

3.3 UNDERSTANDING THE BUSINESS USAGE OF A MOBILE CONSULTING APPLICATION

Wes Hyduke *
Schneider Electric, Minneapolis, Minnesota

1. ABSTRACT

Mobile applications and technologies continue to change the landscape of weather information consumption for businesses. Value-added features in addition to real-time weather information are a necessity for businesses and organizations to mitigate the associated risks of weather, improve operating efficiencies, and increase overall safety. As a value-added service, Schneider Electric hosts an interactive online consulting forum within its software-as-a-service platform via mobile application and internet browser. Since inception, this forum has proven useful for clients to make specific weather inquiries directly to an Operational Meteorologist about their unique needs as related to the weather's impact. This study investigates the mobile usage trends of the forum to better understand the end user when compared to the traditional website/browser based application.

2. INTRODUCTION

Schneider Electric's Commercial Weather Services business segment is the leader in software-as-a-service (SaaS) decision support solutions to meet the unique needs of customers in a wide variety of global markets.

The proprietary suite of MxVision WeatherSentry™ products offered by Schneider Electric provides real-time, internet-delivered weather data and visualization, with value-added features designed to allow businesses to mitigate weather related risks, ultimately ensuring personal safety, and decreasing financial loss.

One core value-added feature within the MxVision WeatherSentry™ service is a Consulting Forum for clients to make specific weather inquiries to Schneider Electric's team of 50 degreed and experienced Meteorologists.

Clients post their weather related questions and receive detailed responses back from a Meteorologist within 15 minutes.

The Consulting Forum is found with the MxVision WeatherSentry™ Online, MxVision WeatherSentry™ Mobile, and MxVision WeatherSentry™ Smartphone product offerings. The purpose of this study is to investigate the mobile and Smartphone platform usage trends of the forum to better understand the end user when compared to the traditional website/browser based application.

3. CONSULTING FORUM HISTORY

The Consulting Forum was introduced to MxVision WeatherSentry™ in January 2008 as an enhanced service level offering to Schneider Electric's customers. Initially, the Consulting Forum was found exclusively in the 'desktop' version, MxVision WeatherSentry™ Online. Shortly thereafter, with data plans on cellular phones becoming increasingly common, accessing the Consulting Forum via a browser on a mobile phone was introduced through MxVision WeatherSentry™ Mobile.

In April 2011, the Consulting Forum was introduced to the MxVision WeatherSentry™ Smartphone application (app) when Schneider Electric's first Android based app was developed. In June 2012, the iOS version of the app was released allowing iPhone users to pose questions within the Consulting Forum.

4. OVERVIEW OF DATA GATHERING AND INDUSTRIES SAMPLED

This study evaluates all questions received in the Consulting Forum from April 2011 – August 2014. The 40 month period presented 48,120 individual questions from 2108 unique customers across six core editions of the MxVision WeatherSentry™ software.

The editions of MxVision WeatherSentry™ represented within the Online, Mobile, and

* *Corresponding author address:* Wes Hyduke, Schneider Electric, 11400 Rupp Dr., Burnsville, MN 55337; e-mail: wes.hyduke@schneider-electric.com

Smartphone platforms include, Airport Operations, Construction, Transportation, Public Safety, Sports/Turf, and Utility.

Schneider Electric's Airport Operations customers represent runway crews manning various airports and also include Ground Operations personnel who are sensitive to the impacts of heavy rain and lightning.

Construction clients' weather related concerns include worker safety and maintaining the integrity of a jobsite as it relates to timing of precipitation.

Transportation clients consist of Municipalities, Counties, and State Level Departments of Transportation. The primary role of these organizations is to plow and treat roadway surfaces during the winter in addition to dealing with road maintenance.

The Public Safety client base encompasses city and county level police departments, fire departments, and emergency management agencies as well as private organizations that host large events. Primary concerns include understanding the overall threat of high impact weather and keeping large quantities of people safe.

Schneider Electric's Sports/Turf clients consist of high school, college, and professional outdoor sports teams, as well as golf courses and landscaping companies. Similar to Construction clients, Sports/Turf clients are focused on Probability of Precipitation forecasts and also the impact of lightning.

Utility clients consist of electric, gas, water, and wind companies. Weather hazards such as snow, ice, wind, and lightning can have a profound impact on their infrastructure.

5. CONSULTING FORUM USAGE ANALYSIS

Of the 2108 unique customers that presented a question within the Consulting Forum during the study, roughly 11% of users stem from a Smartphone or Mobile browser (Table 1). This number represents the 40 month average of this analysis, however when separating mobile usage by year (Table 2) one can visualize the increase year-over-year.

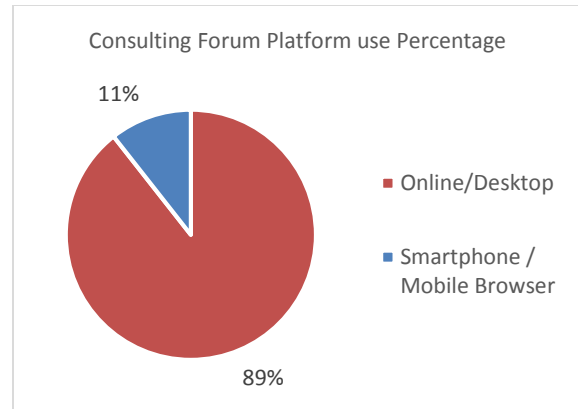


Table 1 - Pie chart depicting the breakdown of users for the MxVision WeatherSentry Consulting Forum

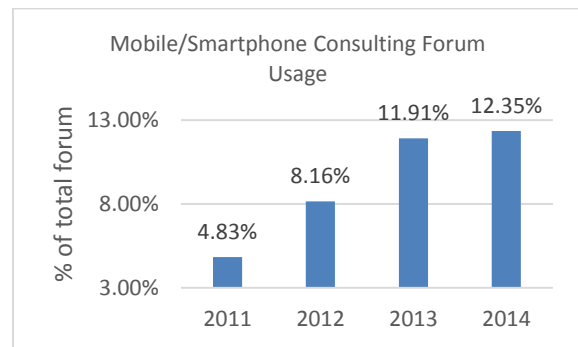


Table 2 - Bar graph representing the increase in users who have accessed the Consulting Forum via a Smartphone or Mobile Browser.

Of the population who utilize mobile phone technology to access the Consulting Forum, the Apple iOS hardware is the most popular technology, accounting for 50% of usage, while Android and Mobile browser access make up the remaining 50% (Table 3).

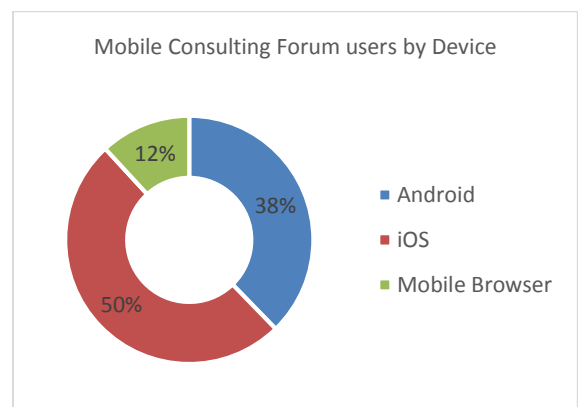


Table 3 - Doughnut chart illustrating the distribution of Mobile hardware that accessed the MxVision WeatherSentry Consulting Forum

When analyzing the method by which operating system Mobile users submit their questions to the Mobile Consulting Forum (Table 4) three noticeable trends are observed. First, the percentage of Apple iOS questions has grown significantly since the 2012 release. Conversely, the amount of users submitting questions via the mobile website on phones that are equipped with data plans has diminished drastically. This metric was expected as more people continue to transition to Smartphone technology; Heggstuen (2013). Finally, the Android platform has remained relatively consistent throughout the 40 month period of this study. The results of this graph were not shocking as recent studies have highlighted that the Apple iOS holds a relatively similar margin over Android devices within the entire Enterprise; Evans (2014).

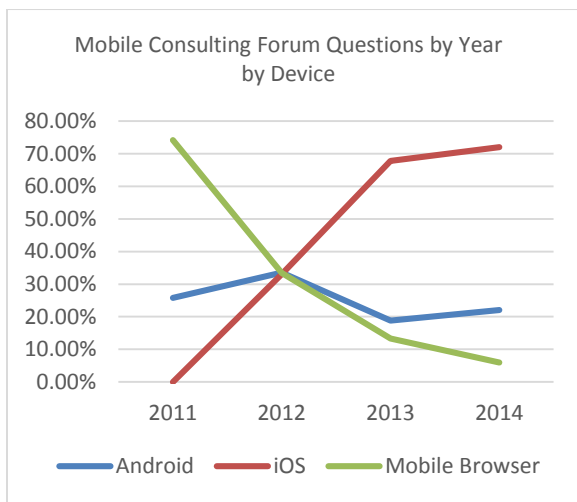


Table 4 - Yearly overview of questions received via Mobile Browser or Smartphone App.

6. OVERALL TRENDS BY INDUSTRY AND PLATFORM

When examining the distribution amongst each platform and MxVision WeatherSentry™ edition, it is not as uniform as one would expect. Evident in Table 5, the Sports/Turf industry represents the majority of Mobile customers while the distribution in the online or desktop version is relatively more uniform.

The high distribution of Mobile clients amongst one industry like the Sports and Turf industry is intuitive as the professionals who utilize the Schneider Electric service are quite mobile, whether it be on the field, the golf course, or traveling to an opponent's location.

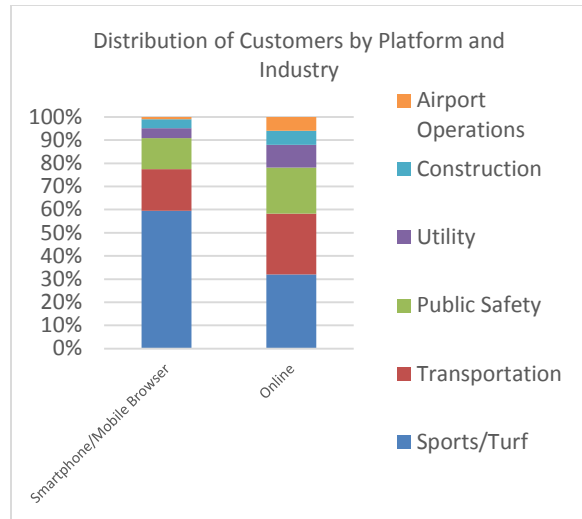


Table 5-Distribution of Customers by Platform and Software Edition

A distribution was created for each day of the week and hour of the day to determine if any clear trend is exhibited between the end user of the Mobile Consulting Forum when compared to the Online version. The results, shown in Table 6, depict noticeable usage increases for the Mobile Forum over the weekend when compared to weekdays, especially on Saturdays, when the highest usage of any day, on either platform is achieved. This likely coincides with the fact that the majority of Mobile users are Sports/Turf related customers who have weather related concerns specifically during a weekend. For example, the management of a professional sporting event, or perhaps a golf course trying to maximize revenue before foul weather occurs.

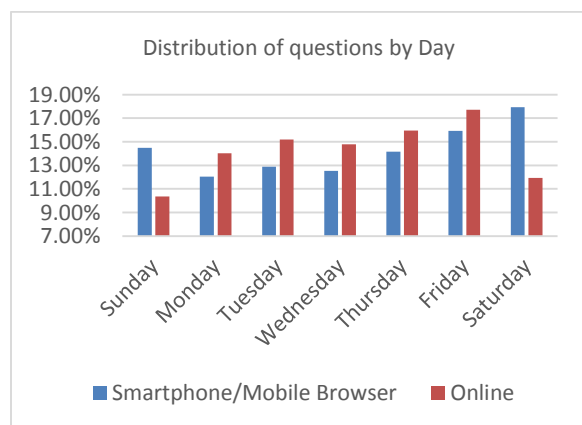


Table 6 - Distribution of Mobile Consulting Forum questions by Day of week.

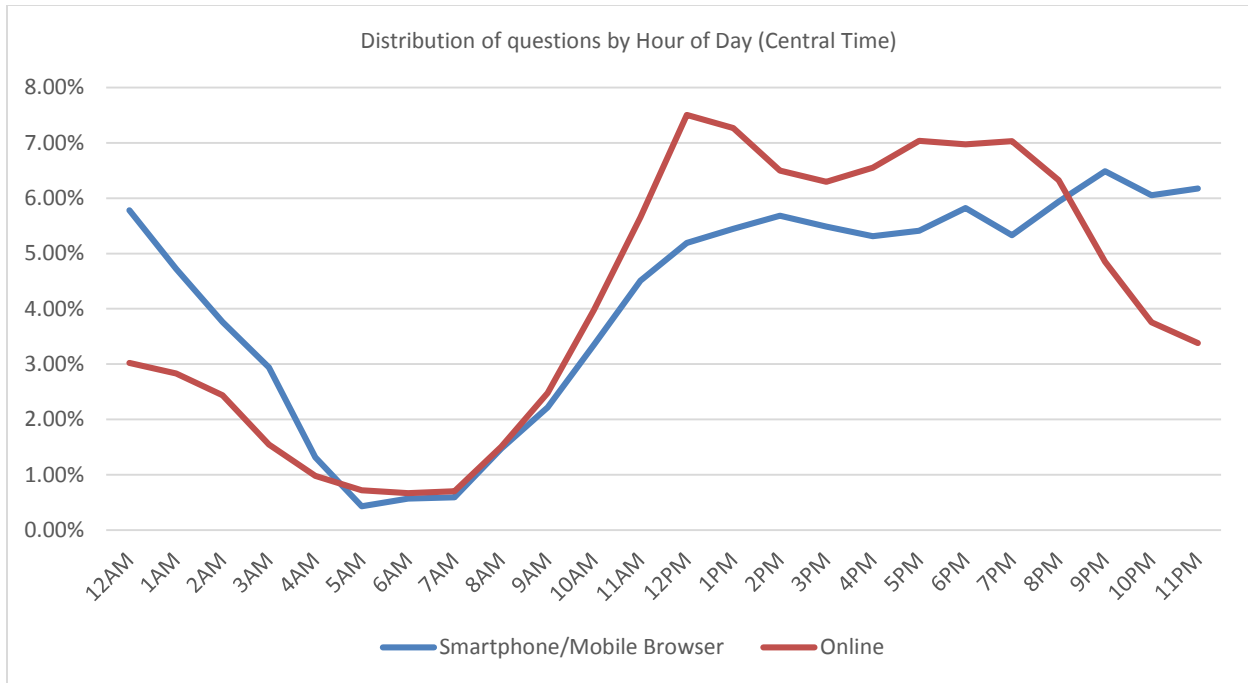


Table 7-Distribution of Questions by Hour of Day (CT)

Table 7 showcases that Mobile Consulting Forum usage tends to be quite different from Online Consulting Forum use during the evening and overnight hours, noticeably from 9pm-3am. While Online Consulting Forum use tapers off during this time period, the Mobile Consulting Forum expands its usage. This fact relates to the traditional Monday-Friday, 9am-5pm workweek. Professionals who are away from their place of employment, yet have a pressing weather concern during the late evening or overnight hours while at home, would ask a question via the Mobile Consulting Forum rather than utilizing the PC/Online version. Examples of this behavior would include a Public Safety official inquiring about the weather impact to make a decision on closing schools for the day or a member of the Transportation community inquiring about pavement conditions. The overall behavior of Mobile Consulting Forum usage follows patterns found in app analytics studies that highlights people are most active on their Smartphones from 9pm-3am; McKenzie (2013).

When supporting a non-scalable service, such as the Consulting Forum, it is imperative to understand the growth rate to better accommodate for staffing measures. Shown in Table 8 is a graphic that depicts the year-over-year growth in the number of questions received in the Mobile and Online platforms of the Consulting Forum. The time horizon for each year is the 12 month period from April to March. Worthy of

note is that in both yearly periods, the Mobile platforms exhibited much more aggressive growth than the Online platform. The large growth from April 2012-March 2013 when compared to the same period in 2011-12 is almost certainly attributable to the introduction of the Schneider Electric iOS application in June of 2012, tapping into the 53.3% market share of Smartphones that Apple had on the market in 2012; Sunnebo (2012).

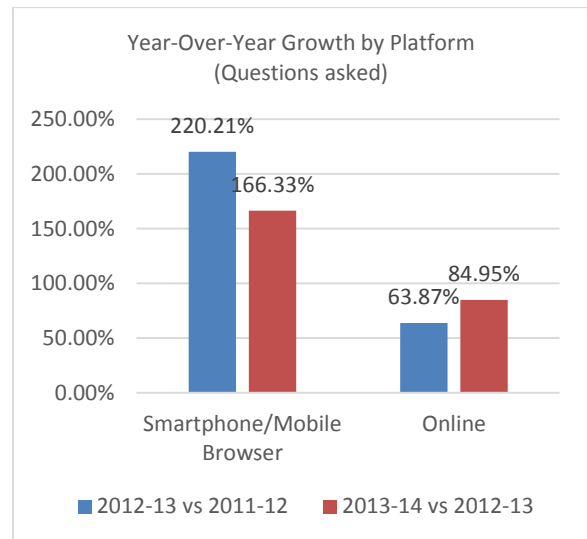


Table 8 - Year-Over-Year Growth of the Mobile and Online Consulting Forums

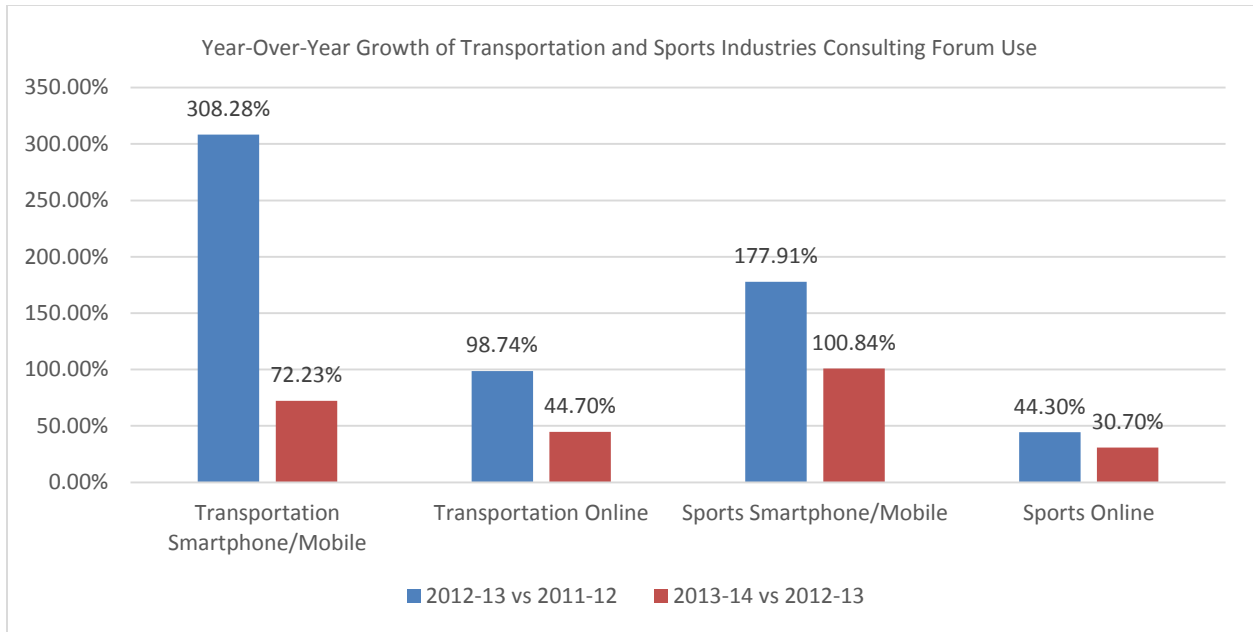


Table 9 - Sports and Transportation year-over-year usage patterns

While growth has been exhibited in all editions of the Mobile and Online Consulting Forum, the two key industries responsible for the growth are the Transportation and Sports/Turf sectors. This fact is intuitive as both industries employ professionals who are mobile in their daily job functions. Table 9 represents each industries' growth in usage of the

Mobile and Online Consulting Forums. Another important aspect of understanding the usage of both the Mobile and Online Consulting Forums is the seasonal volume differences by industry. Within the area graph in Table 10, all Mobile questions are represented by edition of MxVision WeatherSentry™.

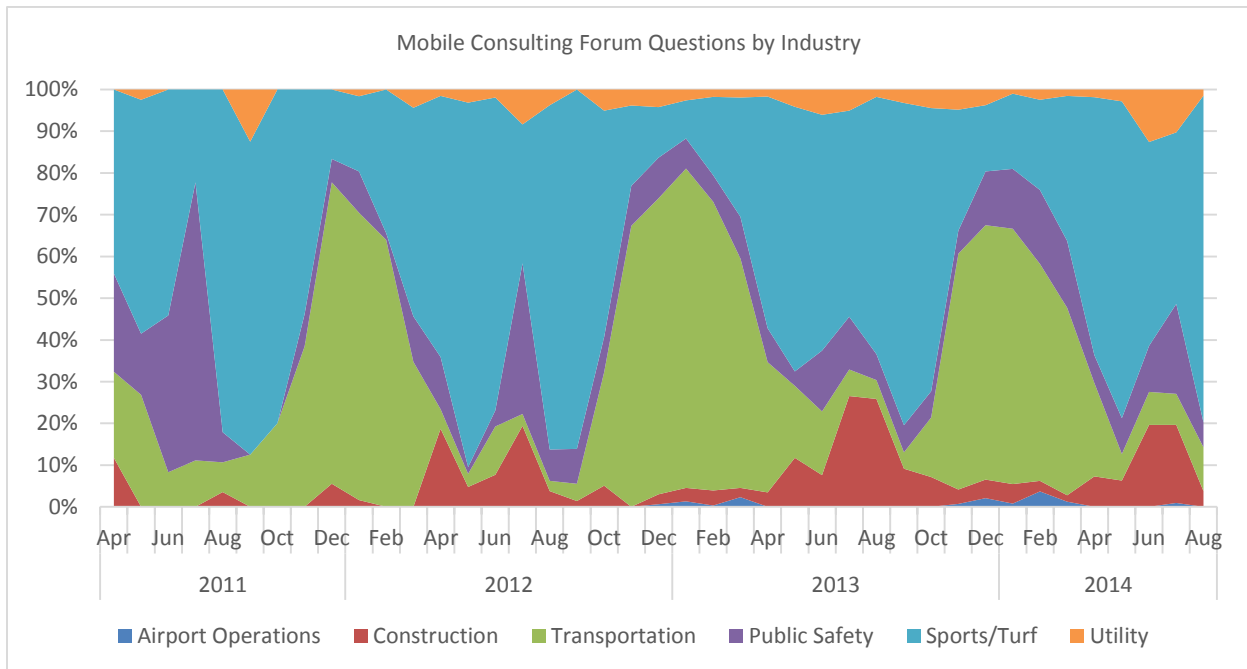


Table 10 - an area graph of all Mobile Consulting Forum Questions - April 2011-August 2014

Evident features within this graph are a strong presence of Sports/Turf customer questions during the Spring and Summer months while the Transportation industry dominates the Winter months; Loulis (2012). These concepts are rather instinctual as the customers who utilize the Forum. This is likely due to the resurgence within that industry over the past several years; McGraw-Hill (2012).

Notable weather events are also represented in this graph as users had an increase in questions due to high impact events over a given area. For example, the June 2012 Derecho event that impacted the Midwestern and Mid-Atlantic states with significant straight line winds is clearly illustrated by an uptick in questions from the Public Safety and Utility industries, both with significant interests from that event. Another example in January/February 2014 is the notable increase in questions asked by the Public Safety industry during the aggressive cold wave that impacted the Eastern United States.

7. SUMMARY

Mobile technology has and will continue to have an impact on the way weather information is communicated to business end-users. The overall convenience and precious time savings to professionals are critical differentiators when businesses are mitigating the risk of weather impacting their operations. Understanding how clients' behavior and information needs change by utilizing Mobile technologies compared to desktop applications will allow commercial weather companies to be more prepared to meet the clients' needs and increase operational efficiency within the company.

8. REFERENCES

Evans, J., 2014: Apple's iOS leads the enterprise, Android doesn't. [Available online at: <http://www.computerworld.com/article/2476643/apple-ios/apple-s-ios-leads-the-enterprise-android-doesn-t.html>]

Heggestuen, J., 2013: One In Every 5 People In The World Own A Smartphone, One In Every 17 Own A Tablet. [Available online at: <http://www.businessinsider.com/smartphone-and-tablet-penetration-2013-10>]

Loulis, G., 2012: A Private Sector Approach to Analyzing the Societal Impacts of Sensible Weather. *7th Symposium on Policy and Socio-Economic Research*, New Orleans, LA, Amer. Meteor. Soc.,

3B.1. [Available online at: <https://ams.confex.com/ams/92Annual/webprogram/Manuscript/Paper197261/ANALYZING%20THE%20SOCIAL%20IMPACTS%20OF%20SENSIBLE%20WEATHER.pdf>]

McGraw-Hill Companies, 2012: Modest Growth Predicted for Construction Industry in 2013. [Available online at: <http://construction.com/about-us/press/modest-growth-predicted-for-construction-industry-in-2013.asp>]

McKenzie, H., 2013: Peak times for smart devices: Primetime for entertainment, morning commute for news. [Available online at: <http://pando.com/2013/09/26/peak-times-for-smart-devices-primetime-for-entertainment-morning-commute-for-news/>]

Sunnebo, D., 2012: Apple achieves its highest ever Smartphone share in US. [Available online at: <http://www.kantarworldpanel.com/Global/News/Apple-achieves-its-highest-ever-Smartphone-share-in-US>]