout for the screen. Originally, it was thought that breakpoints should be based on popular device sizes, eg. desktop, tablet (iPad) and

³⁰ Designer Daily. "Analyzing mobile vs desktop user behaviour." Designer Daily. October 1, 2012. <http://www.designer-daily.com/analyzing-mobile-vs-desktop-user-behavior-29380> (accessed June 2014).

smartphone (iPhone) have widths of 1024px, 768px and 320px respectively. But these are just a few devices among several that have popped up today and each of these devices has its own unique screen width. Further complicating matters is the choice of browser used: “Chrome and Safari scale the viewport according to the device pixel density, but not all browsers do. For example, a Google Nexus 7 (using Chrome) has a viewport width of 601px. On the same device the width becomes 800px when using Firefox or Dolphin,” says James Royal-Lawson of Web Managers.³¹

The solution could be to set breakpoints based on the content rather than the device size—specifically where content needs to be adjusted. “Design flexibly and add a breakpoint where your layout needs to do something more than expand or contract, usually when the content requires a change in the number of columns being used,” says Steven Bradley from Vanseo Design.³² And finally, testing early and often on as many devices as possible will allow for a clear indication of how well things are working.

³¹ James Royal-Lawson. “Nine things to watch out for when going responsive.” March 28, 2013. <http://www.webmanagersgroup.com/2013/03/28/responsive-web-design-9-pitfalls-to-watch-out-for>. (Accessed January 2014.)

³² Steven Bradley. “Where And How To Set Breakpoints In Media Queries.” Vanseo Design. August 6, 2012. <http://www.vanseodesign.com/web-design/media-query-breakpoints>. (Accessed February 2014)

Chapter 4.

The New BCBusiness.ca Site Diane: you used lower case everywhere else...

The new responsive *BCBusiness* site was launched in the first quarter of 2013. Because bcbusiness.ca is a responsive site, the website serves all of the content of the desktop version to the mobile and tablet users—a frank acknowledgment that the mobile experience has to be more than a lite version of the “real” desktop website. The new responsive website has a clean overall design and a well-formatted layout. It works nicely on the desktop and mobile device, and has a consistency and simplicity that makes it pleasing to the eye. The designers have arranged the content into 3 columns, the amount of which decreases according to screen size, slowly but surely passing stages of displaying data in 2 columns and finally in one for mobile users.

A few of the design changes since 2012 have been marked in the image below. The removal of the two menu bars at the top of page seen in the pre-2012 site give the new site some much needed breathing space.



Figure 7. A snapshot of *BCBusiness* from 2012.

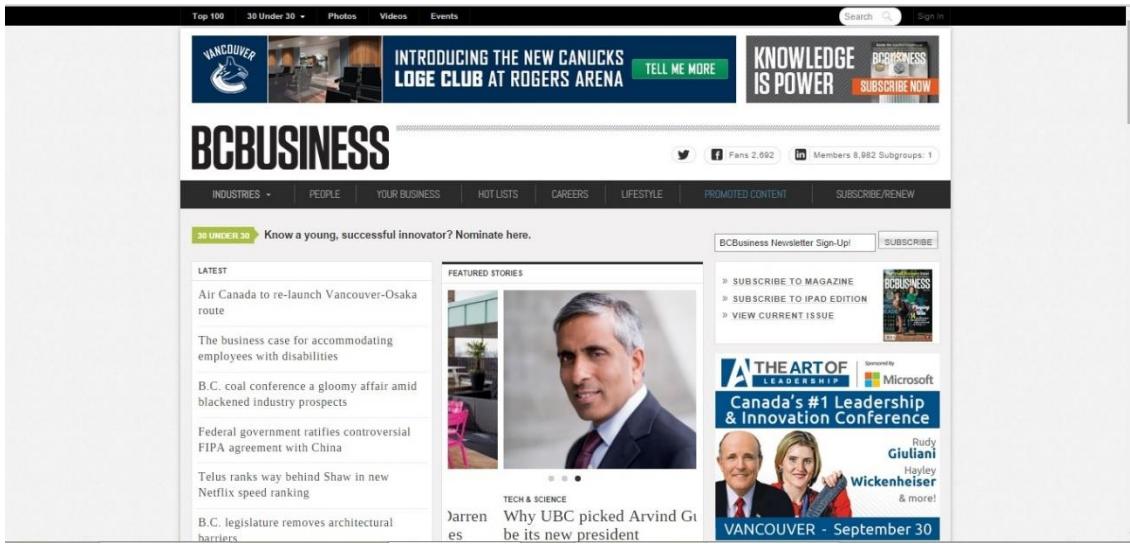


Figure 8. The new *BCBusiness* site accessed September 2014.

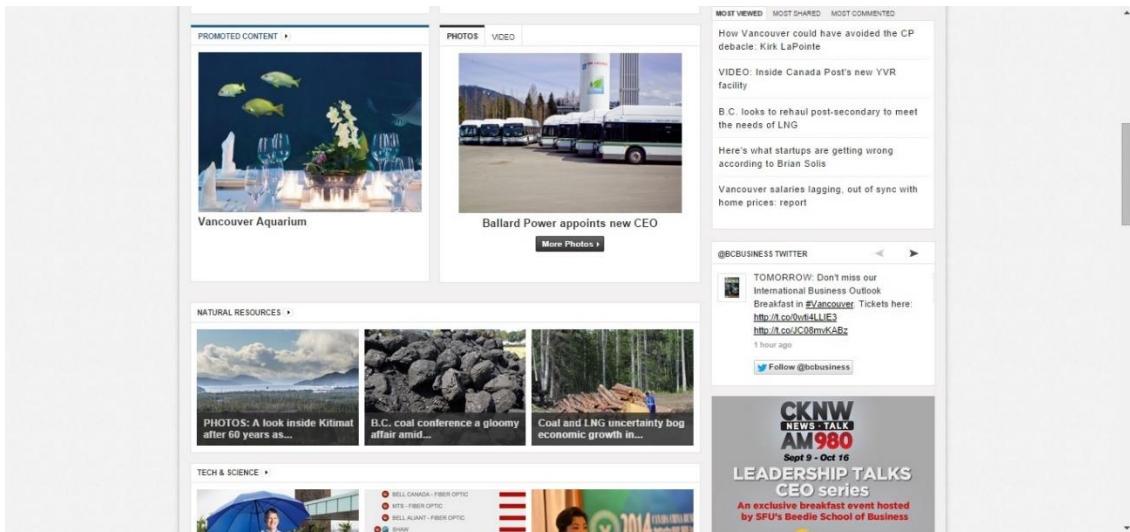
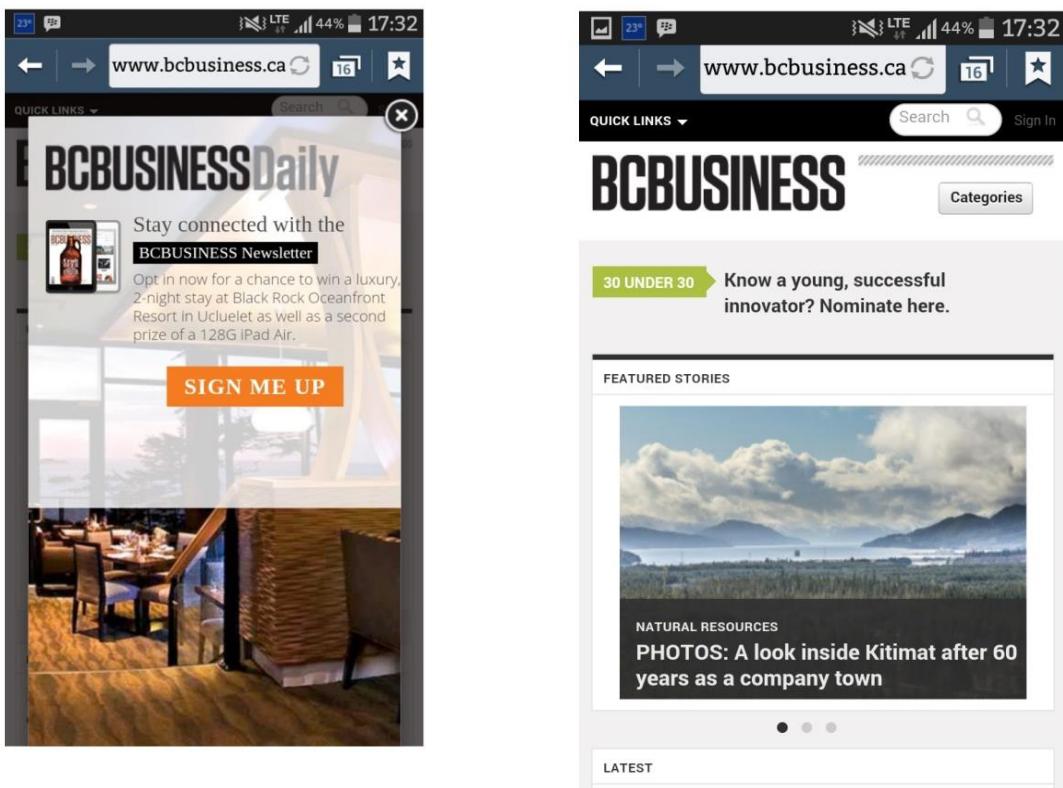


Figure 9. The homepage after the fold.

On the tablet and smartphone, the new site loads fairly quickly—in under 5 to 6 seconds on a Samsung Galaxy 3 smartphone. A good load time for a responsive site though, is said to be under 4 seconds. A website's bounce rate spikes to 100% when

a page takes 4 seconds or more to load.³³ While slower load times also depend upon individual mobile carriers, usually the problem lies with heavy images. Making sure every single image on the site is optimized³⁴ can dramatically minimize page weight and speed up loading time.

BCBusiness could also consider hiding images on ‘heavy’ pages altogether. The stylesheet that sets the display to: “none” property for images makes sure all images are hidden.



³³ Rachel Sprung. “17 Compelling Stats That Make the Case for Smarter Site Design.” Hubspot blogs. July 31, 2013. <http://blog.hubspot.com/marketing/compelling-stats-website-design-optimization-list> (accessed December 2014).

³⁴ When an image is reduced from the original source file to a size and quality setting that's appropriate to its use in a web page

Figure 10. (Left) When you first access the *BCBusiness* mobile site. (Right) Without the pop-up (a small window that suddenly appears ("pops up") in the foreground of the visual interface).

Many mobile sites use hamburger buttons (i.e., an icon usually with three horizontal lines which people can click to view a menu of pages on the site). They are used on mobile websites to save space. Often it is found that the hamburger button leads to lower discoverability because its contents are hidden and also they are also usually not glanced at very often. *BCBusiness* overcomes both these problems by having two easily identifiable menu buttons—named Quick Links and Categories. There's no guesswork here for the user as to what kind of menu or features will be available when these buttons are pressed. The drop-down menus are also small; they don't take up the entire screen as some hamburger menus are prone to doing.

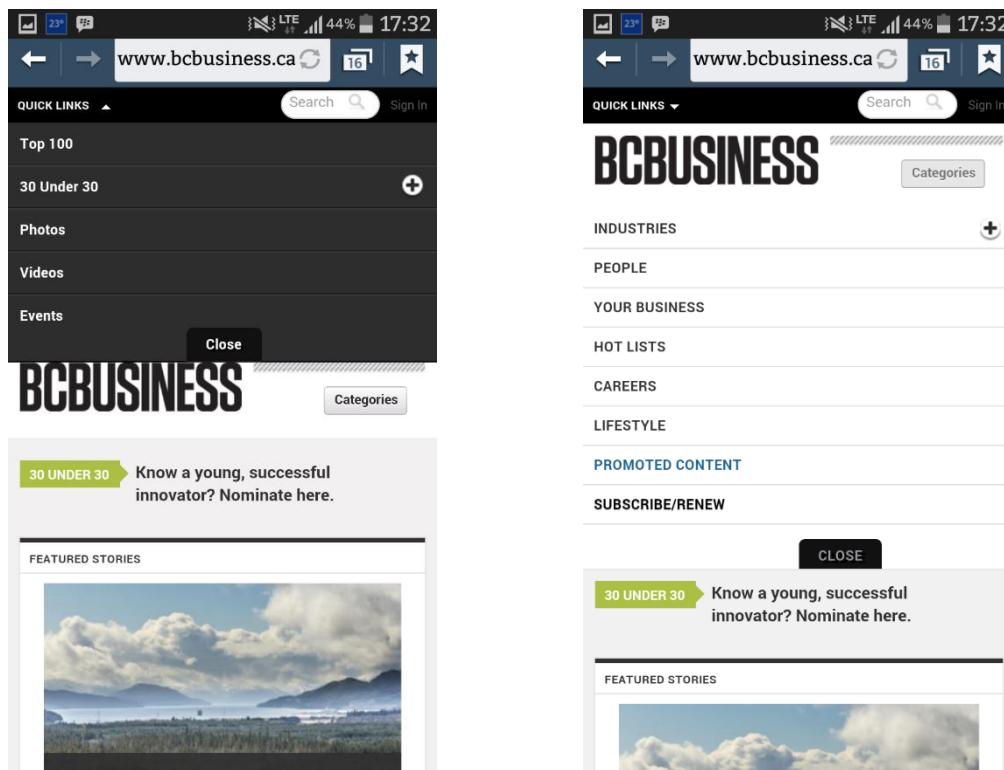
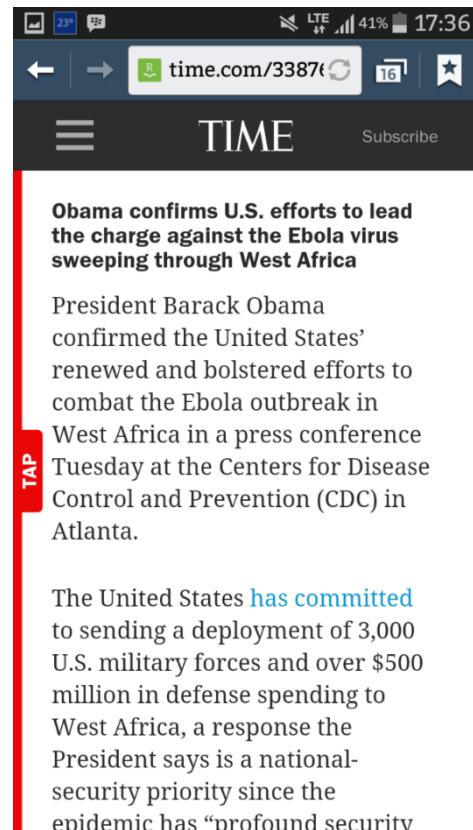
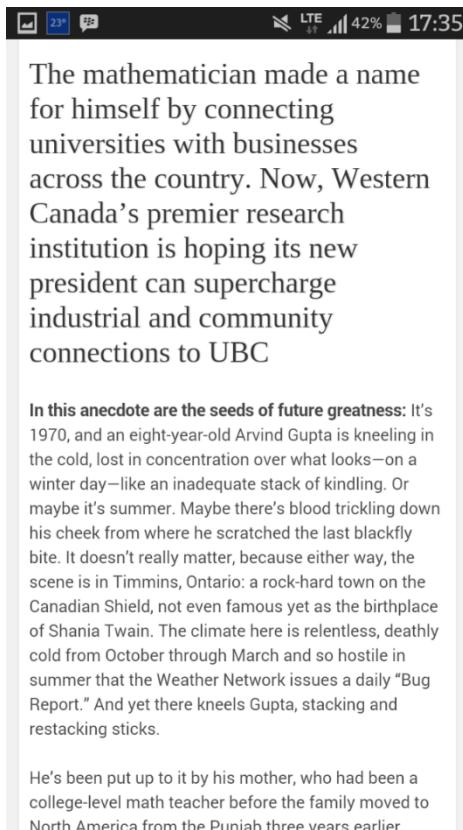


Figure 11. (Left) The Quick Links menu. (Right) The Categories menu.

When it came to reading content on the site, I noticed that the font was a little on the small size. When compared to time.com (see images below), the difference in font size is glaring. Mobify.com recommends a font size of at least 14PX³⁵. When it comes to responsive sites and font size, paying attention to the number of words per line is also important. As a general rule, designers use the largest font-size that doesn't look disproportionate and results in lines with 30-50 characters per line. Currently, users visiting bcbbusiness.ca do not have the option of resizing the text either, by pinching the screen, as is possible on other responsive websites like smashingmagazine.com.



³⁵ Johnathan Bates. "50 Mobile Web Design Best Practices eBook Mobify." Scribd. March 26, 2014. <http://www.scribd.com/doc/214582665/50-Mobile-Web-Design-Best-Practices-eBook-Mobify> (accessed September 2014).

Figure 12. (Left) A feature story on BCBusiness.ca as viewed on a phone. (Right) A feature story on Time.com as viewed on the same phone.

While the font size for the main articles felt a little small, all links and buttons on the mobile site had been properly optimized for touch screen use. Apple recommends giving tappable controls a “hit target of 44 x 44 points”.³⁶ This is the ideal size to ensure that the average human finger can accurately target the intended link. Appropriate padding can be added around a link to expand its clickable area.

Filling in forms and fields to subscribe or search articles was easy enough with the mobile keyboard being activated immediately and the mobile email keypad being activated when needing to type in email addresses.

³⁶ Apple Developer. “UI Design Basics”. IOS Developer Library.
https://developer.apple.com/library/IOs/documentation/UserExperience/Conceptual/MobileHIG/index.html#/apple_ref/doc/uid/TP40006556-CH66-SW1 (accessed September 2014).

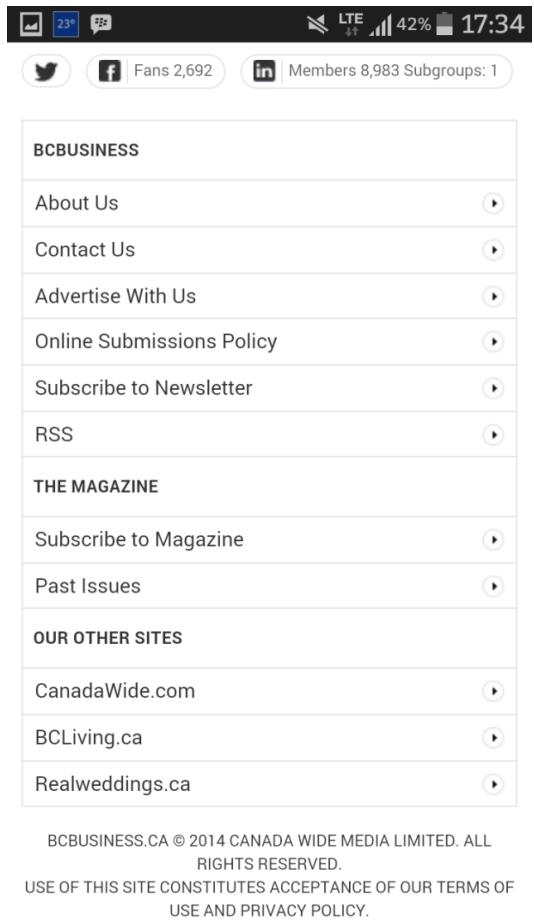


Figure 13. After scrolling to the very bottom of the mobile site.

Since the responsive site was launched in 2013, there has been a continual increase in the number of page views from mobile users. In the first week of October 2012, there were 28,715 unique page views from mobile visitors while in the second week of September 2013, the number went up to 34,104.³⁷ In February 2014, 29% of visitors to the site were mobile visitors as compared to just 11% in 2012. Good usability on the web increases markers of success including traffic, site visits, and customer satisfaction. With a solid responsive site that gracefully fits content onto mobile screens, *BCBusiness* is providing their mobile users with a much better overall experience.

³⁷ *BCBusiness* Analytics

4.1. Online Advertising in the Responsive Realm

According to the Interactive Advertising Bureau (IAB), digital advertising in 2012 took over the largest share of ad spend over other media like television and print. In 2013, Internet ad revenue, including Online & Mobile, continued its double-digit growth rate (+14%), rising to \$3.5 billion from 3.1 billion, displacing TV by 4.1%, as the Canadian medium generating the highest ad revenue.³⁸ So online advertising is not only here to stay, it is a booming industry.

Online ads are generally clickable images that come in a variety of fixed sizes designed to work at one size only. The ad units are sold based on their dimensions and their position on a website's page. The Interactive Advertising Bureau suggests the following ad measurements as standard publishing formats for websites:

IAB Display Advertising Guidelines: The New 2012 Portfolio

Released on February 26, 2012, the new IAB Standard Ad Unit Portfolio includes a new range of formats designed to meet marketers' communications needs across the purchase funnel. [Read the press release.](#)

Display Rising Stars					
970x250 Billboard	300x600 Filmstrip	300x1050 Portrait	970x90 Pushdown	300x250 300x600 970x250 Sidekick	970x90* Slider
Universal Ad Package (UAP)					
300x250 Medium Rectangle	180x150 Rectangle	160x600 Wide Skyscraper	728x90 Leaderboard		
Other Ad Units					
970x90 Super Leaderboard Provisional Unit ³	300x600 Half Page	120x60 Button 2	88x31 Micro Bar		
Rich Media Guidance					
300x250 In-Banner Video (file-loaded)	180x160 In-Banner Video (streaming)	160x600 Expandable/ Retractable	728x90 300x600 550x480 (large) Pop Ups	300x250 Floating	variable size Between-the-Page (Interstitial)

Figure 14. IAB's standards for online ad publishing formats as of February 2012.

³⁸ Ernst and Young LLP. "2013 Actual + 2014 Estimated Internet Ad Revenue." IAB. September 17, 2014. http://iabcanada.com/files/Canadian-Internet-AdRev-Survey_2013-14.pdf (accessed December 2014).

Responsive layouts however, work on the basis that all elements, including images, can be resized and repositioned. Factor in extra advertising elements like videos, pop-overs and interactions and the challenges of advertising on responsive sites become evident.

Publishers have also lamented that mobile ads interrupt the user's experience and that the variation in screen sizes makes adapting the ads a complex and expensive task. And often, media agencies don't assign funds relative to the traffic on mobile websites.

Further complicating matters, advertising and web design are two completely different industries, each with their own set of objectives. The first step to resolving issues, then, would be better communication between the advertising, sales and digital teams at the initial planning stage of any responsive site.

Some responsive sites have successfully incorporated ad units. *The Boston Globe* sold one ad unit which had the capability to be resized for any screen size or device. "Our sales team is selling a single audience across all devices and they're not focused on selling a technology," says Jeff Moriarty, VP Digital Products, *Boston Globe* in an interview.³⁹

Nathan Ford on *artequalswork.com* suggests ranges instead of templates as a solution to advertising issues on responsive sites. A range would be a grouping of templates according to a variety of resolution widths. "This gives us more templates, more slots, and most importantly: more opportunities for revenue. It is important

³⁹ eMarketer. "The Boston Globe on Making Responsive Design Work for Advertisers and Readers." eMarketer. May 31, 2013. <http://www.emarketer.com/Article/Boston-Globe-on-Making-Responsive-Design-Work-Advertisers-Readers/1009934#5laICoOWtuY905b7.99> (accessed July 2013).

here to not think of a responsive layout as a series of fixed widths, but as a series of ranges of widths,” he said.⁴⁰

He recommended grouping current templates (for most systems) in to a 1024 (pixels)+ range. 768–1023 becomes another set of templates targeted at tablets in portrait, then 480–767 for smartphones in landscape, and up to 479 should cover mobiles in portrait. Each site could define their own ranges as necessary.

Mark Boulton, author and founder of the Mark Boulton Design studio, recommends selling packages instead of slots. For example, “an advertiser would buy a package for slot A. The creative to deliver against that package would be a Leaderboard, an MMU and a small banner for small screen. Then, the templates need to be able to detect the various widths and serve the correct ad based on that width. Slot B would offer different ad positions and sizes, and so on”.⁴¹

Instead of experimenting with existing ad models, web designer Josh Clark came up with a new one when working on people.com. He created what he calls “snap banners”. Initially, the banner is fixed to the bottom on a mobile device. When the user scrolls, the ad fixes into a “normal” position and then expands to full screen when clicked.

Snap banners solve the problem of the advertiser wanting to be above the fold and the user not wanting to see ads everywhere that they go. “We need more flexible ad creative: messages that are delivered in fluid HTML rather than static images. A well-crafted snippet of ad HTML can flow into any space it’s placed, adapt to any

⁴⁰ Nathan Ford. “Responsive Advertising: A Ranged Solution.” Art Equals Work. November 16, 2011. <http://artequalswork.com/posts/responsive-ads/> (accessed May 2013).

⁴¹ Mark Boulton. Responsive Advertising. The Personal Disquiet of Mark Boulton. November 15th, 2011. <http://www.markboulton.co.uk/journal/responsive-advertising> (accessed January 2014).

screen resolution, and target any device. Instead of juggling a ton of assets for a single campaign, you've got one tidy package. It's better for everyone," he said.⁴²

In coming up with an advertising plan, The Interactive Advertising Bureau (IAB), advises companies to be mindful about "the post-tap experience, not just the ad creative. Delivering a smartphone or tablet user to a PC-web optimized landing page or corporate site is suboptimal at best, and an irritating and negative experience at worst. In short, a responsive ad demands a responsive landing page."⁴³

A number of companies have experimented with online advertising options by reducing the number of ad positions, charging more for ads or selling cross-platform ads with a single insertion order. The above ideas have more to do with business model changes, than technology developments.

In 2012, when deciding how to tackle online advertising, *BCBusiness* decided to increase the advertising units on the site—from video ads to promoted content stories that would appear in the editorial verticals that the site is organized into. "Banner ads are useless. Our in-editorial ads like promoted content and stories mentioned above are vital ad units that work exceptionally well in the smallest of screen environments. Again, these are ads, but they are less distracting because they've been organized by topic and context into the part of the site that deals with similar subject matter. These promoted content stories will be more contextual and less interruptive than standard display advertising because they will be about the topic that a user has already clicked into," says Tom Gerasimczuk.⁴⁴ With the new

⁴² Josh Clark. "Making of: People Magazine's Responsive Mobile Website." Good reads. July 29, 2012. http://www.goodreads.com/author_blog_posts/2781701-making-of-people-magazine-s-responsive-mobile-website (accessed July 2014).

⁴³ IAB. Responsive Design and Ad Creative: An IAB Perspective. Interactive Advertising Bureau. September 2012. <http://www.iab.net/media/file/ResponsivePerspectiveFinal.pdf> (accessed November 2013).

⁴⁴ Personal communication with Tom Gerasimczuk, 13 November, 2012

site, the large banner ad on the very top of the desktop version of the site disappears for mobile users. Mobile users get smaller horizontal ads after the fold instead.

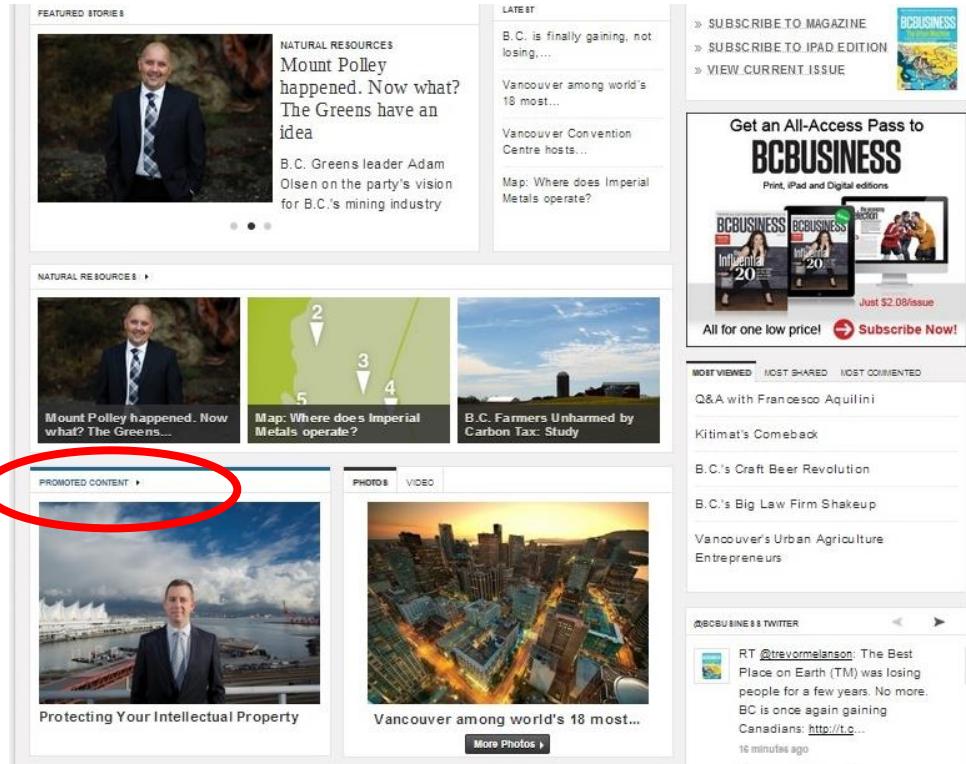


Figure 15. BCBusiness has a 'promoted content' box that blends in with other content making it less distracting and intrusive.

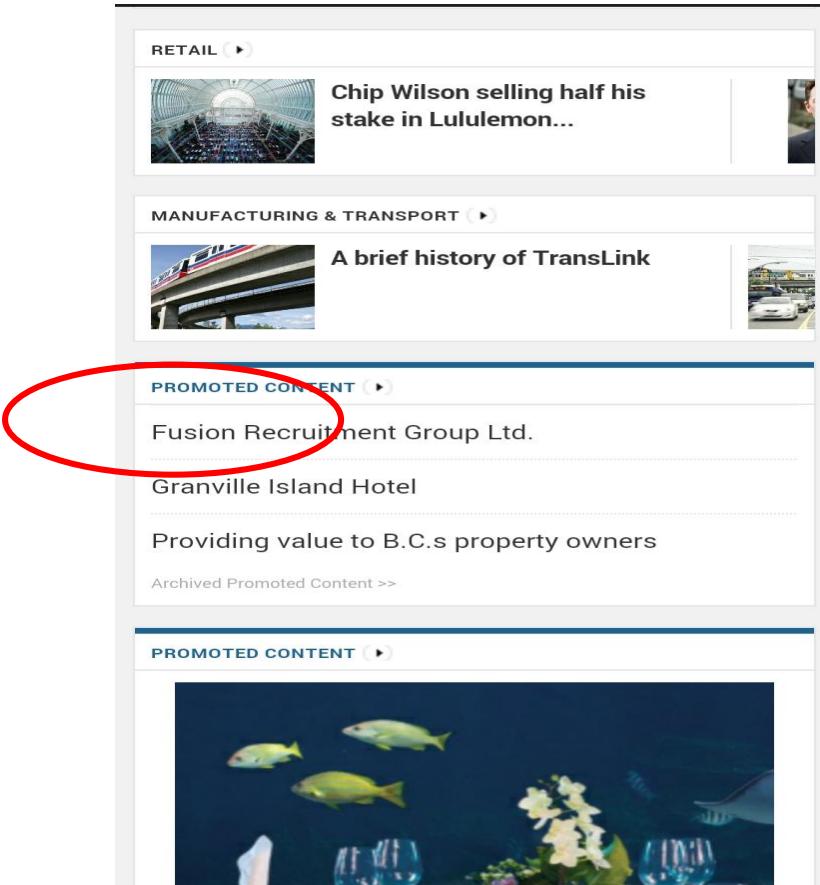


Figure 16. Promoted content as seen on a mobile device.

TECH & SCIENCE ▶

 Hyundai launches Canada's first hydrogen fuel...

SEARCH
BROWSE
MATCH

 37TH ANNUAL PLEDGE DAY 

FINANCE ▶

 Bell buys one of B.C.'s biggest public...

TOURISM & CULTURE ▶

 How the Ucluelet Nation is reinventing Tofino...

CACTUS CLUB CAFE HOLIDAY GIFT PACK
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MARKETING & MEDIA ▶

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Figure 17. Horizontal ads on the mobile version of the site.

Conclusion

The only way to future-proof a website and thus its content, is to move towards platform-agnostic web development tools. This report has highlighted responsive web design as a way to take advantage of device capabilities and targeting solutions to better engage audiences. It may not be the answer to every challenge faced by web design and content management in our mobile-web world but it provides concrete techniques to accommodate multiple devices while maintaining some level of control over content layout and presentation.

We know that more users are accessing the web from more places on more devices than ever before. A large percentage of Americans even sleep with their mobile phones⁴⁵ , making them the last thing they use at night and the first in the morning, and magazine publishers need to deliver worthwhile reading experiences, or risk losing their audience to better, faster, more responsive websites. This means that for every digital edition, a mobile strategy has become a must.

Content needs to be able to reach a lot more channels if it aims to be discoverable at all in the near future. And behind every one of these channels and screens are people—users who want to interact, engage, explore and participate in online communities.

Responsive web design is especially well suited to magazine publishers like *BCTBusiness* as it forces digital editors and designers to focus and create online content serving up only those features that are suitable for specific devices, it pushes publishers to ensure content is meaningful and suited to its context. There's more content being created than ever before, and every publisher should be bending over

⁴⁵ Ellen Gibson, "Sleep with your iPhone? You're not alone," Pew Internet, July 26, 2011, <http://pewinternet.org/Media-Mentions/2011/Sleep-with-your-iPhone-Youre-not-alone.aspx> (accessed May 2013).

backwards to ensure their readers have access to their content anywhere they choose to consume it.

I believe *BCBusiness* is taking a right step in going responsive. The number of mobile users has increased steadily over the past three years and there's no doubt that having a mobile-friendly responsive interface has had a big role to play in the spike in new readership. As BCB editor Gerasimczuk says, "The (new) site is the core of a complete rebrand and optimization of the BCB brand, which is driven by our promise to our audience that we will help them do their job better 24 hours a day, wherever they happen to be, and however they choose to access our information."⁴⁶

Ethan Marcotte believes the web is defined by transience, not permanence, and design principles and strategies are therefore adapted regularly. We don't know what's coming next. No one will be surprised if we're seeing 60-inch displays or a browser that appears on the lenses of glasses. But by using responsive web techniques, we can begin thinking today, about all potential sorts of web usage in the future. As web technology is now evolving at the fastest pace it ever has, we should learn to adopt responsive techniques as a standard practice, rather than simply an added benefit.

Marcotte further explains, "Now more than ever, we're designing work meant to be viewed along a gradient of different experiences. Responsive web design offers us a way forward, finally allowing us to 'design for the ebb and flow of things.'⁴⁷

It is important for magazine publishers to invest in this foundation of adaptable content and responsive infrastructure—the ease at which a magazine's content can move between readers and devices will likely be worth the effort.

⁴⁶ Personal communication with Tom Gerasimczuk

⁴⁷ Ethan Marcotte. "Responsive Web Design." *A List Apart*. May 25, 2010.
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