Consumers' Research

established 1929

Bulletin • Summer/Autumn 2014

Table of Contents

Bulletin • Summer/Autumn 2014

Consumers' Research is an independent educational organization whose mission is to increase the knowledge and understanding of issues, policies, products, and services of concern to consumers and to promote the freedom to act on that knowledge and understanding.

Consumers' Research believes that the cost, quality, availability, and variety of goods and services used or desired by American consumers—from both the private and public sectors—are improved by greater consumer knowledge and freedom.

Illustration: Mike Costelloe

Consumers' Research
1801 F St NW, Washington, DC 20006
202-898-0459

ORGANIZED TO SERVE CONSUMERS
Consumers' Research
established 1929

The Results are in: **Philips Hue**

Olivia Ferguson &
John Tetnowski

The Philip's Hue lighting system is a product that is meant to help consumers tailor their surroundings to their preferences by choosing different platforms of light via their in-home Wifi. Philip's "Personal Wireless Lighting" system is designed so that it can be controlled remotely. Using a smartphone app or computer, users can adjust the color and brightness of the Philips Hue Light Bulbs in order to change the tone of the room, as well as synchronize lighting to music, set a simulated sunrise alarm, and choose lighting combinations that are designed to promote moods spanning from calm to focused or energized. Two very excited summer interns in the Consumers' Research (CR) office had the opportunity to test the product, examining its consumer friendliness, as well as its actual capabilities as a product.

Installation

The box sat in the closet for a few days after its arrival while the interns determined a plan to test the product. The first obstacle faced was where to put the light bulbs. With no lamps and high ceilings, there was concern that the light bulbs would not have a fair chance at producing optimal ambience. Finally it was settled that they would be installed in the ceiling light fixtures. With help of the building's operations staff, the bulbs were quickly installed.

That was the easy part. Next, the interns had to figure out how to link the device to the office Wi-Fi and install the Hue app. The second challenge faced was the lack of instruction on the box, except for a series of oversimplified steps on the inner flap of the box that failed to explain much about the app or how the product worked. In the end, the interns resorted to Googling online directions for the product. In all, installation of the bulbs, the Wi-Fi, and the app took about 25 minutes. Following that, it took about one hour to figure out how to properly use this new piece of equipment.

Demonstration

Upon initial set-up of the physical system (light bulbs, and the "bridge"), the interns opened up the app store on one of their iPhones and downloaded the app, which is the key piece to the entire system. Though the app took a while to download, once one of the interns had it on their phone, the system was ready to go – or so the interns thought. First, the app required synchronization with the "bridge" – a device that receives and transmits commands to control the lights – in order to operate. It is important for consumers to note that the phone must be connected to Wi-Fi, in order for Hue to work. The interns quickly figured this out, and set out to get the app running.

The first thing they did was to try to sync the lights to music – obviously, the most entertaining option. Well, as it turns out it is not quite a feature of the system, as they were led to believe (by the box). After a quick Google search, the interns discovered that playing music in sync with Hue requires a separate app, which is not free. While this was irritating, once they downloaded the separate app (called Ambify), they found that in order to play music it had to be imported from their iTunes into the app in order to have the system properly sync with the songs.

After the import they were able to get the music to sync to the beat of a song. While not an important detail, the interns found that the lights synched most successfully to techno-style music. Thus, for readers out there who want to be DJ's, this system will let you turn your house into a personal nightclub. The interns, as well as many of their co-workers, found this to be a very novel and entertaining feature of the Hue, yet they all remarked about the fact that beyond Friday late-night entertainment, this feature had little practical benefit.

The interns tested out some of the more practical features of the system. One of the things they most wanted to test was to see whether the lighting modes dubbed "energize" and "focus," would allow them to do just that. They deliberated between the two for a while, and finally settled on giving "focus" a test. They put the lights to this mode and then continued with the rest of their daily tasks to see if the lighting system helped them feel any more focused throughout the day. Though the light given off was obviously a different color than that of a traditional light, the effects of the "focus" mode were not apparent. Perhaps it could have been due to the fact that the lights were installed in a rather large office. Therefore, there were other competing sources of light, such as the sun, which made it difficult to discern whether or not the "focus" setting actually helped. In order to gain maximum benefit from these lights, it is recommended that they be used in a small room in which they are the only source of light, such as a personal office.

The interns then made their own light combinations, trying to figure out what would be good for the office. In the app one has the ability to choose the individual color of each of the lights. This allowed the interns to create combinations of different colors that would allow for the best display in their office. The first part of this time was spent making novel combinations (such as Red, White, and Blue, as the U.S. World Cup soccer game was on later in the day). While this was entertaining, its practicality was minimal at best. The interns then went experimented with creating other platforms of light in which they tried to mimic a sunrise, etc. Much of this can be done automatically via the app. The Hue allows users to upload pictures of their favorite images, and it can create a combination of light that best emulates the mood of that image. Thus, if you really want to create the sunset that you snapped a picture of on your last trip to the beach, you are able to do so. This is an interesting feature, but once again most of the CR office remarked on its novelty over its practicality.

Recommendation

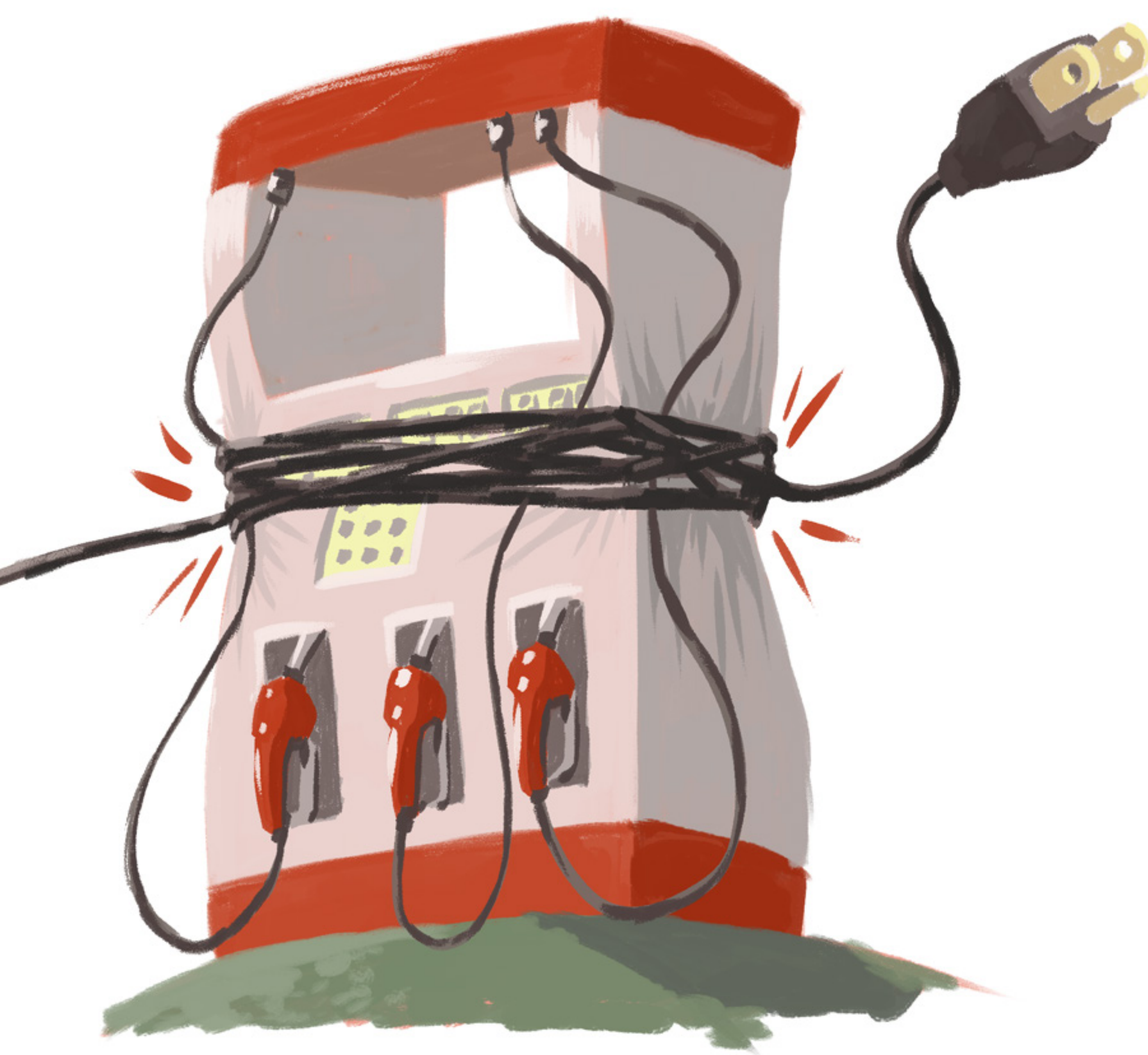
The product itself is fun. The music feature is easily the most attractive aspect of the product, and we can see consumers utilizing it in the future. While we remain uncertain about the effectiveness of the mood settings, it is entertaining to be able to adjust the brightness, tone, and overall setting of your environment should you feel like doing so. The brief testing we conducted on the alarm system led us to conclude it would be a nice way to wake up gently, but not ideal for heavy sleepers. With no audio alarm, a determined sleeper has little incentive to pull themselves out of bed if light does not bother them.

When the Philips Hue was brought into the CR office, multiple members of the staff asked, "Who would buy this?" Well, for $199.99, the product seems aimed towards adults with deeper pockets than most university students. The challenge a product such as this faces is what could be called the "student paradox" – a college student would want to purchase the Hue, but most likely cannot afford it. This likely narrows the prospective consumer pool to the small population of adults who are financially stable and interested in hosting social gatherings featuring their fancy new lighting system.

The Age *of* *the* Electric Vehicle?

John Tetnowski

Recent developments in the automobile industry, such as advances in battery and power management technologies as well as an increase in recharging infrastructure, have spread the prevalence of electric vehicles. This has transitioned them from mere novelty use by the wealthy and the environmentally conscious to a more pragmatic choice for modern consumers. Major automobile manufacturers such as Audi, Toyota, and Harley Davidson are currently producing or looking into producing electric vehicles. This, coupled with the rapid growth of established electric vehicle companies such as Tesla, indicate that the U.S. electric vehicle industry is ready for a possible boom. This article explores this growth and seeks to explain why it is occurring. Moreover, this article looks at how the growth of the electric vehicle can benefit consumers now and in the future.



Consumers' Research published a headline story entitled "The False Promise of Electric Cars" in an August 1995 issue of Consumers' Research Magazine. While this claim was legitimate at the time it was published, much has changed over the last decade. Though the previous article made some points that are still valid today, such as the high price of electric vehicles, most of the 1995 assertions are now obsolete. The article accurately referenced the low performance of the vehicles, citing that electric vehicles were unable to accelerate quickly or perform well at high speeds. Today, Car & Driver recently ranked the Tesla S as "Top Vehicle of the Year," based on its ability to perform. Thanks to 19 years of innovation, electric cars have become a viable option for consumers.

Economics of Electric Vehicles

Though electric vehicle market growth has been slow but steady in recent years, there still exists a certain resistance to their entrance into the mainstream market. Price is one of the biggest factors in why consumers veer away from purchasing electric vehicles. There is no denying that electric vehicles are not the cheapest option on the road. In fact, even a "simple" electric car, such as the Nissan Leaf retails for approximately $28,900. This is a significant amount of money for the average consumer in the market. High-end electric vehicles are even more expensive, with the popular Tesla S retailing for approximately $80,000+. This is more expensive than a comparable luxury sedan such as the Audi A8 (which starts at $75,000).

The U.S. Government is trying to offset this high price by offering a $7,500 tax rebate on the purchase of every electric vehicle. While this may help to offset the price it is not enough to make electric cars more affordable than comparable traditional cars.

Tesla's recent decision to release the patents for their line of electric vehicles to the general public may drive down the price of the electric vehicle significantly. This decision will allow other manufacturers to better understand how Tesla has been able to create their electric vehicle. Consequently, there will be greater competition in the marketplace. This increased competition will force manufactures to lower prices in order to maintain their customer bases.

This is one of the biggest reasons the electric vehicle industry may be on the verge of a boom. With other large-scale manufactures such as BMW poised to enter the market and events such as BMW's recent meeting with Tesla, it appears that international car manufacturers are starting to seriously ramp up their programs to develop electric vehicles.

Electricity vs. Gas Debate

Though initially expensive, electric cars do have an explicit benefit – they do not require gasoline. With gas prices on the rise (see Oil Price Update), the long-term cost of buying a new gasoline powered vehicle may ultimately be more expensive than the initial investment of purchasing an electric car. With American consumers spending an average of $2,912 on gas per year, filling up the tank is far from trivial. All of Tesla's charging stations on its proprietary Super Charger network are free of cost, making powering your Tesla very affordable. However, it is important to note that charging an electric vehicle outside of this network still costs money. Consumers should either expect to pay to charge at a public charging location or have increased electric bills if they charge at home. Yet, if consumers are able to charge for free it becomes more apparent that perhaps the investment in an electric car may actually be less of a financial drain than it seems.

Take for instance the cost differential between the Audi A8 and the Tesla S. The Tesla S retails for $5,000 dollars more than the Audi. Yet, in two years, the cost of a Tesla becomes less than that of the Audi (without including the government rebate). Though this is just one example, the general principle holds true for all vehicles. The high cost that consumers pay for gas is obviated with a switch to an electric vehicle. Though getting over the initial hurdle of the higher one-time investment of buying an electric vehicle can perhaps be difficult, the investment can pay off due to the high cost of gasoline.

Further, many expect the number of charging stations in the U.S. to expand in the upcoming years. This will undoubtedly help to further the country's move into what can be dubbed the "age of the electric vehicle." As the ability to charge electric cars becomes more and more convenient, so too will the willingness of American consumers to buy these vehicles.

Other Factors

Beyond the cost factor, there is also the consideration that operating electric cars does not produce emissions that can negatively impact the environment. For those consumers who are environmentally conscious, this can be a huge benefit of the electric vehicle. For those consumers who wish to reduce their carbon footprint the electric vehicle offers an exciting avenue in which to do so.

In many ways, this will help to spur the growth of electric vehicles as well. With the price concerns perhaps becoming less of an issue, more and more consumers who like the idea of being able to drive a zero emissions car but previously would not have been willing or able to pay the price, will now perhaps move towards purchasing these vehicles. This could lead to an increase in demand to match the increased supply that seems to be in the works.

Conclusion

There are various factors that are contributing to the growth of the electric vehicle market. As noted, the biggest of these are recent developments in technology, infrastructure, and information sharing which may render the electric vehicle a more economically feasible choice for consumers in the future. Consumers' Research will continue tracking developments in this industry and will not wait another 19 years to cover this topic again.

Sources:

Taylor, E. (2014, June 16). BMW, Tesla meet to discuss standardizing electric cars. Chicago Tribune [Chicago]. Retrieved from http://articles.chicagotribune.com/2014-06-16/marketplace/sns-rt-us-bmw-tesla-motors-20140613_1_bmw-electric-cars-tesla-model-s

Reuters. (2013, February 4). U.S. households spent record amount on gasoline last year-EIA. Reuters. Retrieved from http://www.reuters.com/article/2013/02/04/usa-gasoline-income-eia-idUSL1N0B479I201302043. Prosper. Personal Loans and Online Investing – Peer-to-Peer Lending - Prosper. Retrieved from http://prosper.com

Tilley, A. (2014, May 12). Electric Vehicle Charging Station Startup ChargePoint Raises $22.6 Million. Forbes. Retrieved from http://www.forbes.com/sites/aarontilley/2014/05/12/electric-vehicle-charging-station-startup-chargepoint-raises-22-6-million/5. Lending Club. Borrow–Invest with Peer Lending. Retrieved from http://lendingclub.com

Useful Apps *to avoid* Costly Traps

Kyle Burgess

In preparation for travel, Consumers' Research has, well, done its research on useful mobile applications for budgeting, coordinating, packing (read: not forgetting your swimsuit or sunglasses!), and tracking down great local grub while getting the biggest bang for your buck. Some of the apps we have chosen to highlight have been around for a while but remain the best of their kind. Others are entirely new or have not traditionally been included in the travel apps category but have advantageous travel uses. As evidenced by the article's title, these apps are designed to cut financial costs, but they may also help lower the other "costs" of travel by saving you time, helping you keep organized, and preventing you from encountering certain travel headaches and hassles (like, say, epic traffic jams). Depending on what you prioritize when you travel, these apps can be invaluable to your enjoyment of the sunny, relaxing offerings of summer.

Travel Bookings and Trip Organization

TripIt (*free, Apple & Android, 3.5 stars*): This app has been around since February 2012; however, has managed to remain a travel app frontrunner. There is a $.99 version of the TripIt app if you prefer not to have advertisements. To use TripIt, you simply forward your hotel, airline, car rental, and restaurant confirmation emails to TripIt and it automatically creates your itinerary, and depending on the settings you chose, will sync your trip to your (Apple, Outlook, Google) calendar. You can also customize your itineraries, share your itineraries via email and social media, and you can access them on your mobile device anytime even if you are offline. TripIt gives you directions, maps, and weather forecasts for each trip destination. Additionally, if you are willing to pay $49/year for TripIt Pro, you will get all the same features of the standard edition of Tripit plus flight refund alerts, seat tracker, flight finder, real-time mobile flight alerts, VIP privileges (such as complimentary 1-year membership to Hertz #1 Club Gold and Regus Gold), alternate flight alerts, travel dashboards, and team travel calendars and maps.

Gogobot/Gogobot Travel Guide by Gogobot (*free, Apple & Android, 4.5 stars*): A new, but notable alternative to Trip It is Gogobot. It offers many of the same features as Tripit with regards to bookings and itineraries, but also includes reviews, city guides (with suggestions on nearby dining), and the ability to coordinate trips with friends and family for free. Its interface is sleek, modern, and user friendly.

On the Road

Trapster (*free, Apple & Android , 4 stars*): Although, its name is derived from what it was initially created for – helping drivers avoid police "speed traps" and speed, stop light, and stop sign camera "traps" that photograph vehicle license plates to ticket traffic law violators – Trapster actually serves motorists in various other (less dubious) capacities. Trapster's audio warnings indicate when drivers are approaching an array of speed, stoplight, and stop sign camera "traps" as well as when they are approaching road construction, traffic jams, and precarious road hazards. Some examples of Trapster "traps" and "hazards" are: live police traps, red light cameras, fixed speed cameras, mobile speed cameras, children at play areas, car accident notifications, narrow bridge indicators, brush fire and flood warnings, and even road kill. Trapster also lets electric vehicle drivers know where the next EV charging station is. Some of these notifications are temporary, such as "frozen ice patches," which expire after 6 hours, and others never expire, such as "dangerous intersection" and "toll booth."

Packing

Packing Pro by Quinn Genzel (*$2.99, Apple only, 4.5 stars*): This app is the highest rated and most acclaimed Apple app for packing. It has numerous (highly customizable) features, including: pre-loaded packing list templates with hundreds of items; freedom to create and store unlimited customizable packing lists; quick and easy multi-item selection list builder; a running tally of total items per category and how many of them are checked off (packed); sorting function to view items by type/whether they have been packed/who item is for/which bag item goes in; ability to edit item details (quantity, weight, value, person, bag, and notes); calculation of your list items, weights and values, by bag, by person and by category; item image upload and alert functions; extensive pre-departure "to do" list with over 100 tasks; ability to print your list directly to a printer; ability to email your packing lists to family & friends. The free version, simply called Packing, has all these functions as well; however, the pro version offers device-to-device auto-sync support for lists, catalog, and settings. It also has a customizable interface, pre-loaded lists with over 800 items, CSV import/export capabilities to allow for PC list editing, the ability to share lists and catalog content via email & iTunes' File Sharing, and an assistant that "automagically" creates lists based on the number of adults (males and females), number of children, number of days, as well as temperature, destination, food preparation and clothes washing preferences.

Packing List by DotNetIdeas *(free, Apple & Android, 4 stars)*: This is a great packing list option for Apple and Android users, as it has a pre-loaded master packing list and it allows you to create new lists from scratch or generate new lists from existing ones. You can reorder categories and items using drag and drop. Lists can be grouped by trip destination or by luggage piece. You can add the unit weight of each item and auto-calculate the total weight of your packed items based on unit weight and quantity. All of your lists are saved to your device. The standard (free) version allows you to share lists via email, but lists can be shared or synced between devices and users, if you purchase the full version of Packing List Cloud Connector. Another popular and comparable alternative to this app is Waze.

Catching Some Zzz's

With all this "go go go" you need to make sure that you're actually getting the rest you need to enjoy your trip. **Sleep Genius with Revive Cycle Alarm by Sleep Genius** *(free, Apple & Android, 3.5 stars)* boasts several functions to help you sleep "faster, longer, and deeper" by employing algorithms developed from d ecades of research. There are three sleep programs designed to help you get the optimal night's sleep. The alarm function gradually awakens you with a gentle five minute revive cycle which helps you wake to soothing sounds. With the full/paid version ($4.99) of Sleep Genius, you can also access features, such as the "power nap" function, which uses an algorithm designed for optimal brain rejuvenation to help you be more alert throughout the day. The full version also includes a personalized dashboard, which is emailed to you weekly, providing information on improvements in your sleep.

Budgeting

Trail Wallet by Voyage Travel Apps *(initially free, Apple, no star-rating)* This app is free for the first 25 items budgeted, with a $3.99 in-app purchase available to unlock unlimited use. Trail Wallet was featured in "Lonely Planet" for its value in trip planning and is an easy travel expense tracker for iPhone. You can organize your expenses by trip (or by day/week/month), set a daily budget, and add expenses as you go. You can add purchases using the Quick Add screen and the app will update your budget tracker. You can check how you're doing throughout your trip and the app will tell you what items/categories you're spending the most on. You can also integrate the app with your social media to inform friends and family on how you're doing budget-wise.

Budget Manager by Android Team, Co. *(free, Android only, 3.5 stars)* As an alternative for Android users, this budgeting app can be used for creating and managing various types of budgets; however, it is particularly helpful when planning trip budgets. It enables you to record daily expenditures in pre-defined and custom built categories, see visualizations of where money is being spent and earned, and also convert currency using up-to-date currency rates. This application also includes a feature which allows you to search for nearby hotels and display these on a map using your current location. Some reviews have reported that the currency converter is missing Euros and occasionally crashes, but it has a clean and intuitive interface.

Wisely by Wisely, Inc. *(free, Apple & Android, 4 stars)* Although this highly acclaimed app is traditionally considered a finance app, it may prove to be incredibly useful on vacation with regard to shopping and dining out. Wisely uses reviews and aggregated crowd-sourced spending data to rate stores, restaurants, and other local businesses. It compares local merchants based on popularity, loyalty, and how much people actually spend, as opposed to other apps which rely solely on customer reviews, which may not always be honest or accurate. You can link your accounts (American Express, Chase, and Bank of America) to Wisely to see how much you've spent at any single place. It also lets you know your complete financial picture before you buy (including outstanding balances and credit utilization)

Wisely claims to be secure and only use aggregate data so that your information is always anonymous. Some reviews have reported that the app has limited to no ratings in rural locations and even some cities; however, at major travel destinations you shouldn't experience these issues.

Restroom Apps

Lastly, when the little ones start doing "the pee dance," there are numerous apps out there to help you find the nearest public restroom. Several of these apps also provide stats or reviews on the cleanliness, accessibility, and typical wait times for these public restrooms. We suggest searching "bathroom locator" or "bathroom finder" wherever you purchase your apps (App Store, Google Play, etc.), as there are several options based on your travel destination. Most of these apps are city or state-specific, however, the following appear to be national: iPee address ($.99, 4 stars), SitOrSquat (free, 2.5 stars), Where to Wee (free, 3 stars), and Flushd (free , no star-rating, 2 positive reviews).

Peer-*to*-Peer *Lending*

John Tetnowski

Most Americans trust national and local banks or credit unions to securely hold their money and in exchange they receive a minimal rate of return. The bank is able to give this return, because it lends this stored money out to other customers who need a loan for a variety of reasons. The modern consumer gets very little, if any, direct benefit from the loans they are funding. Yes, it is true that banks pay interest for the ability to use their customers' money, but it is often very little, with the average APY in an American bank being 0.06%. Further, consumers get no say over who receives these loans, and for what purpose. But what if this wasn't the only option for lending? As it turns out, it isn't. The relatively new trend of peer-to-peer lending (P2P) allows for these same lending and borrowing transactions to occur without reliance on a bank, credit union, or other corporate financial institution. Peer-to peer lending also gives consumers access to loans with lower interest rates than traditional lenders typically offer.

What does peer-to-peer lending look like exactly? While there are multiple sites that offer P2P financing services they all generally work in a similar manner. For example the sites Prosper and LendingClub, two P2P industry leaders, allow users (lenders and borrowers) an online venue in which they are able to lend and borrow directly to and from each other with a modest fee. In other words, there is still a "middle man" institution, but the institution's cut is significantly lower than that of a traditional bank or credit union. Borrowers are able to go to the site and upload their request for a loan along with information about what the loan is for, as well as the amount of money they are requesting. In return prospective financiers are able to go to the site to set up a profile outlining things such as the amount of money they are willing to loan, and to what type of borrower. The websites then match lenders with borrowers based on shared criteria. After this point the money from the lender is transferred to the borrower, similar to a loan given out by a bank. Why is peer-to-peer lending beneficial? Simply put, both parties may achieve greater benefit from peer-to-peer lending than they would from a traditional bank, because borrowers and lenders are paying or losing less to an intermediary.

Peer-to-peer lending sites allow borrowers access to similar amounts of capital as a traditional bank, However, this capital is often available at a lower rate than the one offered by your neighborhood bank. For example, Prosper advertises a rate of 6.73% APR for its best-rated borrowers. Therefore, one of the biggest benefits that borrowers who decide to use P2P lending are able to capitalize on are the lower rates that sites such as Prosper and LendingClub offer. This allows borrowers who otherwise may not be able to receive a loan the ability to get the money they are seeking to borrow. Further, LendingClub advertises that borrowers are able to pay back the loan in fixed monthly increments, without the fear of hidden fees. This feature is seen as adding a level of trust to the P2P sites that many felt the "big banks" lost during the recent financial crisis.

All loans on Prosper and LendingClub are offered at fixed rates, which have both benefits and drawbacks. For example, if the inflation rate grows at a faster rate than expected, borrowers will end up having to pay relatively less money than originally expected. At the same time, fixed rates in a period of inflation may present a situation in which a lender ends up getting less money back relative to the amount of interest they expected to make when they originally made the loan. These are important considerations for consumers to understand before using peer-to-peer lending.

Consumers also need to be aware of the liquidity risk associated with investing through P2P lending sites. Once a consumer makes her initial investment she cannot reverse the loan. In other words, if a consumer needs this money for any reason, they have little opportunity to get back their initial investment until (all) loan payments are made. While both Prosper and LendingClub have secondary markets for investors to sell their loans, they have relatively weak depth in their order books. This means that if a consumer needs to get back their investment they often have to do so at a loss. Therefore, consumers must realize that when they choose to invest through P2P sites, they are making a long-term financial commitment.

P2P also offers the opportunity for lenders to capitalize from much higher rates of return than what would be available to them via traditional bank products such as interest checking, savings accounts, CDs, etc. LendingClub advertises "Historical Returns of 4.77% to 8.24%". This is obviously enticing for the potential financier who hopes to get the greatest return on their investment. However, though the possibility of making this type of ROI appears enticing, there are certainly risks to lending though P2P sites that consumers should be aware of.

One of the first is that much like a bank, borrowers can default. That means that the loan the lender sent out may never be repaid. In order to mitigate this risk, the President of Prosper, Aaron Vermut, recommends investing in 100 or more borrowers. With a required minimum of $25 per borrower, that means in order to ensure the safety of your investment more than $2500 needs to be put on the site. While this is not that much for many investors, it is worth noting for those new to investing or less familiar with how to hedge investments. Further, it is worth understanding the amount of borrowers on P2P lending sites that do default on their loans. While the figures differ based on a person's credit history or personal situation, defaults happen across the board. According to Wall Street Journal, "Prosper says its default rates range from 1.55% for the highest-rated borrowers to 16.7% for the lowest." This means that consumers need to be wise when making loans. One of the best ways to mitigate these risks, while at the same time capitalizing, is by investing in a diversified portfolio. It is obviously up to the individual consumer to determine what balance they wish to create between risky and safe loans. It is also important that the consumer realizes that unlike an FOIC-insured bank account there is no guarantee on the principle of their loans.

Despite the risks, Peer-to-Peer Lending offers an exciting new opportunity for consumers. Whether looking to lend or borrow P2P allows the modern consumer an interesting new opportunity to engage in borrowing or lending from the comfort of their own homes. The benefits of this system are great, as P2P lending site Prosper has already funded $1billion worth of loans. Many of these loans, up to 80% by some estimates, are used to pay off credit card debt. This allows consumer who would otherwise be bogged down by credit card debt an opportunity to refinance at a lower rate than a traditional bank. Furthermore, this enables greater spending, which in turn benefits the overall economy.

Daniel Hobbs, CEO of Peer Lending Group, views P2P lending as something that is here to stay. Lending from one person to another is a form of human interaction that has been around since the beginning of time. According to Hobbs, the current method of doing so online is just the logical continuation of this trend. He is also "comfortable about compliance now and in the future", meaning that he expects P2P lending to continue to meet the various regulations that are placed upon it. This is in many ways what makes modern P2P lending a sustainable idea. People are driven to the opportunity to lend and borrow without the middleman, often because doing so carries with it the perception of an intrinsic social good. The fact that P2P sites allow consumers to do this while also providing consumer safety through regulations gives these sites their strength.

P2P is a sustainable option for consumers now and in the future. While it is likely that sites such as Prosper, LendingClub, and Peer Lending Group will evolve in the future, their basic model of connecting lenders and borrowers appear to be here for good. In fact, it is the ability of these sites to change and improve which helps give them legitimacy. By being able to evolve to better serve the modern consumer, while at the same time ensuring their regulations, makes it so that P2P lending can be seen as a modern and more technologically forward alternative to the established banking system. This will help the industry to greatly expand in the future.

In conclusion, P2P lending provides an interesting opportunity for consumers to greatly expand their own control over their finances. By being in control of their own lending and borrowing consumers are able to benefit from more transparency and trust in their financial decisions.

Sources:

Ellis, B. (2013, October 1). Savings accounts with the highest yields. CNN Money [New York] Retrieved from http://money.cnn.com/2013/10/01/pf/savings-account-yields/

Lending Club. Borrow–Invest with Peer Lending. Retrieved from http://lendingclub.com

Prosper. Personal Loans and Online Investing – Peer-to-Peer Lending - Prosper. Retrieved from http://prosper.com

Lending Club. How Peer Lending Works. Retrieved from https://www.lendingclub.com/public/how-peer-lending-works.action

Blackman, A. (2014, February 9). Borrow or Lend Online—But Be Careful. The Wall Street Journal [New York]. Retrieved from http://online.wsj.com/news/articles/SB10001424052702303595404579318440300379408

General Motors Recall

Olivia Ferguson

On July 10, 2009 General Motors Corporation made headlines by filing for Chapter 11 bankruptcy, penning another chapter in the continuing manufacturing decline and resultant urban decay in its hometown Detroit since the 1960s. Since its 2009 low point, GM has climbed to the top again, with a market share of 17.9 percent, making it the largest of the "Detroit Three" auto manufacturers. However, on February 14, 2014, GM made major headlines for a second time in recent years with reports of ignition failures that resulted in the death of 13 individuals and a widespread recall of vehicles made between 2003 and 2010. Here's what you need to know about the recall:

Recalled Models include:

All 2005-2010 Chevrolet Cobalt
2007-20120 Pontiac G5
2003-2007 Saturn Ion
2006-2011 Chevrolet HHR
2006-2010 Pontiac Solstice
2007-2010 Saturn Sky

Technical Difficulties

A new ignition switch design was introduced to the Saturn Ion in 2005 but, even at the earliest stages, this switch had trouble keeping the car powered and was quickly referred to by Raymond DeGiorgio, a GM ignition switch engineer, as "the switch from hell." Despite this red flag, the problems caused by the switch were considered rare and not a danger to consumers, as the driver was still able to steer the car when it shut down. What designers did not realize at the time was that the auto models involved had airbag systems designed to not deploy when the ignition switch was turned to "off" or "accessory." While this characteristic was implemented to protect passengers from airbag activation in parked cars, the design left passengers vulnerable in the instance of ignition failure.

Failure to Act

Engineers were aware of these "moving stalls" as early as 2004, but viewed the switch problem as a "customer convenience" issue, failing to recognize the risk of these stalls. Rather than fixing the switch early on, in December 2005, GM attempted to avoid a recall by notifying dealers of the problem and recommending customers remove heavy items from their key ring. The company also offered an insert for the key that would reduce the chance of jostling the ignition switch. However, only customers who took it upon themselves to complain to the dealership of a stall were presented these solutions. Other customers were left uninformed and at risk.

The organizational structure of GM at the time of the "moving stalls" first became apparent to GM engineers is partly responsible for the failure in reporting. According to the Detroit News, the responsibility for consumer safety sits four rungs down from executive leadership and as a result (whether due to their being unaware or because it was not emphasized to them) was not given high priority. Above the director of vehicle safety position resided sales, public relations, finance and the CEO. In comparison, Ford and Chrysler, GM's Detroit competitors, have safety directors higher on their charts. For these reason, top GM executives claim they were unaware of the ignition failures before consumer complaints were brought against the company. Within the company's bureaucracy, reports of the failure did not make it to the top.

Lawsuits Overview

According to the company, GM has identified 54 frontal-impact crashes, resulting in the deaths of 13 individuals, in which the airbags did not activate as a result of the ignition stalls. As of June 2014, the company faces 80 lawsuits by customers demanding up to $10 billion as compensation for the lost value of the 2.6 million cars recalled.

One such case is Andrews v. General Motors LLC, U.S. District Court, Central District of California, No. 14-01239. The plaintiff, Anna Andrews, has a filed a class action suit on behalf of all owners and/or lessors of GM vehicles sold between July 10, 2009 and April 1, 2014. The case seeks to force GM to pay a potential 15 million vehicle owners for damage to brand and reputation which they estimate is about $500 to $2,600 in resale value.

In June, Kenneth Feinberg, an American attorney specializing in mediation and alternative dispute resolution, announced that as a compensation consultant for GM he plans to compensate victims of the ignition switch malfunction, for which Gm has placed no financial limit. As of June 30, the amount of total vehicles recalled by GM stood as 29 million for the year, of which 17.1 million were due to the ignition problems.

"Old GM" vs "New GM"

The big question surrounding the liability claims focus on the issue of "Old GM" (pre-July 10, 2009 reorganization) vs "New GM" (post reorganization). GM argues it is not responsible for claims that are the result of the company's actions prior to its 2009 bankruptcy. One such lawsuit on behalf of a 2006 accident in which a 2005 Chevrolet Cobalt lost power steering, braking and airbags just before impact. The case seeks damages of more than $50,000 and alleges that GM committed fraud by failing to disclose the ignition defects prior to the announcement of the problem in February 2014. Claimants allege that as the current GM (GM Company) bought out the old GM (GM Corporation) as a continuing operation, the company holds successor liability and is therefore responsible. Delphi Corp, the manufacturer of the ignition switches, is also named as a defendant.

Bankruptcy experts claim that victims of accidents prior to the company's Chapter 11 filing may have no legal recourse, due to section 363 of the U.S. Bankruptcy Code. Under this section, GM Company legally sold all of its assets to GM Corporation, and trusts are set up by the old company to handle future liability claims. In this case, GM Company set up a trust to handle future asbestos and environmental claims that may arise, but failed to include a trust to handle injuries related to the ignition switch failure. Essentially, in order to establish liability on the part of "New GM," litigants would need to provide evidence that "New GM" was aware of the ignition malfunction but continued to sell the vehicle prior to February 2014.

Resolutions

Mary Barra, named CEO of GM by the company's Board of Directors in January of 2014, is charged with the difficult task of guiding the company through the tough times. Since becoming CEO, Barra has taken steps to streamline the company's chain of command in order to give better executive-level access to the lower rungs of the bureaucracy. In doing so, she has named Jeff Boyer safety chief and moved the job up one level, developed a five-person task-force to make recall decisions, and has initiated a campaign to encourage employees to speak up when they notice unfollowed safety protocols.

Barra faced a second round of questions from the House Energy and Commerce Subcommittee on Oversight and Investigation on July 18, 2014, following her first round of questioning in front of a congressional panel on April 1. While the first round of questions focused on Old vs New GM, the second round, according to reports by the New York Times and Time Magazine, took more focus on...

Hired by Barra, Anton Valukas of Jenner & Block LLP developed an internal report, examining the faults of GM leading up to and during the recall. His report included more than 350 interviews with over 230 people and the analysis of approximately 41 million documents. He also provided a series of recommendations for the company to move forward. His recommendations include improvements to the company's organizational structure, a boost in the cultural emphasis on safety, an emphasis on individual accountability, and improved methods of communication between company groups and with the National Highway Traffic and Safety Administration. Despite the in-depth analysis of Valukas' work, he admitted at a congressional hearing on June 18, 2014, that this report may not include all the answers about the full scope of the switch predicament.

Furthermore, the issue has sparked a bipartisan bill by Senators Richard Blumenthal (D-Conn) and Lindsey Graham (R-SC) which would require federal judges to consider public health and safety when presiding over liability cases, prior to permitting a party to seal court records. In the case of GM, such a bill would have kept GM executives from sealing cases of ignition failure that were settled in court beginning in 2005.

Outlook

According to ALG, a company specializing in the analysis of future vehicle sales, the recall will likely not lower the resale values of the models affected. This expectation echoes the outcomes of the 2009 Toyota recall, in which certain models presented problems of unintended acceleration. While there have been short term effects in vehicle resale prices and GM stock values, it is unlikely there will be any long term effects. According to Eric Lyman, Vice President of ALG, the company expects the effects on GM to be small, "with the affected vehicles hurting little more than GM's reputation for several years."

With this in mind, Greg Martin, a GM spokesman, claims that GM's strong brand and increased market recognition has led to a boost in sales transaction prices and residual value.

Next Steps for Consumers

If your vehicle is included in the above list of recalled vehicles, the NHSTA recommends addressing the safety concerns immediately by contacting GM via the information below, as well as using only the ignition key with nothing else hanging from the key ring.

In addition, Safercar.gov, a website hosted by the NHSTA, includes an email sign up through which consumers can receive the most current notifications from the organization. The website also includes a portal to file a vehicle complaint, should you expect something to be wrong with your vehicle.

Contact Customer Engagement Center:
GM: 1-800-222-1012
Chevrolet: 1-800-222-1020
Pontiac: 1-800-762-2737
Saturn: 1-800-553-6000

Sources:

Associate Press. (2014, July 17). 10 Key Events in GM's Ignition Switch Recall. ABC News. Retrieved July 21, 2014, from http://abcnews.go.com/Business/wireStory/10-key-events-gms-ignition-switch-recall-24608409

Burden, M. (2014, May 20). GM ignition lawsuits seek up to $10B for 'economic loss'. The Detroit News. Retrieved July 21, 2014, from http://www.detroitnews.com/article/20140520/AUTO0103/305200055

Krisher, T. (2014, June 8). Before recalls, safety was low in GM hierarchy. The Detroit News. Retrieved July 21, 2014, from http://www.detroitnews.com/article/20140608/AUTO0103/306080010

Valukas, A. (2014, May 29). Report to Board of Directors of General Motors Company Regarding Ignition Switch Recalls. The Detroit News. Retrieved July 21, 2014, from http://www.detroitnews.com/article/20140605/SPECIAL01/140605001

Vlasic, B., & Kessler, A. (2014, July 17). At Hearing on G.M. Recall, Mary Barra Gives Little Ground. The New York Times. Retrieved July 20, 2014, from http://www.nytimes.com/2014/07/18/business/senate-hearing-on-general-motors.html?_r=0

Young, A. (2014, March 21). GM Ignition Switch Recall: 'New GM' May Not Be Fully Protected From Liability For What 'Old GM' Did, Even With Post-Bankruptcy Liability Exemption. International Business Times. Retrieved July 21, 2014, from http://www.ibtimes.com/gm-ignition-switch-recall-new-gm-may-not-be-fully-protected-liability-what-old-gm-did-even-post

Energy-Efficient Homes

Olivia Ferguson

Buyers, sellers, builders, and other housing industry stakeholders are becoming more optimistic as the housing market continues to recover from the 2008 collapse that rocked the national economy. Homebuilders are beginning to build again but have to compete with the abundance of existing homes on the market in already established neighborhoods. Some builders are touting energy efficient homes in order to gain an edge. House hunters are recognizing the modern advantages of new homes over existing ones and builders are learning to cater to these new demands.

Growth in the Middle Class

In the past, homes decked out with solar panels and other top-notch energy saving technology have been considered a privilege of the wealthy. However, that is becoming less the case as technological advancements lower the cost of these features. Home solar installations have significantly increased in recent years. In a 2014 report published by Deloitte, there has been a 41% increase in the shipping of solar panels since 2012, primarily taking place in residential areas. Researchers attribute this trend to both the fall in installation costs, as well as an increase of consumer knowledge regarding energy usage and costs. Good habits that were perhaps picked up during the recession to cut costs have likely been carried on, and now consumers want to do more to bring their usage down. However, research indicates that consumers are still blurry regarding what constitutes a green home and often assume that existing homes cannot be made green due to their age and structural incompatibility. While there is still a need to educate, trends indicate consumers are attempting to learn and make going green a part of their every day lives.

Generational Trends

Of the generations, it is the Baby Boomer generation and Generation Y that are pioneering this new sustainable housing movement. Builder's Magazine estimates that 31% of current home buyers are Generation Y (born between 1980 and 2000), 30% are Generation X (born 1960-1980), and 16% are Baby Boomers (born 1950s-1960s). For this reason, Generation Y is shaping the ways new homes are being built. Generation Y are the pioneers of the sustainable home purchasing movement. In a survey taking data from over 1,500 demographically balanced online interviews, Generation Y were most enthusiastic to learn even more about energy technology and 33% of Generation Y respondents declared they will likely buy a smart energy appliance, an increase from the 18% in 2011. Due to the demand Generation Y-ers are displaying, new homes are being built to cater to the group's specific demands. For example, new homes tend to have more green features than traditional homes.

While Generation Y is altering the home building market through their demands for more efficient homes, Baby Boomers are more likely than other generations to buy energy efficient appliances and update their homes, such as refit windows and improve sealing and insulation in order to more efficiently heat and cool their homes.

Most Desired Home Features

Overall, homebuyers are attracted to houses that offer energy savings through sensible designs choices that don't have enormous upfront costs. According to a poll by Builder Magazine, the top ten most desirable home features include:

- Walk-in closets
- Energy efficient appliances
- Overall energy-efficient home
- Linen closets
- Large kitchens
- High efficiency insulation
- High windows efficiency
- Kitchen islands
- Large windows
- Ceiling fans

As indicated by the poll, the second and third most popular answer to the question of the most desirable home features are energy efficient appliances and overall energy efficient homes. A further poll, conducted by Builder's Magazine, indicating the Sustainable Factors that are "very important" to home buyers showed that the features most popular with energy conscious consumers are ones that most efficiently reduce household costs. Consumers who were buying sustainable feature on their home indicated that the reduction of heating and cooling costs was most important, followed by commuting costs and energy efficient lighting.

With this in mind, the high upfront costs of energy efficient technology, such as solar panels, may be seen to deter young home buyers. But new programs and public policies are being developed to alleviate those concerns.

Government Support

While there are benefits to installing and maintaining energy efficient homes, many citizens are discouraged by the initial installation costs. Government subsidies to support energy efficient building efforts are being pushed for by both environmentalists as well as politicians. These policies focus on encouraging energy efficient technology through financial rewards, such as tax breaks. One such policy change is a bipartisan bill introduced by Senators Michael Bennet (D-Col) and Johnny Isakson (R-GA) called the Sensible Accounting to Value Energy (or SAVE) Act. This act would require lenders to take projected energy savings of an efficient home into account for loan determination when presented with a qualified energy report. The bill hopes to encourage home owners to make energy efficient changes to their homes and in turn decrease national energy usage.

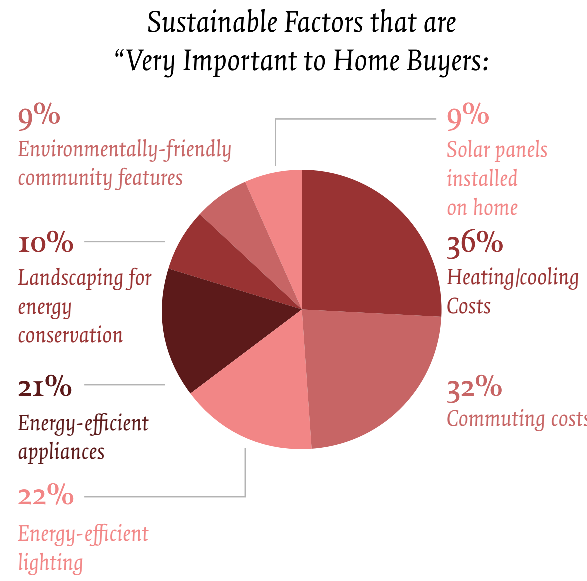
Another energy efficient program announced by HUD Secretary Shaun Donovan and U.S. Department of Energy Secretary Steven Chu in 2011 is the PowerSaver Program which allows homeowners to borrow up to $25,000 to finance energy improvement in existing homes. These improvements may include insulation, duct sealing, replacement doors and windows, HVAC systems, water heaters, solar panels, and geothermal system. The lending terms proposed would go up to 20 years, and interest rates on these loans would be lower than "current market" rates.

Future Trends

With increased concerns over energy costs and efforts by private and public groups to alleviate the costs of new technologies, the future for homeowners is looking green. Homes are not the only market in which energy is making a vital impact. New apps measuring energy use, commercial buildings, and city planning are all areas in which developers see opportunities to reduce the overall national energy usage. This is an ever-growing trend with little chance of stopping.

The U.S. Department of Energy provides a reference guide to inform consumers of the energy incentive programs offered in their state. For information on available funding, consumers are suggested to refer to the website below.

http://energy.gov/eere/femp/energy-incentive-programs



A Consumer's Experience

Nicole and Allen McFarland, Maryland residents, installed solar panels on their home in 2014. Consumers' Research asked them about their experience with solar power:

CR: What drove your decision to install solar panels?

AM: We primarily wanted to reduce our carbon footprint. Financially, I just wanted to break even. But after looking into it, we learned we could save quite a bit on our electricity bills. I think there's still a misconception that solar is really expensive. Panel costs have come down in recent years and they represent an opportunity for savings for many homeowners. I would caution, though, that a lot of homes aren't suitable for solar, and many wouldn't save money because their electricity costs are too low.

CR: How simple (time consuming, price, etc.) was the process?

AM: The process is a bit complicated. I spent a couple hours on the phone with the salesman for the panels to understand things. Once we signed up to get the panels, the company did a good job of walking us through the process. But there are a lot of bureaucratic hoops to jump through. We had to get approval from our homeowners' association, the utility, and the county.

I saw a presentation from someone at the Solar Energy Industry Association who said there was an estimate that solar companies have to spend $2,000 for every new customer they recruit. I'm not sure who he was quoting, but the lack of awareness about solar is definitely hindering penetration.

CR: How have they affected your experiences as homeowners?

AM: I am much more conscious of my energy consumption now. Nicole can attest that I am constantly looking at our energy meter. For about half the year, we should be able to produce more electricity than we consume on most days. When that happens, our electricity meter runs backwards. So I'm always trying to get it to go as far back as possible.

[My wife] dreams of one day having an electric car and powering it with the panels. I think we would need more efficient panels to make that work consistently, but it's conceivable.

CR: Are you planning to pursue energy efficiency further?

AM: Definitely. We've purchased windows, a clothes washer, a dishwasher, and an HVAC system that are all more energy efficient. We have two big sliding glass doors that I would like to replace with more energy efficient models. Eventually I'd like to get a more efficient refrigerator and clothes dryer.

Incidentally, electricity demand has gone down six of the last seven years in the U.S. Some of that may be attributable to Millenials, although I think it's more a matter of lifestyle choices such as shared housing and apartments, waiting longer to start families, etc., than energy efficiency. I think the big factors for the trend are the slumping economy and the energy efficiency measures in ARRA (the stimulus bill).

I think energy efficiency improvements have been more a matter of public policy than personal choice. The Energy Star program has helped inform consumers about efficient products, and in many cases they just don't have a choice but to become more efficient because of regulations. For instance, the old incandescent light bulbs are now banned--you're buying an energy efficient bulb or you aren't buying one at all.

Disclaimer: Reproduction of these comments does not represent an endorsement by Consumers' Research. The opinions expressed above are those of the interviewee and do not necessarily reflect the opinions of Consumers' Research or the author of this article.

Sources:

Cardis, P. (2010, November 2). Home Buyers Shift Toward Energy-Efficient Homes. Builder. Retrieved July 11, 2014, from http://www.builderonline.com/green-building/green-is-gold.aspx

Dehnert, E., & Massey, N. (2014, May 14). 'Resourceful consumers' push energy efficiency, home and business solar. ENERGY: 'Resourceful consumers' push energy efficiency, home and business solar. Retrieved July 21, 2014, from http://www.eenews.net/stories/1059999527

Easley, C. (2011, April 28). Builders Fight for Value Recognition for Energy-Efficient Homes. Builder. Retrieved July 21, 2014, from http://www.builderonline.com/mortgages-and-banking/builders-fight-for-value-recognition-for-energy-efficient-homes.aspx

O'Malley, C. (2014, March 25). Home Buyer Behavior: Generational Trend Charts. Builder. Retrieved July 21, 2014, from http://www.builderonline.com/housing-data/home-buyer-behavior-generational-trend-charts_o.aspx

O'Malley, C. (2014, April 14). Home Buyers Consider Sustainable Features to be 'Very Important'. Builder. Retrieved July 21, 2014, from http://www.builderonline.com/housing-trends/home-buyers-consider-sustainable-features-to-be-very-important_o.aspx

|Reicher, D., & Peterman, A. (2014, May 19). Energy efficient homes should come with better mortgages. TheHill. Retrieved July 21, 2014, from http://thehill.com/opinion/op-ed/206555-energy-efficient-homes-should-come-with-better-mortgages

Dementia: *Current Costs and Implications for America's "Greying" Population*

Olivia Ferguson

June was Alzheimer's Awareness month. Alzheimer's is a degenerative disease that is becoming more and more prominent in our society. According to statistics published by the Alzheimer's Association (alz.org), more than 5 million Americans currently live with Alzheimer's, and even more with other forms of dementia. Taking this into consideration, Alzheimer's and dementia care pose a large financial burden for the patients and the families of patients, not to mention the emotional toll the disease can have on loved ones.

Dementia & Alzheimer's

Dementia is considered a chronic or persistent disorder of mental processes caused by brain disease or injury and marked by memory disorders, personality changes, and impaired reasoning. Alzheimer's Disease is a subset of dementia, defined as a progressive mental deterioration than can occur in middle or old age, due to degeneration of the brain. According to recent research conducted by the RAND Corporation, individuals of certain demographic backgrounds are more at risk than others. Below are some demographic breakdowns of the dementia population,

- Dementia by gender: 12% of women, 9% of men
- Dementia by ethnicity: 17% of Hispanics, 10% of Whites, 18% of other races/ethnicities,
- Dementia by marital status: 15% of unmarried persons, 7% of married persons
- Dementia by level of education: 16% of those who did not graduate from high school, 10% of those who graduated from high school, 7% of those who pursued education beyond high school

Baby Boomer Generation

The American population is "greying," a term used to describe the high rate of growth of the age-70 and older population, which will eventually result in the country becoming demographically top heavy. The Alzheimer's Association currently reports 1 in 3 seniors dying with Alzheimer's or another form of dementia, often due to conditions resulting from the presence of the disease. As the U.S. population becomes top-heavy, we can only expect the number of seniors affected, as well as the costs of the disease, to increase.

The current population in the United States is estimated to be roughly 318 million people, approximately 13.4% of which are individuals age-65 and older. This figure is projected to increase to 380,016,000 by 2040, and the percentage of citizens age-65 and older is expected to increase to about 21% by 2040. Due to these figures, overall health care costs for the elderly are expected to increase for both taxpayers, who fund Medicare and Medicaid, as well as families paying out of pocket.

Market Costs

In a study examining the monetary costs of dementia in the United States, led by Michael Hurd, Director of the RAND Center for the Study of Aging, researchers estimated that the yearly monetary costs per patient attributed to dementia to be between $14,689 and $56,290, with the inclusion of informal care. This study estimates the nationwide cost of dementia in 2010 to be between $215 billion and $517 billion, of which approximately $11 billion was covered by Medicaid. These figures place dementia at the top of the list as the most costly disease in the United States in 2010, with heart disease totaling $102 billion and cancer at $77 billion.

Informal care services are the services of a caregiver not purchased in the marketplace. In other words, this type of care would be considered a family member or close friend committing to care for their loved one. This care was incorporated into the RAND study by calculating the market cost of informal care in two ways- replacement costs and forgone wages.

- Care purchased in the market place plus caregiving time valued according to replacement cost- $56,290 yearly per person.

- Care purchased in the marketplace plus caregiving time valued according to the cost of forgone wages- $41,689 yearly per person.

From these figures two aspects of dementia care are apparent. First, care, no matter which type, is expensive. Because the disease has no permanent medical cure, the majority of the high costs associated with dementia related disorders are rooted in the cost of daily care. RAND Corp reports care costs, informal and formal, as comprising 75-85% of total dementia costs, thus indicating that what sets the costs of dementia apart from other diseases is the lack of a permanent medical solution. The second aspect of RAND Corp's cost evaluation is the observation that a family who elects informal care saves more money that the family who chooses formal care. This suggests that a family concerned with the cost of caring for a loved one with dementia would be financially better off by taking on the burden of care themselves. However, the pressure then placed on that family member who becomes the primary caregiver is immense and has been known to take a toll, only part of which can be quantified.

Caregivers

The reliance on family as primary caregivers to dementia patients puts women at the center of the dementia problem. Not only are women more likely to develop dementia, but the emotional toll and burden of caregiving is one primarily experienced by women as well. As reported by the Alzheimer's Association, almost 66% of Americans with Alzheimer's are women, yet over 60% of Alzheimer's and dementia caregivers are also women.

Alzheimer's and dementia care are sustained and time consuming, forcing many caregivers to either give up careers or lose benefits by opting for part-time hours. Furthermore, many caregivers report feelings of depression and isolation rooted in the emotional drain associated with watching someone a loved one sink deeper into dementia.

Looking to the Future

Alzheimer's and dementia research are currently gaining momentum thanks to both an increase in public awareness, as well as government pledges to fund further research. At this time there are five FDA- approved drugs that can help alleviate cognitive and behavioral symptoms associated with the disease. However, there are no drugs addressing the underlying causes of Alzheimer's. Researchers are currently looking at a cocktail of drugs that are hoped to slow the progression of dementia. The target of this cocktail will be what scientists have determined are the two main things that go wrong in the brain as a result of Alzheimer's disease – inflammation and tau proteins (which causes tangles and interrupt the cell transport system).

A recent study conducted by the National Institute for Health and Welfare in Helsinki, Finland indicates that while cases of dementia are increasing, in nations where there is a higher effort to maintain healthy lifestyles the risks of the disease are lower. Researchers suggest that regular exercise and balanced diet, as well as social interaction and an effort to keep the brain active (puzzles, card games), may reduce the risk of developing dementia. In addition, in countries where public health education has become a priority, the average age of onset of dementia has risen from 80 to 85. Though many are still waiting, it seems scientists are coming closer and closer to finding a cure for Alzheimer's and dementia-related disease.

Sources:

Cost of Dementia Tops $259 Billion Annually in the United States. (2013, April 13). Cost of Dementia Tops $159 Billion Annually in the United States. Retrieved July 17, 2014, from http://www.rand.org/news/press/2013/04/03.html

Dementia's Mounting Toll on the U.S. Economy. (2013, April 4). Dementia's Mounting Toll on the U.S. Economy. Retrieved July 17, 2014, from http://www.rand.org/pubs/periodicals/rand-review/issues/2013/summer/viewing-gallery.html

Fox, M., & Naggiar, K. (July 14, 2014). Study Finds Possible 'Recipe' for Preventing Alzheimer's. NBCNew.com. Retrieved July 18, 2014, from http://www.nbcnews.com/health/aging/study-finds-possible-recipe-preventing-alzheimers-n155586

Hurd, M., Martorell, P., Delavande, A., Mullen, K., & Langa, K. Money Costs of Dementia in the United States. New England Journal of Medicine, 368, 1326-1334.

Latest Facts & Figures Report . (2014, January 1). Latest Facts & Figures Report | Alzheimer's Association. Retrieved July 17, 2014, from http://www.alz.org/alzheimers_disease_facts_and_figures.asp

Ostrow, N. (2012, September 20). Alzheimer's Leaves Patients, Caregivers Feeling Isolated. Bloomberg.com. Retrieved July 17, 2014, from http://www.bloomberg.com/news/2012-09-20/alzheimer-s-leaves-patients-caregivers-feeling-isolated.html

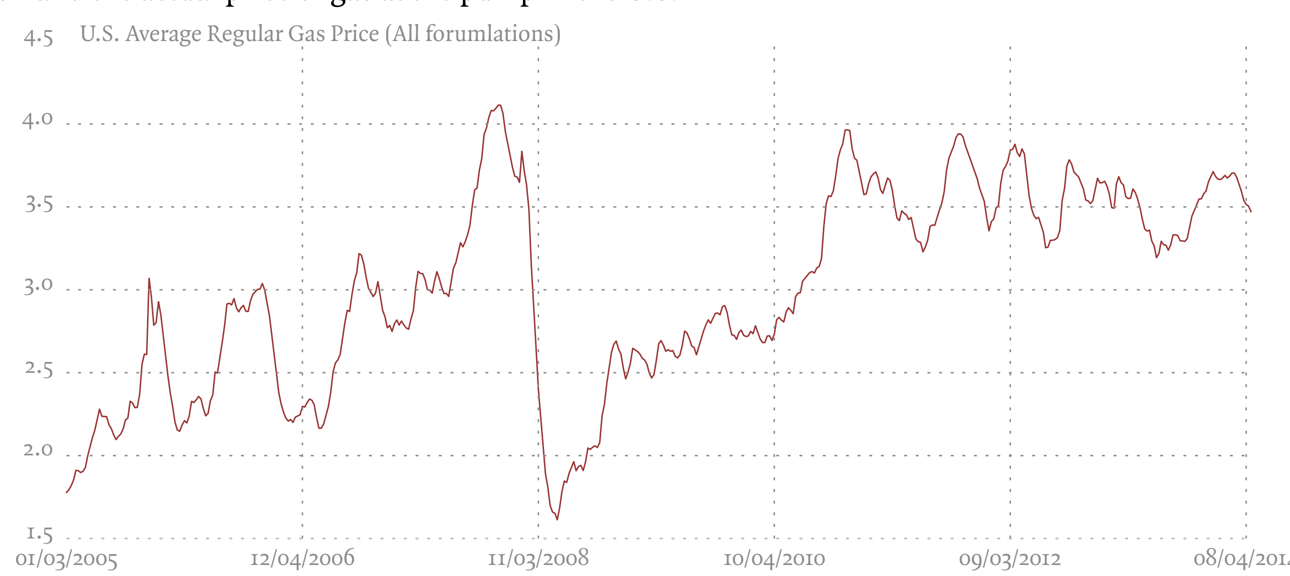
Weintraub, K. (2014, March 19). Alzheimer's takes heavy toll on women. USA Today. Retrieved July 17, 2014, from http://www.usatoday.com/story/news/nation/2014/03/19/alzheimers-disease-caregiving/6566179/

Gas Prices
Update

John Tetnowski

Gasoline Prices have risen noticeably in the past several weeks. Beyond the traditional uptick associated with an increased demand for gas due to summer driving, there have also been a number of geopolitical situations that have contributed to the increase. Growing violence in Iraq as well as the situation in Ukraine have caused the international price of oil to rise. This has resulted in higher cost at the pump for the American consumer.

While some may wonder about the relationship between the international price of a barrel of oil and the price that American consumers can expect to see at the pump, as seen in the graph [below], there is a direct correlation between the international price of oil and the actual price of gas at the pump in the U.S.



source: Federal Reserve Bank of St. Louis/US Dept. of Energy

Generally, consumers should expect to pay more at the pump due to the current situation of the international oil market.

The summer driving season is often associated with an increase in the price of gas. This is due to the fact that an increased amount of people on the road leads to an increased demand for gasoline which raises the price. This, coupled with the supply shocks mentioned above present the potential for there to be notable consequences for the consumer as the summer continues.

Data

The rise in oil prices can already be seen at the pumps today. As demonstrated in the chart below, the national average for the price on a regular gallon of gas has risen approximately $.03 this past month. However, for consumers who want to be as economically efficient as possible, there are ways that consumers are able to save when it comes to fueling their automobiles.

	Regular	Mid	Premium	Diesel
Current Avg.	$3.681	$3.863	$4.032	$3.901
Yesterday Avg.	$3.683	$3.866	$4.033	$3.897
Week Ago Avg.	$3.664	$3.850	$4.020	$3.892
Month Ago Avg.	$3.656	$3.841	$4.010	$3.927
Year Ago Avg.	$3.567	$3.748	$3.909	$3.846

AAA National Gas Averages for week of 24 June 2014. Accessed at: http://www.fuelgaugereport.com/

Ways to Save

As was mentioned in the previous issue of Consumers' Research Magazine, there are three simple ways in which consumers are able to save money on gasoline: buying lower priced gas, driving more efficiently, or simply driving less.

While driving less may be a difficult decision for consumers to carry out, especially during the summer, it can be an effective way to spend less on gas this summer. Though each consumer's need to drive is different, there are creative ways that consumers can cut down on their fuel consumption. By utilizing carpools to get to work, the amount of gas required to get to work is significantly reduced. Alternatively, if consumers live close to their place of work they could either bike or walk in lieu of driving. Not only would this be using less gasoline, but it would give consumers health benefits as well.

Consumers can also save money by paying lower prices for the same amount of gas. As was mentioned in our last issue, there are multiple apps (such as GasBuddy, SmartFuel, or Fuel Finder) that help consumers locate lower gas prices in their surrounding area. Also, if consumers live near a state border, they may be able to save money by buying gas in a state with lower gasoline taxes.

Finally, consumers are able to save gas by driving more efficiently. There are a number of ways to do this. For example, the U.S. Department of Energy suggests that driving more smoothly (i.e. not accelerating quickly, slamming on the brakes, speeding, etc.) is effective at saving 5%-33% in fuel costs, depending on driving style. They also suggest removing excess weight from one's car can help to reduce costs.

Another way to ensure efficient driving is proper vehicle maintenance. For example, properly inflated tires can lead to savings equivalent to paying $.11 less for each gallon of gas. Consumers can perhaps benefit by paying for a fuel efficiency tune up to ensure that their tires are properly inflated, their engine is running smoothly, and their air filter is functioning properly. All of these can improve the performance of a car, as well as its fuel economy.

Conclusion

Though it appears that gas prices will continue to stay high throughout the summer, there are ways in which consumers can save money. As the average consumer can do nothing about the global price of a barrel of oil, the best thing they can do is to follow some of the tips above to cut their fuel costs this summer.

Sources:
U.S. Department of Energy. (n.d.). Gas Mileage Tips - Keeping Your Vehicle in Shape. Retrieved from https://fueleconomy.gov/feg/maintain.jsp

What You Need to Know about **Net Neutrality**

"Open Internet," the potential Comcast Time Warner Merger, the AT&T-DirecTV merger under review, and the Evolving Structure of the Internet

Kyle Burgess

Firstly, what is "Net Neutrality" or the "Open Internet"?

According to the Federal Communications Commission (FCC), "The "Open Internet" is the Internet as we know it. It's open because it uses free, publicly available standards that anyone can access and build to, and it treats all traffic that flows across the network in roughly the same way." In the simplest terms, net neutrality means that an Internet Service Provider (ISP) cannot give priority to some website or content transmission while slowing or blocking other website or content transmission on its network (i.e. all web traffic is to be treated equally by ISPs, such as AT&T, Comcast, Verizon, and Time Warner). In more technical terms, the available bandwidth (bit-rate or bits per second) to load websites is the same across the board, so depending on the website's content (text, images, audio, video, etc.) and the consumer's bit-rate plan, the site should load at the same speed as other websites with similar content.

As of now, there is no preferential treatment for certain types of websites (such as affiliates of the ISPs), nor is there a tiered pay structure to consumers for accessing websites based on how much web traffic they draw or bandwidth their content uses. That means it costs consumers the same to check their email or view a blog as it does to for them to access a video streaming site such as YouTube or Netflix (membership fees notwithstanding). A consumer's monthly access bill does not depend on which sites they access or how much bandwidth they use, but on the overall Internet speed of the package they purchased from their ISP.

So what's the problem?

Many consumers and Internet companies alike are concerned that mergers between major ISPs such as Time Warner and Comcast or AT&T and DircTV, will endanger net neutrality. Consumers are worried that these mergers limit competition and may result in an increased cost of service or that insufficient regulation will enable ISPs to speed up or slow down content based on their own preferences or payment deals. Internet companies are anxious that insufficient regulation on these mergers could result in their paying for pricy peering agreements or Content Delivery Network (CDN) services that may initially seem reasonable but eventually become untenable.

In January, a U.S. appeals court released a decision on the Comcast-Time Warner merger, specifically regarding the following FCC rules proposed in 2010:

- Transparency: Fixed and mobile broadband providers must disclose the network management practices, performance characteristics, and terms and conditions of their broadband services.

- No blocking: Fixed broadband providers may not block lawful content, applications, services, or non-harmful devices; mobile broadband providers may not block lawful websites, or block applications that compete with their voice or video telephony services.

- No unreasonable discrimination: Fixed broadband providers may not unreasonably discriminate in transmitting lawful network traffic.

The court upheld the transparency rule, but struck down the no-blocking and no-unreasonable-discrimination rules. This decision would enable ISPs to provide some website content at a full or faster speed and limit or slow the speed of other websites unless these site owners are willing to pay for better access – a cost that will inevitably be passed on to consumers.

In May, the FCC proposed modifying the no-blocking and discrimination rules to meet the legal requirements laid out by the appeals court. The proposed rules are as follows:

- Transparency: That all ISPs must transparently disclose to their subscribers and users all relevant information as to the policies that govern their network.

- No Blocking: That no legal content may be blocked.

- No Unreasonable Discrimination: That ISPs may not act in a commercially unreasonable manner to harm the Internet, including favoring the traffic from an affiliated entity.

Under the proposed FCC rules, ISPs could engage paid prioritization deals (such as peering agreements) as long as they act in a "commercially reasonable manner subject to review on a case-by-case basis," however, what constitutes 'commercially reasonable' is left undefined. As a result, over 100 Internet companies have written the FCC to make the case that these rules are not sufficient to protect their businesses from discrimination by ISPs. Some also urge the FCC to reclassify ISPs - currently considered broadband service providers – as telecommunications service providers, so that ISPs would be subject to the common carrier provisions of the Communications Act (i.e. they would not be allowed to prioritize certain web traffic while discriminating against other web traffic).

Where do things stand now?

Comcast is still moving to acquire Time Warner Cable, which raises some questions about market competition. When Comcast previously acquired NBC Universal it made a seven-year commitment to respect net neutrality and to help promote media diversity (an FCC requirement for the merger to take place), yet experts argue that this has not ensured adequate market competition. In order for this new merger to take place the FCC has again required that its rules on transparency, no-blocking, and unreasonable discrimination be followed. Comcast asserts that it has the right to pass on some of the financial burden it has amassed to build the necessary infrastructure to meet high speed Internet demand to companies that run websites with heavy traffic and bandwidth use. Additionally, Comcast states that this merger will result in improved Internet service and a more competitive ISP marketplace.

In May, Comcast and Time Warner Cable made their case to the House Judiciary Committee for why their merger is in the public's interest. Some journalists have expressed concern over the fact that Comcast has given donations to 32 of the 39 members of the Committee; however, some members who were expected to support the merger (namely a few Republicans typically opposed to government intervention), were some of the harshest questioners of Comcast's executive vice president.

Additionally, there was testimony from companies that have lost business as a result of capacity shortage they claim to be caused by Comcast's ever increasing market share. Anti-trust concerns and content discrimination were also raised by several members of the committee. In the news media, experts on mergers and acquisitions have pointed out that many companies who are not considered Internet companies but which rely on the Internet for access to consumers could also be drastically affected if ISPs are able to slow access to their websites and speed up that of their competitors (either through favored relationships or payment for such a service).

What's next?

Congress does not have the authority to block the mergers – that is an FCC and Justice Department decision. Rather, in regards to the Comcast-Time Warner merger, a notice of proposed rulemaking went to a vote at the FCC. The proposed rules went up for public comment, giving consumers an opportunity to voice their thoughts or concerns on net neutrality, market access, and possibly ISP classification. The FCC Commission currently receiving and consider the public's comments prior to the development of the final rules. Whatever rules the FCC approves will need to meet the legal standards set forth by the appeals court ruling. The FCC's comment on the Comcast-Time Warner merger is due on October 8, 2014. The FCC's comment on the AT&T-DircTV merger will not be out until spring 2015 and will address whether the merger presents an anti-trust issue and whether improved efficiencies outweigh any likely harm to consumers and potential competitors.

What are the consumer implications of major ISP mergers and the potential end of Net Neutrality as we currently know it?

There are several possible outcomes of both the FCC comments and the potential mergers; however, they all seem to have at least some impact on the cost of Internet content consumption. For example, if the new FCC rules enable ISPs to require "paid prioritization" or peering agreements on major Internet corporations, the cost of services such as Netflix or Hulu may increase and companies like Facebook or YouTube may charge more for advertisements – costs that ultimately trickle down to consumers and potentially keep new players from entering an industry because they can no longer afford the cost of admission.

Although unlikely, the FCC could instead re-classify broadband providers as telecommunications companies, making them subject to the rules of the 1996 Telecommunications Act (an update to the original 1934 Communications Act) which requires common carriers to provide services to the general public without discrimination. This would preclude ISPs from requiring "paid prioritization" and leave the cost of improved infrastructure and CDNs on the shoulders of ISPs, however consumers would likely end up shouldering the burden of these costs.

Sources:

Fung, B. (2014, May 8). Three things to expect from Thursday's Comcast-TWC merger hearing. Retrieved June 10, 2014, from http://www.washingtonpost.com/blogs/the-switch/wp/2014/05/08/three-things-to-expect-from-thursdays-comcast-twc-merger-hearing/

In the Matter of Preserving the Open Internet Broadband Industry Practices. (2010, December 23). Retrieved June 11, 2014, from https://apps.fcc.gov/edocs_public/attachmatch/FCC-10-201A1_Rcd.pdf

The Open Internet. (2014, July 23). Retrieved June 14, 2014, from http://www.fcc.gov/guides/open-internet

An Apple *a* Day

John Tetnowski

"Siri, how's my health?"

This is a question that Siri can now answer. At the recent 2014 World Wide Developers Conference, Apple unveiled its new operating system, the sequentially named iOS 8, which is due out in the fall. While the new OS offers many interesting updates, perhaps one of the most relevant is the inclusion of what Apple is referring to as HealthKit. HealthKit is an innovative new platform that will provide consumers with an overall profile of their health and fitness. The platform has the potential to greatly benefit the personal health-monitoring field, as it brings together information from a variety of apps to create a composite health profile of the consumer.

Perhaps one of the biggest ways in which HealthKit is different from any of its predecessors is the multitude of other companies whose products will be supported on the new platform. Though still in beta, the companies that have already committed to HealthKit include big names in health and fitness, such as Nike and the Mayo Clinic. In fact, the CEO of the Mayo Clinic, Dr. John H. Noseworthy, is quoted as having said:

"We believe Apple's HealthKit will revolutionize how the health industry interacts with people. We are proud to be at the forefront of this innovative technology with the Mayo Clinic App."

This support from the Mayo Clinic, and others, encourages some doctors to think this new platform will be extremely beneficial to consumers. Not only will HealthKit be able to provide the consumer with the information that many "fitness forward" individuals want (blood pressure, heart rate, weight, etc.), but it will also be able to host information that is pertinent to health care professionals as well. The platform has the ability to have a secure area in which consumers are able to store medical records, lab results, x-rays, and other pertinent healthcare information. Being able to transport medical history in the palm of one's hand has the ability to greatly simplify and streamline the world of electronic medical records. Beyond this, the ability to have medical records on hand can lead improve health safety. For example, in the unfortunate circumstance of a medical emergency while travelling, instant access to medical records could be lifesaving. Quick retrieval of information such as known allergies will allow for faster and more exact care to be delivered. It should be noted that concept of an electronic medical record (EMRs) is not new; however, it has yet to gain as much marketing traction as HealthKit aspires to.

Consumers are also able to benefit from the ability to personally monitor their own health. The platform allows consumers to become more aware of how healthy they are at any point in time. It also has the potential to nudge consumers to become healthier, as an argument can be made that understanding health metrics can be a driver for improving them. For example, in the case of running, knowing pace may encourage setting a goal for a quicker pace on the next run. A similar argument can be made for another measure of health, such as blood pressure. Knowledge of consistently "abnormal" blood pressure may lead to greater willingness to be proactive about positive lifestyle changes in order to address the problem. By making health a more easily defined metric, people may find motivation to make positive changes in their health and fitness habits.

Though it is still early, Apple HealthKit appears to be an exciting new technology that can help consumers reach their health goals. However, at the same time HealthKit is not a magic remedy. Consumers need to actively use HealthKit in order to receive its benefits. Merely possessing the app will do little to help consumers. Yet, for those consumers who do use HealthKit to monitor their health and fitness, the platform provides a very interesting opportunity. Having a plethora of health information consolidated in a single place will allow the health conscious consumer to gain a much better understanding of their own health, and what factors they need to improve. To be effective at improving their personal health with HealthKit, consumers will, of course, need to be proactive with the information HealthKit provides.

Soucres:
Joh, J. (2014, June 9). What Do Doctors Think Of Apple's HealthKit? Retrieved June 19, 2014.

Mortgage Rate Trends & Refinancing

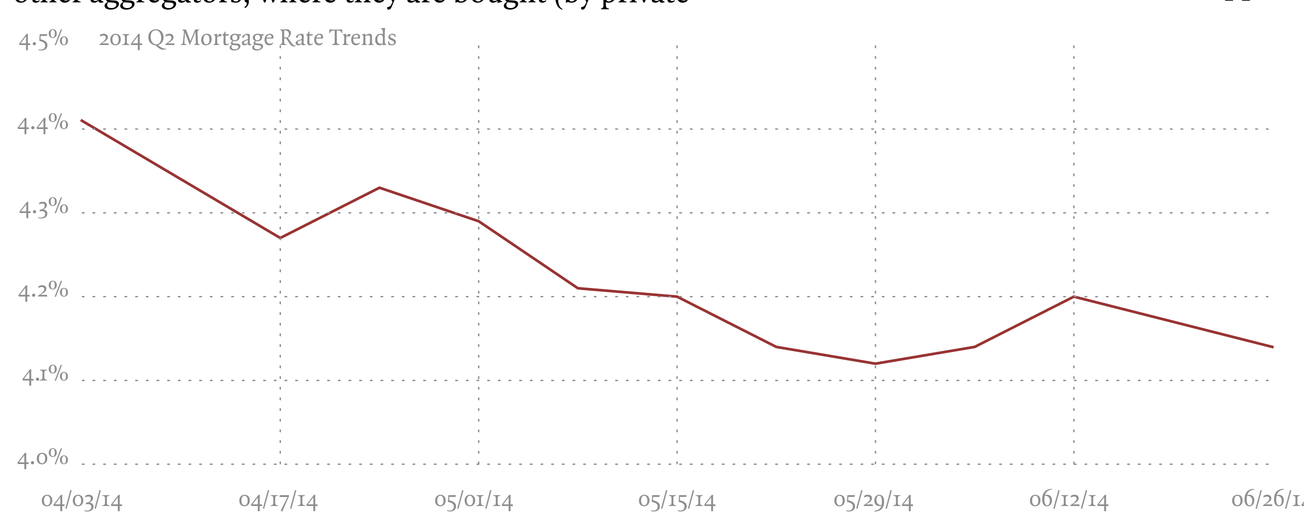
Kyle Burgess

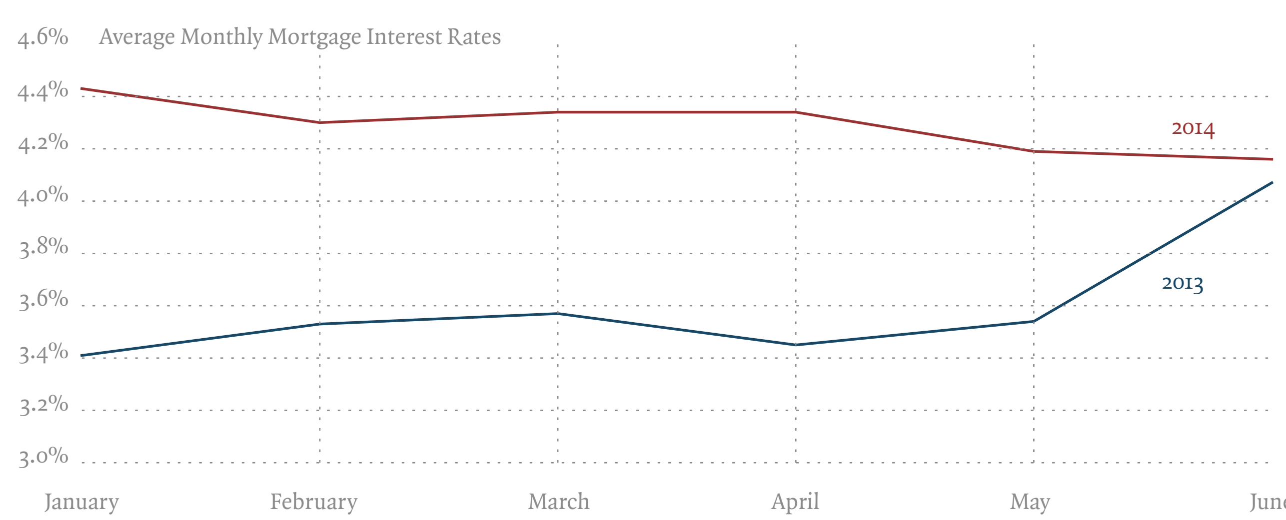
How are mortgage rates determined? Typically, standard bank loan interest rates – sometimes dubbed as "the cost of borrowing money" – are a function of the risk associated with lending. Essentially, lenders require and collect interest based on the associated risk of loaning money to borrowers – the more money being lent, the higher the risk, consequently resulting in a greater interest rate. Risk emanates from the borrower (and their likelihood of loan repayment) as well as the variability of the overall economy. Simply stated, rates reflect lenders' perceived risk from borrowers as well as the economy as a whole. Loan interest rates are often determined by a single source, such as a bank or the Federal Reserve (Fed); however, that is not the case with mortgages.

Unlike the rates for "single source" loans, mortgage interest rates are actually determined on secondary markets, such as a mutual funds or other aggregators, where they are bought (by private investors as well as Fannie Mae and Freddie Mac) and sold (as mortgage-backed securities). Mortgage lenders establish whether or not borrowers are approved for home loans and on what terms, but the interest rate they offer on these loans is determined by a multitude of variables. Economic data, the rate of inflation, U.S. treasury bonds, the federal funds rate (influenced by the Fed), Wall Street expectations for the future, the availability of jumbo loans, global geopolitical events, and (in the case of adjustable rate mortgages) the LIBOR rate all affect the rates at which lenders are willing to lend.

For example, if there is a predicted rise in inflation, investors will demand comparable increases in mortgage rates to compensate for the loss in value of the money lent. Conversely, if the federal funds rate increases, there is a decrease in the growth rate of the money supply (i.e. disinflation) and lenders are willing to accept lower interest rates for mortgage loans. Because investments like U.S. Treasury bonds (T-Bonds) are safer, mortgage backed security returns need to outperform them in order to attract investors. Furthermore, T-Bonds tend to be an indicator of mortgage trends – i.e. as T-Bonds rates decrease, mortgage interest rates decrease.

Of course, it is important to note that the most significant determinant of the mortgage interest rate offered to borrowers is actually not current market interest rates on mortgages, but borrowers themselves. Lenders consider loan applicants' income,





property/assets, requested loan type, credit score, etc. to determine the mortgage rate they are willing to offer applicants. Borrowers in good financial standing have a better chance of getting a lower rate than those whose financial indicators are less promising for repayment.

Where do mortgage rates stand?

Mortgage interest rates are in constant flux daily. They change incrementally over the span of a week and usually fluctuate somewhere from <.5% to <1% month to month.

Over the last quarter (April – June), average monthly mortgage interest rates have trended downward, from 4.41% at the beginning of April to 4.14% at the end of June, as demonstrated in Figure 1.

Figure 2 shows the mortgage interest rates since the beginning of 2014 – starting at 4.43% and dropping to 4.16%, only .11% higher than the previous year's rate in June.

Additionally, Figure 2 gives a comparison of mortgage interest rates for the first six months of 2013 and 2014. Rates in the first half of 2014 have been consistently higher than 2013 rates; however, they seem to be converging as a result of marginal declines in 2014 coupled with the .53% interest rate jump in June of 2013.

Over the span of six months, the average mortgage interest rate difference from last year to this year was .7 percent (above 2013 rates). Economic growth has accelerated, pushing mortgage rates almost back to 2011 rates.

At the close of 2013, the average 30-year fixed mortgage interest rate was 4.69 percent, which, for a $200,000 loan, would have carried a monthly payment of $1,036. At the current average monthly rate of 4.16 percent, and the monthly payment for the same size loan would be roughly $955, resulting in a savings to borrowers of nearly $81 per month.

There are several organizations that release weekly and daily mortgage rate information where consumers can stay abreast of changes. Among these are Bankrate.com and the Mortgage Bankers Association. Freddie Mac also tracks mortgage interest rates. These organizations also conduct regular surveys on start rates, mortgage applications, lending terms, etc. (Visit www.consumersresearch.org/mortgage_center for a list of those resources.)

Is refinancing right for you?

When considering whether or not to refinance, the following questions may arise: Have interest rates fallen? Are they expected to rise? Has there been a credit score improvement that would result in qualifying for a lower mortgage interest rate? Is there a reason to switch to a different type of mortgage (fix vs. adjustable or 15 year vs. 30)?

Even when interest rates hit historic lows, refinancing is not always the best option for mortgage holders. In cases where borrowers have high mortgage interest rates, but have paid off a significant portion of the principal owed on their mortgage, refinancing at a lower rate can actually be detrimental. Refinancing means that the original mortgage is paid off and a new mortgage is created. Typically, borrowers pay more in interest at the beginning of a new loan and if the term is long enough, borrowers could end up paying more over time than they would have if they had finished up paying off their higher interest rate mortgage. However, if borrowers do not have much equity in their home, then they may greatly benefit from refinancing with a lower interest rate.

In summation, consumers interested in taking out a home loan should watch mortgage rate trends (and other financial indicators) while they are seeking homes to purchase. They should also verify that they are in good financial standing before attempting to take out a lone, and they should whatever they can to improve their financial standing. Finally, Consumers who already have mortgages should calculate the final payoff amount of any refinancing offers they are considering to make sure they are making the appropriate choice.

Sources:

30-Year Fixed-Rate Mortgages Since 1971. (2014, January 1). Retrieved July 9, 2014, from http://www.freddiemac.com/pmms/pmms30.htm

Graph Rate Trends. (2014, January 1). Retrieved June 14, 2014, from http://www.bankrate.com/funnel/graph/

Logan, T. (2014, June 4). Most Americans Pessimistic About the Housing Market, Survey Says. Retrieved June 10, 2014, from http://www.latimes.com/business/realestate/la-fi-mo-survey-most-think-housing-markets-still-in-the-dumps-20140603-story.html

MBA. (2014, June 5). Mortgage Credit Availability Increases in May. Retrieved June 11, 2014, from http://www.mbaa.org/NewsandMedia/PressCenter/88397.htm

Mortgage Rates Predictions and Analysis. (2014, July 3). Retrieved July 3, 2014, from http://www.mortgagenewsdaily.com/consumer_rates/

Reckard, E. (2014, June 5). Freddie Mac: Fixed Mortgage Rates Edge Higher; 30 Year Averaging 4.14%. Retrieved June 7, 2014, from http://www.latimes.com/business/money/la-fi-re-freddie-mac-mortgage-rates-20140605-story.htmlRefinancing

Yates, K. (2014, June 5). Bankrate: Mortgage Rates Climb Higher. Retrieved June 6, 2014, from http://online.wsj.com/article/PR-CO-20140605-905823.html

The **Quantified** *Consumer*

Joseph Colangelo

In recent years, a category of tech gadgets and applications has permitted consumers unprecedented access to the data that assesses their lives. These tools collectively comprise the "quantified self" movement and track and assess health, budget, mental activity, and more. If used correctly, they can provide a consumer with greater insight into his or her lifestyle by accessing and analyzing data that was previously limited to the domain of experts and advisors.

Like the chances never taken, I lament my steps that were never counted. In the summer of 2011 I purchased my first health-tracking device, the Fitbit, which measured my steps, sleep, and physical activity. Days later, I purchased the Withings wi-fi scale, which measured my weight and body fat percentage. A few months later I added the Withings Blood Pressure Monitor to my collection of connected health devices.

Each of these devices is a connected, digital version of an analog equivalent that has been used by consumers extensively to monitor health over the past few decades. The innovation of these devices all being connected to the Internet goes beyond simply replacing the piece of paper that used to hang above the bathroom scale. "Connected" health and medical devices change the psychology of practicing a healthy life. They are also have an impact on healthcare and health insurance and have the potential to forever alter the medical industry.

Better, Faster, Stronger

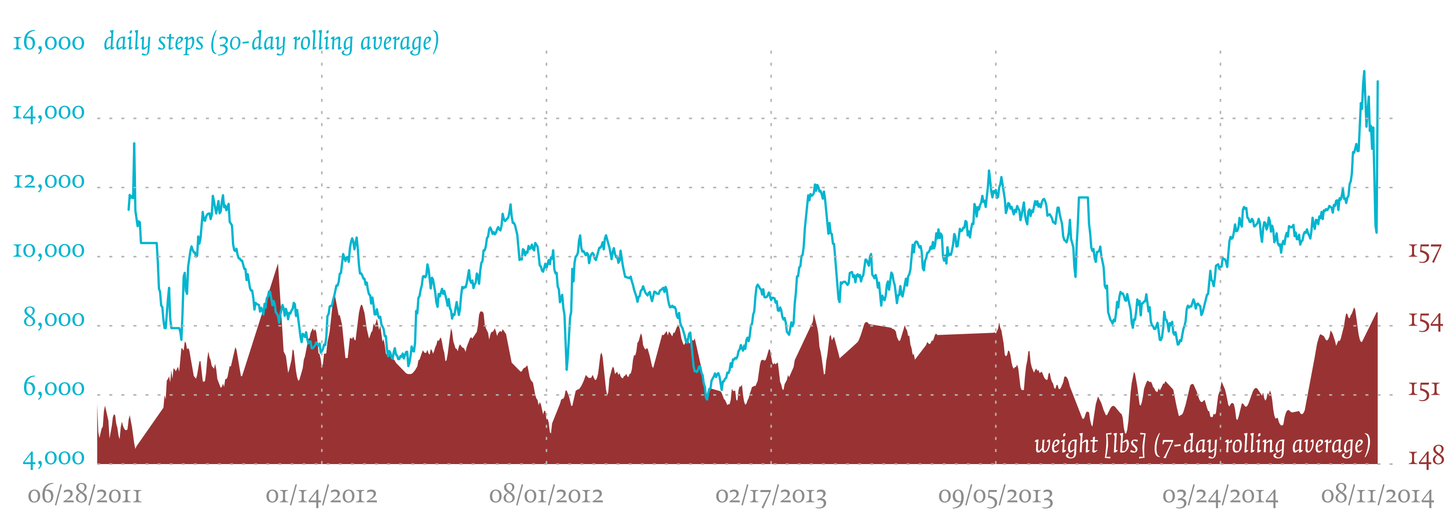
It has been three years since I personally began using these devices, but I can still remember how immediate the transformation to becoming a Fitbit/Withings junkie was. I quickly became influenced by two powerful forces – gamification and peer pressure.

Gamification: Despite my parents' best efforts, video games played a major role in my childhood. While I never had the patience to track Super Mario's incredible point system (far too many preceding zeroes) I felt rewarded whenever I beat a level or gained an extra life. Companies with products that turn life performance into metrics tap into the same emotions triggered by playing games.

After a few days of wearing a Fitbit or similar pedometer a consumer might earn the "hot air balloon badge", which will signify that she has climbed as high as a hot air balloon typically flies. Climb 50 flights of stairs in a day? There's a badge for that. When new to the Fitbit device, badges come frequently as milestones are hit for the first time. It's a way to boost the confidence of the user and encourage him or her to do more. It also helps the consumer get a lot out of the product in the initial period of use. After three years I just received my "5,000 mile" badge- in other words, I have walked across the United States and am well on my way back.

Peer Pressure: With Fitbit and similar devices, peer pressure can have the effect of making the participant more active and, ostensibly, more healthy. Every time a user logs in to his or her Fitbit dashboard the user is able to compare personal activity against the activity levels of his or her friends. Additionally, Fitbit sends a weekly update of each user's activity within a friend group and shows where he or she ranks against his or her friends.

Note: The user of apps such as Fitbit and Withings has control over who sees their activity. If the consumer does not wish to share his or her data with their friends this data can be kept completely private.



Joseph's Fitbit and WiThings scale in action

The Result

Immediately after beginning the use of my Fitbit I made small changes in my day-to-day life that I never would have done otherwise. These included:

- Taking the stairs rather than the elevator to my fourth floor apartment, office
- Going on walks after dinner (three years later I haven't stopped)
- Getting off of my bus two stops before the stop closest to my office and walking 5 blocks every morning

These small life changes add up quickly. However, by themselves they would not justify my purchase and continued use of a Fitbit. Instead, the more underlying change in activity as a result of using this Bluetooth pedometer is that I have become more likely to engage in serious exercise now that I am a user of it.

While the reaction to the Fitbit described above is unique to me, the principles that guide its popularity and ability to impact behavior have been universally applied to apps and devices that track completely different metrics than health. Taken individually, these apps may permit users to live healthier, wealthier lives. Below, Consumers' Research will discuss the main groups of applications and devices that comprise this ecosystem and highlight specific examples in each group. What are the implications of a world in which the devices we use report data about us? What are the privacy implications? What are the benefits? How do consumers benefit from all of this data and how much is too much?

Quantified Self Devices and Applications

A number of health devices and applications allow consumers to track and improve upon important (and maybe not-so-important) health metrics. The below list is not exhaustive and uses content with permission from QuantifiedSelf.com, a primary web resource for quantified self-discovery, reviews, and community discussion.

Activity/Pedometers

Fitbit is a small device to track your physical activity or sleep. You can wear the device all day because it easily clips in your pocket, pants, shirt, bra, or to your wrist when you are sleeping. The data collected is automatically synched online when the device is near the base station. After uploading, you can explore visualizations of your physical activity and sleep quality on the web site. You can also view your data using the new mobile web site. Additionally, you can track what you eat, other exercises you do, and your weight.
URL: http://fitbit.com/
Price: $50-100

Nike+ FuelBand is an activity tracker worn on the wrist used in tandem with an Apple iPhone, iPad or Android device. While sale of the device continues, development may cease.
URL: http://www.nike.com/us/en_us/c/nikeplus-fuelband
Price: $99-$149

RunKeeper is a mobile application available on iPhone and Android to track your runs: distance, duration, speed, and calories consumed. The mobile application uses GPS to measure your distance. It also has several features to motivate you to run: 1) you can preset exercise intervals and distances; 2) it allows you to listen to music while running; 3) a voice informs you about the progress of your run; and 4) it stores a history of your runs. The mobile interface shows you a list of your runs, while the web site has Fitness Reports with visualizations of your runs.
URL: http://runkeeper.com/
Price: free

Weight Management

Withings Wifi Bodyscale is a digital wireless body fat monitor and scale. Withings uses a wifi connection to directly transmit body fat and weight data to your online account or to your iPhone. You can share the data on Facebook and Twitter or to your healthcare provider. The scale is powered by four AAA batteries. It costs $159 and ships from Paris, France. Up to 8 users are supported.
URL: withings.com
Price: $150+

Sleep Tracking

Zeo is a wireless headband, bedside display, set of online analytical tools, and an email-based personalized sleep coaching program.
URL: http://myzeo.com
Price: $100+

Wakemate is a sleep system that records the user's sleep state to a mobile device and wakes the user during the lightest sleep phase within twenty minutes of the alarm. The associated mobile app allows the user to tag the data and rate morning feel for use in online trend analysis with Wakelytics. The technology behind Wakemate is a Bluetooth™ connected accelerometer that pairs with an internet connected Android, Blackberry or iPhone/iPad/iPod Touch device running the Wakemate app. The user's sleep state is calculated based upon Actigraphy.
URL: http://wakemate.com/
Price: $50-$100

Other

Withings Blood Pressure Monitor: Uses Bluetooth™ technology to monitor blood pressure. Syncs with all Withings databases and iPhone/Android Withings applications.
URL: http://Withings.com
Price: $129.99

SunSprite is the first wearable device that tracks your daily light and sun exposure. Use it on its own to measure bright light, or sync it with your smartphone to measure UV index and to deliver a personalized set of goals and tips to make sure you get the right amount of bright light to support your healthy lifestyle.
URL: http://www.sunsprite.com/
Price: $100

MoodScope is a web-based application for measuring, tracking, and sharing your mood. Moods are measured using an online card game, and can be shared automatically by email with friends, with the idea that these activities can raise mood in and of themselves. The mood log can be charted to see progressions and as a way to identify events that may have influenced your mood.
URL: http://www.moodscope.com
Price: free

Zephyr HxM is a Bluetooth™ device which combines a heart rate monitor with an accelerometer to provide the user with a both heart rate and speed and distance information. This device requires the use of an Android phone and an app such as Sport Tracks (or if you are an open source programmer check out ZephyrOpen).
URL: http://www.zephyr-technology.com/consumer-hxm
Price: $50-100

Personal Finance

Mint.com is a web site to manage your money. Mint brings all your financial accounts together in one interface online. It automatically downloads data from your financial accounts and categorizes your transactions (e.g., fuel, restaurants, business services, etc.). Mint has visualizations to help you explore where and how you spend your money. You can see your transactions in detail or see how you spent your money between different categories. It also helps you set budgets and helps you achieve your saving goals.
URL: https://www.mint.com/
Price: free

42Goals is a flexible goal tracking web app which allows users to track, chart, annotate and evaluate many different goals in one place. Goals can be tracked by numeric counter, Boolean method, manually entered time, or premium stopwatch counters. The tool has a free demo mode and a premium monthly subscription option which allows access to upgraded features.
URL: http://42goals.com/
Price: $1-10, free

Individually, these apps can make consumers more aware of their own habits regarding spending, physical activity, weight, sleep, mood, and consumption. Currently, consumers must take it upon themselves to identify correlations between trends in different areas of tracked performance. As these companies continue to improve their software capabilities, though, the correlation between different metrics will be tracked automatically.

Combining integrations across platforms with the collection of multiple years of data from consumers on performance trends, Consumers' Research envisions a future where consumers can take advantage of the correlations of those who have contributed data before them. It is not difficult to picture a scenario where these applications have sufficient information to make predictions about lifestyle that consumers today would not be able to draw themselves.

A consumer using these apps may one day receive updates on their personal computing devices not dissimilar from the following:

Men your age whose activity levels followed your pattern showed a 35% increase in likelihood of injury. Spend an additional 15 minutes stretching after exercise to reduce this likelihood by 65%.
People whose sleep and personal finance trends mirror yours find themselves less fulfilled over the subsequent 12 months.
Ready for a change in your commute? We estimate that riding your bike the 11.5 miles to work will, on average, increase your life span by 3.72 years.

Privacy, Please

When used correctly, this broad swath of applications and devices can help consumers lead better lives. Consumers who previously could not afford professional dieticians, financial planners, or personal trainers can have artificially-intelligent ones helping them become better disciplined and more aware of their health.

Users of these devices and applications do not track themselves in a vacuum. Rather, they pass along their data to the companies who manufacture these devices or provide tracking or storage services for the data generated. As such, consumers should weigh privacy implications against the benefits received from these products.

Here are some steps that consumers can take to protect their data while using these applications:

Read the Terms of Service: A recent national survey conducted by Consumers' Research found that 22% of consumers do not take the time to read credit card or banking agreements when signing up for new financial products. When reading the terms of service consumers should pay special attention to requests for the following:

- Can this application share the data you give them with partners without your specific permission or are you required to authorize any instance of them sharing your data?
- What data remains on company servers if you choose to delete your account? Many companies take "ownership" of a consumer's data as soon as it is generated and will not delete the data even when a user deletes his or her account. If possible, work with companies that permit you to maintain access to and ownership of your data.

Review and adjust your privacy settings: Many of the applications discussed above allow users to choose with whom they share their data. We recommend against sharing any personal data publicly. In addition to being a privacy liability, there is little gain or encouragement that can be derived from allowing all users of an application to see your activity.

Think before sharing: At the end of your bike ride to work, do you want to tweet to any of your twitter followers that you're no longer at your home? If you do a circular run beginning and ending at your home, do you want to share the route with every one of your Facebook friends, thus broadcasting the location of your house or apartment?

A Device in Every Pot

Consumers should think of the current iteration of devices as a "1.0" version of the quantified-self movement. With new metric-tracking devices being released all the time, the industry is expanding more and more into the realm of previously-untracked metrics. Among this latest generation are some truly novel devices:

Sunsprite Personal Light Tracker: About the same size as a Fitbit, this clips to the outside of your clothing and tracks sun exposure in an effort to help improve sleep and increase energy.

Vessyl: This is a "smart cup" that analyzes the content being consumed as well as the quantity consumed in the hopes of tracking hydration, alcohol intake, and caffeine intake for consumers.

Lumo Lift: This is a device the size of a lapel pin that clips on somewhere on the upper part of a user's shirt and measures posture. Slouching? Your Lumo Lift will remind you to sit up straight with a gentle vibration.

The investment and innovation around data-tracking devices will likely see its next large avenue of growth at companies that are not startups or "quantified-self" focused. In all likelihood the growth of the quantified-self industry will lead to the implementation of data tracking on devices that consumers use every day.

Whether it's a toothbrush that tracks brush time or a toilet that measures –ahem – "output," the ability to track data has been simplified with advances in technology. Consumers should expect more options going forward to track the data that runs their lives.

To contact the author of this story email: JColangelo@Consumersresearch.org