

Kodak Alaris Premium Duplex Photo Fulfillment

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Abstract

Kodak Alaris Retail Systems Solutions has been focusing on the growing market for high-demand premium photo products which requires rich photographic detail and double-sided printing. Products such as the KODAK D4600 Duplex Photo Printer with its compact design and flexibility, provides a powerful printer that integrates seamlessly with existing KODAK Picture Kiosks, KODAK Adaptive Picture Exchange (APEX) or stand-alone PC workstations. The KODAK D4600 Duplex Photo Printer and KODAK D4600 Photo Paper enables in store production of vivid, borderless Premium Double-Sided Photo Books, Calendars and Greeting Cards that make it easy for consumers to enrich, share and relive the special KODAK MOMENTS in their lives. This paper will describe the details and features of this new duplex printing system and show how it has been designed to integrate flexibility that is easy and efficient for the retail environment.

Introduction

As Kodak Alaris Retail Systems Solutions looks to the future, our vision is “to unlock the power of images and information”. One way that Kodak Alaris is enabling this vision is through the new KODAK D4600 Duplex Photo Printer, specifically aimed to meet customer demand for greater selection and exceptional quality in an instant with the new KODAK Premium Plus 2-sided custom cover photo books. The KODAK D4600 Duplex Photo Printer allows retailers to offer a wider variety of products at multiple price points; therefore, enabling more printing options than ever before. Leveraging our history with Eastman Kodak Company, Kodak Alaris Retail Systems Solutions has extensive experience with thermal printing technology.

Within one of our more recent patents related to duplex thermal printing, US 8,540,451⁽¹⁾ granted on September 24, 2013, it is stated in the patent’s background...

In recent years, the proliferation of digital photography has provided consumers with a variety of options to store captured images. These options include various “soft copy” methods involving memory cards, memory sticks, CD’s, DVD’s, hard drives, on-line storage etc. These “soft-copy” options, while providing the environmental benefit of eliminating the paper, ink or dye, and other chemicals required for “hard-copy” output, are potentially less secure for long term storage due to media format obsolescence, storage media physical or chemical breakdown, and on-line storage companies disappearing. A variety of options exist for customers to print digital images, including conventional silver halide processing, ink-jet, thermal dye transfer, and electro-photographic methods. These “hard-copy” methods are capable of providing printed output which can last for many decades.

Although customers can make such “hard-copy” prints at home, modern retail outlets provide kiosks and order-terminals where both prints and additional services can be requested and provided. Similar services are also available from on-line companies such as KODAK Gallery. An increasingly popular service provides photo-albums or photo-books with collections of images associated with a specific event, such as a vacation, family gathering, school function etc. The photo-books are composed of printed images produced by any one of the printing methodologies described above. Photo-books can be constructed in various formats. For example, single sheets of printed material bearing an image on one side of the material can be bound together using any one or a combination of binder clips, staples, adhesive, stitching, ring binders etc. Such photo-books are generally less preferred as each printed page of the book will face a blank page, i.e. the non-printed backside of a printed image. This disadvantage can be eliminated by adhering together sheets of single-side printed media to produce a double-sided album page as disclosed in US. Pat. Nos. 5,791,692, 5,957,502, 6,004,061 and 7,047,683. US. Pat. No. 6,742,809 describes a strip of images folded in accordion manner such that each pair of adjacent images forms two sides of a page, the accordion folds being adhered together on the inside. Photo-books produced by adhering two imaged prints together are typically thicker than single-sided sheet products, and this can result in a heavy and bulky product when the photo-book contains a large number of pages. Duplex printers, which print on both sides of an imaging material, are known in the art. Typically these printers are of the electro-photographic type. Using these printers, photo-books can be constructed from the duplex sheets using any of the methods described above. Thermal transfer printing is known to produce higher quality images than conventional electro-photographic imaging, and would be the preferred printing method for high-quality photo-books...

Within this background statement, there are four key points. The first (1) point is directed at the proliferation of digital photography, the second (2) point is the potential loss of many of these digital photographs due to soft copy storage methods, and the benefit for preservation using hard copy methods, the third (3) point is directed at the increasingly popular service that provides photo-albums or photo-books with collections of images associated with a specific event, such as a vacation, family gathering, and school functions. The fourth (4) point is directed at using thermal transfer duplex printing at retail outlet kiosks to produce higher quality duplex sheets for high quality photo books. The intent

of this paper is to provide supporting documentation on each of these five key points.

Proliferation of Digital Photography

The first key point pertains to the assertion around the proliferation of digital photography. In a September 15, 2011 post on 1000memories.com, Jonathan Good ⁽²⁾ posed the question “How many photos have ever been taken?” Jonathan continued to write, “In the midst of the 3.5 trillion photos that have ever been taken it’s easy to forget that the shoebox or album of old photos we have at home is incredibly fragile and special. Every 2 minutes today we snap as many photos as the whole of humanity took in the 1800’s. In fact, ten percent of all the photos we have, were taken in the past 12 months. And yet, there are still more physical photos hidden in our shoeboxes, hanging on our walls or lost in an album than there are digital photos littering our hard drives. These precious photos of the past 200 years tell us who we are and where we come from. So grab hold of that photo of you as a kid or of your grandparents’ wedding and realize just how special it is.”

In a Popular Photography article by Stan Horaczek, published May 27th, 2013 ⁽³⁾, he stated that “... in a recent presentation by Yahoo!, it was claimed that as many as 880 BILLION photos will be taken in 2014 if we continue on the current trend.”

In the fall of 2013, Facebook reported that every day over 350 million photos are uploaded to Facebook on average. As of January 2014, Instagram has 150 million active users, 16 billion photos shared, 1.2 billion likes daily, 55 million photos posted daily and 7.3 million daily visitors.

These excerpts collected from online sources support the concept that in recent years there has been a proliferating presence of digital photography.

Potential loss of Soft Copy Digital Photographs

The second key point is the potential loss of many of these digital photographs due to soft copy storage methods, and the benefit for preservation using hard copy methods The National Archives and Records Administration ⁽⁴⁾ website posts,

You may want to digitize your photographs because it offers safe and easy access to the images in your collection. Once your photographs have been scanned, you can view them in electronic form and even make hard copies without risking damage to the originals. Do not throw away your original film and prints after you digitize them. Digitized images are not considered a replacement for originals. Data (i.e. your images) can be lost when the storage media deteriorates; and software and hardware technology become rapidly obsolete, in some cases making retrieval of the images difficult if not impossible.” Additionally, they post, “Albums are an ideal storage method for photographic prints, especially snapshots and heirloom photographs--the photographs can be safely stored and organized, and safely viewed, without inflicting damage

from frequent handling. Albums should be used to store selected groups of photographs, as they are expensive and somewhat bulky storage options. Not all photographs are really worth keeping; snapshot collections should be weeded of poor prints (blurred images, bad exposures) or less desirable photos (multiples, poorly cropped images) before housing the best ones in an album or other storage method.

Premium Photo Products Market and the increase demand for Photo Books

The third key point is directed at the increasingly popular service that provides photo-albums or photo-books with collections of images associated with a specific event. According to InfoTrends 2014 U.S. Photo Merchandise End User Survey,⁽⁵⁾ the most popular occasions for purchasing photo products are holidays from Thanksgiving through New Years, birthdays, family events, social gatherings, graduation, school functions, and sports events.

Based on market data from InfoTrends, see Fig 1, for premium photo products including Photo Cards, Photo Books, Photo Calendars and Specialty Photos (canvas photo prints, photo panels, enlargements / posters and collages) the market trends show that for 2011, which totaled \$1.68B, Photo Cards were 26.6%, Photo Books were 40%, Photo Calendars were 10.1% and Specialty Photos were 23.3%. In 2014, the market is estimated to total \$2.07B, with Photo Cards being down 3.8% to 22.7%, Photo Books up 5.5% to 45.5%, Photo Calendars down 1.1% to 9% and Specialty Photos down 0.5% to 22.8%. By 2017, the market is estimated to total \$2.4B, with Photo Cards being down 2.4% to 20.3%, Photo Books up 3.3% to 48.8%, Photo Calendars down 0.8% to 8.2% and Specialty Photos down 0.1% to 22.7%. By 2019, the market is estimated to total \$2.5B, with Photo Cards being down 4.1% to 18.6%, Photo Books up 5.2% to 50.7%, Photo Calendars down 1% to 8% and Specialty Photos seeing no change from the 2014 levels.

The InfoTrends market data indicates while the overall premium photo product market is growing, the greatest segment for growth is photo books. So who exactly is driving the growth within the photo book segment?

Photo books, however, can come in many variations. The KODAK Photo Service discusses Creating Quality Products and Creating Quality Photo Books, states that there are three types of photo books: Simplex, Duplex, and Duplex Premium. The fulfillment devices at the retailer determine which photo books can be printed at that site.

Simplex photo books are single sided multi-page products which are full bleed (the rendered page takes up the entire fulfilled page--there are no borders). Duplex photo books are double sided multi-page products which have a non-printable border area surrounding the printable area of the pages. Duplex Premium photo books are double sided multi-page products which are full bleed (the rendered page takes up the entire fulfilled page--there are no borders).

Traditional marketing demographics are broken up into six different groups: Generation Z, which are the 18 year olds and younger, the Millennials or Gen Y, which are 19 to 37 year olds, Gen X, which are 38 to 49 year olds, the Baby Boomers, which are 50 to 68 year olds, the Silent Generation, which are 69 to 89 years old, and the Greatest Generation, which are 90 to 113 years old. Typically, marketing aims are at the Millennials / Gen Y group, and Gen X group, with increasing focus on Baby Boomers with disposable income.

Commenting on the potential of the consumer photo book market, Steve Hoffenberg ⁽⁶⁾, director of Lyra Consumer Imaging Intelligence, said, “Consumers have begun to regard photo books as new-and-improved replacements for traditional photo albums that can be kept as family heirlooms or given as gifts to loved ones. This is a market that will continue to be valued, and there is a significant amount of room to grow before the market becomes saturated. However, to capitalize on the full potential of the mass market for photo books, vendors will need to expand their marketing efforts to focus not only on women with young children but also other potential customers.”

Data collected from the 2000 US Census Bureau ⁽⁷⁾ (see Fig. 2) indicates that the three demographic groups listed above, Millennials/Gen Y, Gen X and Baby Boomers make up slightly over 62% of the US population. The US Census data also shows that the split between males and females in each group is close to 50/50. When we look at the January, 2014 Pew Research Internet Project data (see Fig. 3) titled “Social Networking Fact Sheet” ⁽⁸⁾, 89% of 18 to 29 year olds actively using social networking, 82% of 30 to 49 year olds actively use social networking, 65% of the 50 to 65 year olds use social networking, and 49% of the over 65 year olds use social networking.

In a October 28, 2013 posting on the Social Mediatrics website by Varun Tulsyan ⁽⁹⁾ titled “What is the most popular content shared on Social Media?”, he reports, “According to a report ⁽¹⁰⁾ on Ipsos, a survey indicated that a significant proportion of internet users share pictures on social media. A breakdown on the most popular content shared on Social Media sites are shown in the chart below [See Fig 4].”

Additionally, according to a February 14, 2013 Pew Research Internet Project study, titled “The Demographics of Social Media Users – 2012” by Maeve Duggan and Joanna Brenner ⁽¹¹⁾, 67% of Internet users use Facebook, with this service appealing most to women between the ages of 18 to 29 (See Fig. 5). This data indicates that women are a key factor when it comes to the premium photo book market segment. When we look at the “Moms and Media 2013” report from Edison Research ⁽¹²⁾, mothers appear to be a group that is heavily using technology to their advantage. The Edison Research data shows that about 33%, the majority of the research sample, is made up of Moms between 35 to 44 years old, which places them in the Gen X group. Close behind is the 25 to 34 year olds in the Millennial/ Gen Y group at 28% (See Fig. 6). Edison Research also shows that

95% of Moms own a cellphone, and 64% own a smartphone (See Fig. 7). The Edison Research data additionally shows that 54% of Moms take pictures with their smartphone at least once per day (See Fig. 8).

Based on a number of market data points, women between the ages of 25 to 44 years old, who are technically savvy, are taking a majority of the pictures using their smartphones and posting them to Facebook. Within the *Unity Marketing* report on “*Gifting Report 2012 Overview*” by Pam Danzinger ⁽¹³⁾, it was found that 64% of the gift givers were female, compared to 36% of gift givers being male. Within the possible gifts, in the grouping of “Giftables”, this group included Scrap Books and Memory Albums, and Picture Frames and / or Albums.

During 2014 customer interviews conducted by Kodak Alaris on premium photo product offerings, one of the key learning’s was that the product offering has to have a purpose or function, and the product offering has to be an “emotionally connected, personalized product”. Additionally, in most cases, these types of product offerings will be given as gifts. Based on creating a cycle of life time events, we can identify key events that would most likely want to be commemorated. This list consists of at least 20 events ranging from baby pictures, school pictures, first car, first date, graduation, marriage, first home, career events, and develops into a repeating cycle with the arrival of children and grandchildren.

One conclusion that can be drawn from this data is that there is a need, predominately by women, to capture moments through digital photography, share those images on social media, but also there is a need to capture and commemorate special life events through “emotionally connected, personalized photo products” such as a premium photo book.

Kodak Alaris Premium Duplex Photo Fulfillment

The fourth point is directed at using thermal transfer duplex printing at retail outlet kiosks to produce higher quality duplex sheets to create high quality photo books. The catalyst for a thermal duplex printer starts back in the Fall of 2008, in preparation for the 2nd International Symposium on Technologies for Digital Photo Fulfillment. At that conference, I presented two papers on the afternoon of Saturday, February 28th, 2009. The first paper was written by Michael Devoy, Peter Rudak and Joseph LaBarca titled “Retail Printing Technologies” ⁽¹⁴⁾. The second paper was written by William Rochford and myself, titled “Kodak Adaptive Picture Exchange (APEX)”. Within the “Retail Printing Technologies” ⁽¹⁵⁾ presentation, there was a summary slide for kiosk applications showing Image Quality, Printing Speed, Image Permanence, Configuration Flexibility and Cost as factors judged by printing technologies that included AgX, Thermal, Ink Jet and Electro-photographic. Image Quality was assessed for consumer acceptability of 4” x 6” prints on test images as judged by a panel of experts, and determined that:

- AgX still delivers best image quality

- Dye diffusion thermal transfer is very close to AgX, with IJ not far behind
- EP has a significant number of unacceptable prints

In my presentation on the “Kodak Adaptive Picture Exchange (APEX)”, I also spoke about the electro-photographic printing technology:

The KODAK DL2100 Duplex Printer is an on-site electro-photographic page printer, optimized for use in both the APEX system and KODAK Picture Kiosks, which allows retailers to participate in the \$16B greeting card and photo book categories to significantly grow their business. The DL2100 printer provides the option for photo gifts in-store while the customer waits or for pickup at a later time. The DL2100 printer can print up to 13 duplex pages per minute, while allowing for Kodak paper and card stock between 148 gsm to 216 gsm. The DL2100 printer uses light emitting diode (LED) technology with an LED print head as a light source within the imaging device. Unlike laser systems, the LED print head is solid state and has no complicated rotating mirrors. The DL2100 printer uses a four- (4) color toner set. The DL2100 printer also uses KODAK PERFECT TOUCH technology.

In May 2008, consumer studies performed by Eastman Kodak Company pertaining to premium products such as photo books, calendars and greeting cards, determined that the top three factors for what consumers want were #1 – Pictures printed on both sides of the page, #2 – Image Quality and #3 – Paper Feel and Thickness. While image quality may not be at the same level as AgX, or D2T2, EP did allow for printing images on both sides of the page. The outcome from this consumer study indicated that thermal transfer printing is known to produce higher quality images than conventional electro-photographic imaging, and would be the preferred printing method for high-quality photo-books. On March 13, 2009 internal documentation outlining a duplex paper path and printing logic was submitted. As with any new printing technology, there were hurdles to overcome including media, paper transport, printing artifacts, paper flipping, cutting and exiting. Kodak Alaris currently is the assignee on 13 granted US patents related to thermal duplex printing, and currently has 5 US patent applications published.

The KODAK D4000 Duplex Photo Printer

The KODAK D4000 Duplex Photo Printer was introduced at Photokina 2010. At that time, it was considered a compact duplex printing solution with exceptional print quality and reliability. The KODAK D4000 Duplex Photo Printer provides rich photographic detail and borderless double-sided printing, with prints that meet the demand for a duplex premium photo book. It was designed to drive traffic for on-site fulfillment of orders taken in the store or online. The D4000 integrates seamlessly with the existing KODAK Picture Kiosks, KODAK Adaptive Picture Exchange (APEX) or stand-alone PC workstations. The KODAK D4000 Duplex Photo Printer prints rich, bright colors and

sharp text on KODAK XTRALIFE Photo Book paper that lasts a lifetime under typical home display and storage conditions. The KODAK D4000 Duplex Photo Printer uses Dye Diffusion Thermal Transfer (D2T2) technology at a 300 dpi resolution on two thermal print heads. The D4000 is capable of printing 250 8”x12” duplex sheets using the KODAK D4000 Duplex Photo Paper and the KODAK Photo Ribbon D4000L or 300 8”x10” duplex sheets using the KODAK D4000 Duplex Photo Paper and the KODAK Photo Ribbon D4000S. Duplex print speed is 84 seconds for an 8”x12” duplex sheet and 75 seconds for an 8”x10” duplex sheet. The KODAK D4000 Duplex Photo Printer is 30.9” (785mm) in height, 32.5” (825mm) in width with the Exit Tray, 19.75” (502mm) in width without the Exit Tray and 18.8” (478mm) in depth, with a weight excluding media of 151.5 lbs. (68.7 kg). In addition to the 8”x10” and 8”x12” prints, the D4000 also produces 8”x4” prints, 8”x6” prints, 8”x8” prints, all full-bleed, borderless prints.

The new KODAK D4600 Duplex Photo Printer

Shortly after the KODAK D4000 Duplex Photo Printer was in production, our product development team and marketing team started to look at the next stage in development for duplex printing. These design goals included reducing the overall physical size of the printer, reduction in weight, simplification of mechanism for increased reliability, lower retail price point and greater flexibility in print size offering. Kodak Alaris US Patent 8,599,230 titled “Roll Fed Duplex Thermal Printer” ⁽¹⁶⁾ discloses one design concept for achieving these design goals (see Fig. 9).

After a few conceptual design iterations based on feedback from several human factors studies, environmental systems testing and long-run reliability testing, the KODAK D4600 Duplex Photo Printer was introduced at Photokina 2014. The D4600 is a much more compact duplex printing solution with exceptional print quality and reliability compared to the D4000 model. The D4600 printer provides rich photographic detail and borderless double-sided printing, with prints that meet the demand for a duplex premium photo book. It is also designed to drive traffic for on-site fulfillment of orders taken in the store or online similar to the KODAK D4000 Duplex Photo Printer. The KODAK D4600 Duplex Photo Printer also integrates seamlessly with the existing KODAK Picture Kiosks, KODAK Adaptive Picture Exchange (APEX) or stand-alone PC workstations running Win 7 and 8 on both 32 and 64 bit systems. The KODAK D4600 Duplex Photo Printer prints rich, bright colors and sharp text on KODAK D4600 Photo Book Paper that lasts a lifetime under typical home display and storage conditions. The KODAK D4600 Duplex Photo Printer uses Dye Diffusion Thermal Transfer (D2T2) technology at 300 dpi resolution using a single thermal print head with a unique paper conveyance to allow for duplex printing. The KODAK D4600 Duplex Photo Printer is capable of printing 250 8”x12” duplex sheets using the

KODAK D4600 Duplex Photo Paper and the KODAK Photo Ribbon D4600L or 300 8"x10" duplex sheets using the KODAK D4600 Duplex Photo Paper and the KODAK Photo Ribbon D4600S. Duplex print speed is 84 seconds for an 8"x12" duplex sheet and 75 seconds for an 8"x10" duplex sheet. The KODAK Photo Ribbon D4600L and D4600S utilizes RFID and the KODAK D4600 Duplex Photo Paper utilizes a lead edge bar code label for complete media system type detection enabling improved image quality based on improved Look Up Tables and Profiles. The KODAK D4600 Duplex Photo Printer is 15.67" (400mm) in height, 13.39" (340mm) in width, excluding the Exit Tray and 20" (500mm) in depth. This means that the KODAK D4600 Duplex Photo Printer consumes only 44% of the volumetric space of the KODAK D4000 Duplex Photo Printer. The KODAK D4600 Duplex Photo Printer has a weight, excluding media, of

66.14lbs (30 kg), again, only 43.6% the weight of the KODAK D4000 Duplex Photo Printer. In addition to the 8"x10" and 8"x12" print sizes, the KODAK D4600 Duplex Photo Printer uses an incorporated horizontal slitter that allows for 6"x4" prints, 6"x6" prints, 6"x12" prints, 6.8"x4.8" prints, 6.8"x 9.6" prints, 7"x5" prints, 8"x4" prints, 8"x6" prints, 8"x8" prints and 8" x 11.7" prints, all full-bleed, borderless prints. From a product design standpoint, the evolution of our thermal duplex printers has achieved success by increasing functionality, decreasing the overall size, and decreasing the overall weight. As Kodak Alaris Retail Systems Solutions looks to the future, our vision is "to unlock the power of images and information", and we continue to explore new ways to enable this vision.

| | 2011 | | 2014 | | | 2017 | | |
|--------------|---------------------|-------------|---------------------|-------------|----------------|---------------------|-------------|----------------|
| | Total Revenue (\$M) | % | Total Revenue (\$M) | % | Delta | Total Revenue (\$M) | % | Delta |
| Total | \$1,680.9 | 100% | \$2,069.6 | 100% | \$388.7 | \$2,399.8 | 100% | \$330.2 |
| Cards | \$446.2 | 26.5% | \$470.7 | 22.7% | -3.8% | \$487.8 | 20.3% | -2.4% |
| Books | \$672.4 | 40.0% | \$941.2 | 45.5% | 5.5% | \$1,171.2 | 48.8% | 3.3% |
| Calendars | \$170.1 | 10.1% | \$186.7 | 9.0% | -1.1% | \$197.0 | 8.2% | -0.8% |
| Specialty | \$392.2 | 23.3% | \$470.9 | 22.8% | -0.6% | \$543.9 | 22.7% | -0.1% |

Source: InfoTrends

Fig 1

| US Age Distribution by Sex, 2000 | | | | | | | | |
|----------------------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|---------------|----------------|
| Age | Male | % | Female | % | Group | Male | Female | Total |
| 0-4 | 9,810,733 | 3.49% | 9,365,065 | 3.33% | Gen Z | 14.68% | 13.94% | 28.60% |
| 5-9 | 10,523,277 | 3.74% | 10,026,228 | 3.56% | | | | |
| 10-14 | 10,520,197 | 3.74% | 10,007,875 | 3.56% | | | | |
| 15-19 | 10,391,004 | 3.69% | 9,828,886 | 3.49% | | | | |
| 20-24 | 9,687,814 | 3.44% | 9,276,187 | 3.30% | Millennial / Gen Y | 14.61% | 14.38% | 28.99% |
| 25-29 | 9,798,760 | 3.48% | 9,582,576 | 3.41% | | | | |
| 30-34 | 10,321,789 | 3.67% | 10,188,619 | 3.62% | Gen X | 7.46% | 7.65% | 15.11% |
| 35-39 | 11,318,696 | 4.02% | 11,387,968 | 4.05% | | | | |
| 40-44 | 11,129,102 | 3.95% | 11,312,761 | 4.02% | | | | |
| 45-49 | 9,889,506 | 3.51% | 10,202,898 | 3.63% | Baby Boomers | 8.76% | 9.40% | 18.25% |
| 50-54 | 8,607,724 | 3.06% | 8,977,824 | 3.19% | | | | |
| 55-59 | 6,508,729 | 2.31% | 6,960,508 | 2.47% | | | | |
| 60-64 | 5,136,627 | 1.83% | 5,668,820 | 2.01% | | | | |
| 65-69 | 4,400,362 | 1.56% | 5,133,183 | 1.82% | Silent & Greatest | 3.56% | 5.40% | 9.05% |
| 70-74 | 3,902,912 | 1.39% | 4,954,529 | 1.76% | | | | |
| 75-79 | 3,044,456 | 1.08% | 4,371,357 | 1.55% | | | | |
| 80-84 | 1,834,897 | 0.65% | 3,110,470 | 1.11% | | | | |
| 85+ | 1,226,998 | 0.44% | 3,012,589 | 1.07% | | | | |
| Total | 138,053,563 | 49.05% | 143,368,343 | 50.95% | | 49.05% | 50.95% | 100.00% |

Source: 2000 US Census

Fig 2

Who uses social networking sites

% of internet users within each group who use social networking sites

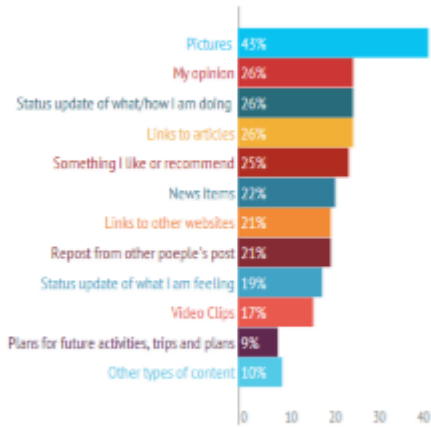
| All internet users | 74% |
|----------------------------|------------------|
| a Men | 72 |
| b Women | 76 |
| a 18-29 | 89 ^{cd} |
| b 30-49 | 82 ^{cd} |
| c 50-64 | 65 ^d |
| d 65+ | 49 |
| a High school grad or less | 72 |
| b Some college | 78 |
| c College+ | 73 |
| a Less than \$30,000/yr | 79 |
| b \$30,000-\$49,999 | 73 |
| c \$50,000-\$74,999 | 70 |
| d \$75,000+ | 78 |

Pew Research Center's Internet Project January Omnibus Survey, January 23-26, 2014. Note: Percentages marked with a superscript letter (e.g., ^a) indicate a statistically significant difference between that row and the row designated by that superscript letter, among categories of each demographic characteristic (e.g., age).

PEW RESEARCH CENTER

Fig 3

Most popular shared content on Social Media



It is a study conducted by Ipsos

Fig 4

The Landscape of Social Media Users

| | % of internet users who... | The service is especially appealing to ... |
|--------------------------------|----------------------------|---|
| Use Any Social Networking Site | 67% | Adults ages 18-29, women |
| Use Facebook | 67 | Women, adults ages 18-29 |
| Use Twitter | 16 | Adults ages 18-29, African-Americans, urban residents |
| Use Pinterest | 15 | Women, adults under 50, whites, those with some college education |
| Use Instagram | 13 | Adults ages 18-29, African-Americans, Latinos, women, urban residents |
| Use Tumblr | 6 | Adults ages 18-29 |

Source: Pew Research Center's Internet & American Life Project Post-Election Survey, November 14 - December 09, 2012. N=1,802 internet users. Interviews were conducted in English and Spanish and on landline and cell phones. Margin of error is +/- 2.6 percentage points for results based on internet users. Facebook figures are based on Pew Research Center's Internet & American Life Project Omnibus Survey, December 13-16, 2012. Margin of error for Facebook data is +/- 2.9 percentage points for results based on internet users (n=860).

Fig 5

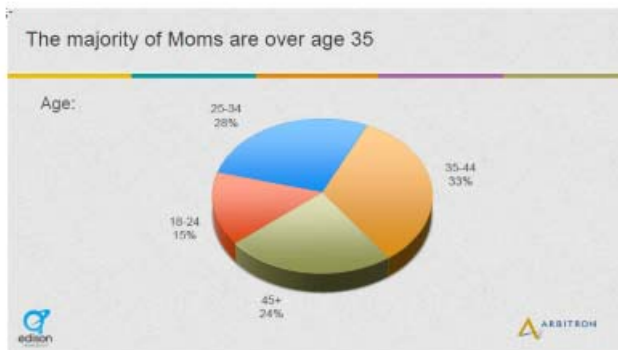


Fig 6

Moms continue to lead smartphone ownership

% who own a smartphone

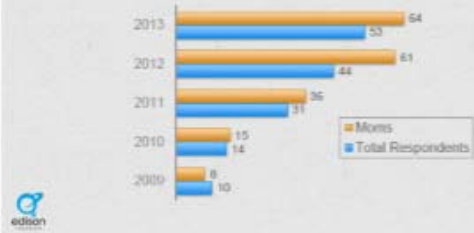


Fig 7

Smartphones are not just for calling

% who use their smartphone at least once per day for each item

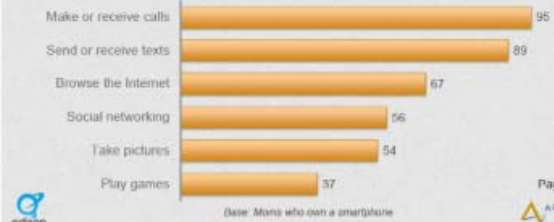


Fig 8

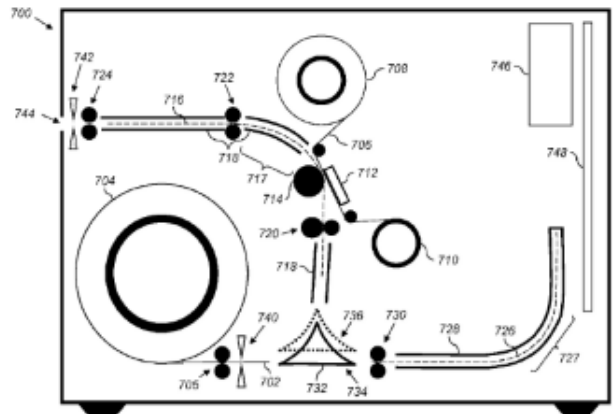


Fig 9

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