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Interactive Print – The Application of Synergy to Restore and Enhance the Value of Print

Researchers

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Abstract

With the emergence and increasing role of technology in today's society, many questions are raised about what is the future of print. This study set out to research the term "interactive print," which, for the purposes of this study, includes Personalized Uniform Resource Locator (PURL), GossRSVP, Radio Frequency Identification (RFID), and other sources of technology that refer an end consumer to online sources via print.

This report was written in order to research the current trends and knowledge in the industry as it relates to interactive print technologies, as well as to foresee the role of interactive print in the graphic communication industry in the coming future.

A variety of research methods were used to quantify various data sources and conclude that interactive print is still currently in the beginning stages of integration into the printing industry. The subjects in the study were a sample of print professionals from the industry itself, and the research pointed to the idea of whether interactive print raises any value for the industry as a whole.

Although current printers are proven to still be wary of the new technologies, interactive print does prove to create a unique value for printers to offer the next generation of consumers. Creators of interactive print technologies need to focus on educating printers about how technologies will fit into current workflows to create value for end consumers.

Chapter I – Introduction and Purpose of Study

The printing industry is evolving rapidly and forced to adapt to the contemporary needs of commerce and society. Today's world is dominated by technological capabilities that are threatening the survival of traditional print. The public no longer relies solely on traditional telephone books or newspapers to receive information; the Internet has become a main source of news and data. Traditional printed pieces no longer have the same value to consumers, as consumers now rely on computers, handheld devices such as cell phones and PDAs, and other modern devices to send and receive communications. With these issues pressuring the printing industry, it is clear that the time to "reinvent" traditional print has come through a synergy that combines the benefits of print and electronic communication.

In response to this decline in print demand, printers have explored opportunities that complement consumers' reliance on technology. Certain technologies have brought about emerging solutions coined as "interactive print." Examples of interactive print include GossRSVP, radio frequency identification (RFID), and personal uniform resource locaters (PURLs). This study explored the question: For printers looking to reinvent print, what are the advantages of adopting interactive print as a competitive business solution?

Adopting interactive print solutions is intended to create additional value, benefits, and a higher return on investment for printers. Interactive print technologies allow end-consumers to react and respond to printed pieces, rather than just read them. The interaction brings about higher consumer loyalty, increasing response rates, and value for collateral. This positive response from end-consumers will be greater amongst younger generations that are more technologically astute. However, older generations can be oriented to benefit from such technology, as the technology becomes more "user friendly" over time. While a "generational gap" may delay adoption by older generations, printers, publishers, and advertisers need to prepare for future markets rather than remain stagnant using traditional technology. Interactive print is a strategic business solution that responds to a changing society that will carry print into the future. This is a potential gateway for printers to break away from their traditional roles as "one-stop shops" and transform into solutions providers. Interactive print allows printers to be more involved in the customer and product lifecycle,

offering clients services that extend into personalized marketing, inventory tracking, security enforcement, purchasing patterns, and information management.

The purpose of this study was to explore the extent to which the need for interactive print exists and whether it will add significant value for printers. It is understood that investing in interactive print is expensive, so it is important to explore the payoffs printing companies, publishers, and advertisers would gain. By the use of surveys, research, and the views of industry professionals, this study explored the benefits of technologies used to make print interactive.

Chapter II – Literature Review

Amy Hillman, a writer for Ivey Business Journal, summarized a case study regarding Dow Jones & Company's introduction of the Interactive Journal. The introduction of the Interactive Journal was created in a strategic attempt to counter the stagnant position of the newspaper industry. Although Dow Jones & Company is a leading company with such publications as The Wall Street Journal, the company needed to prepare for the needs of consumers in the near future. "…the newspaper industry was facing a future of little to no growth and mounting competition from other forms of delivery, most recently and saliently, the Internet." (Hillman)

In the late 1990's, the print newspaper industry realized the need for change. Revenue from newspaper companies are generated partly from subscriptions but mostly from advertisements. In a desperate attempt to increase revenues, "Local newspapers in general turned to supplemental advertising flyers and catalogues placed between the pages of daily and Sunday papers in order to provide more dependable cash flow." (Hillman) Eventually though, advertising in newspapers began competing with on-line sources (Hillman).

As a strategic move for its company, Dow Jones & Company released The Wall Street Journal Interactive Edition in 1996; at its time, this release was an innovation for the company, as well as the print publishing industry. Initially, it was launched as a free site, but several months later, The Wall Street Journal began to charge subscribers. Nonetheless, "Subscribers totaled over 100,000 within the first year of launch, and reached over 266,000 by the end of 1998. While many competitors were delivering news on the Web for free, The Wall Street Journal Interactive Edition became the largest paid-subscription site on the World Wide Web." This point proves that the Internet and technological means of transferring information is something consumers want and find worth their money. " 'Our proprietary information has value, and we have the guts to charge,' said Peter Kann, chief executive officer of Dow Jones & Company." (Hillman)

For The Wall Street Journal, a third category of revenue, transaction fees, emerged as a result of the electronic publishing. "Forrester Research predicted that on-line revenue from subscriptions, advertising and transaction fees would grow from just over $520 million in 1997 to $8.5 billion within five years." (Hillman)

The Wall Street Journal Interactive Edition served The Wall Street Journal consumers with an alternative medium to access information, as well as access to additional information not found in the print editions. Printed editions of the newspaper became sources of pointers to the Interactive Journal. In addition, the company took advantage of the ability to expand with its resources, by launching Careers.wsj.com. This web site served to increase the exposure of classified advertisements found in newspaper, which reflected a successful response from consumers. "Weekly advertising sales were relatively stable in 1998, coming off two relatively strong years of growth. Subscription renewal rates were approximately 75 to 80 percent." (Hillman)

As a result of the case study of Dow Jones & Company, interactive print was deemed as a successful move for the company. Certain demographics were derived from the study, which could hold true to the movement of interactive print. Consumers of the Interactive Journal, as opposed to the printed version of The Wall Street Journal (WSJ), were generally younger and lived more independent, busier lifestyles. "Print WSJ customers had a higher average age than Interactive Journal customers and were more likely to be retired. Print customers tended to use the Internet more at work than at home, to have a higher total value of investments, were more likely to have a home office, and were more likely to live in the eastern United States. Interactive Journal customers, on the other hand, were more likely to have children at home, to use the Internet at home than at work, to have a lower total value of investments, to use on-line brokers and other on-line information, and to travel internationally for business." (Hillman)

Interactive print brings printing into the market of technology rather than just traditional print. Dow Jones & Company now "…faced competition from non-print competitors such as Cable News Network (CNN), Bloomberg, on-line brokerage firms, CBS Market-Watch, TheStreet.com and Yahoo! and others who received their news from Reuters." Reuters is a commonly used news service company and financial market data provider. The move of Dow Jones & Company, a company that leads the newspaper industry, has pressured other companies in its industry to compete in the technological industry (Hillman).

Dow Jones & Company had prepared for the future of print by expanding traditional print into a different medium. This transition from traditional print to interactive print was a strategic move made by Peter Kann, Chief Executive Officer of The Wall Street Journal, but it is one which

industry leaders must prepare for as the potential direction in which print is heading. "As he looked towards the next month's meeting, which would largely shape the direction of the future for The Wall Street Journal print and interactive, Kann wondered: Would the future mean prosperous co-existence of the two formats or a battle with but one format as the victor." (Hillman)

With the focus constantly on the future, it is important to explore what is on the horizon of print today. Many believe that interactive print such as GossRSVP, radio frequency identification (RFID), and personalized uniform resource locators (PURLs) are where the future success for printers lie. It is important to explore and research each of these three high potential areas for printers.

GossRSVP

GossRSVP, a subsidiary of Goss International Corporation, is one of the newer technologies that makes print interactive. The system, which has been launched in the United States, is geared towards advertisers of all sizes to track marketing responses and provide better marketing accountability. GossRSVP satisfies the need for real time information from a printed piece, which is currently unavailable through traditional print (About GossRSVP).

According to Lisa Cross, the author of "Cell Phone-to-Print/Web Application," GossRSVP provides its readers the ability to use camera phones to take a picture of two-dimensional barcodes within an advertisement. These scans from the pages of a magazine or newspaper will then link the user to online domains. If the user does not have the ability to, or does not choose to take a photo, they can also text-message Goss, which will then respond with coupons or promotional information. This also allows for information tracking for the advertisers and publishers who will be able to see the results of their campaigns with accurate, direct feedback on response rates. The key to all of these advantages is that GossRSVP will be involved all along the way in managing the information on their server which ensures that the printer will play a critical role in the process (Cross, 10).

Author James Hamilton explores a technology that is similar to GossRSVP in the article "Euro Snatches Mobile Ad Deal." An interactive print and poster advertising company has had great success in Japan with cell phone technology initiatives. This software company, NeoMedia, is teaming up with Euro RSCG, a global agency specializing in advertising, digital, marketing services, healthcare, public relations and corporate communications, to bring this technology that they

call ‘Quode’ to several of their accounts. Quode links a mobile phone to specific mobile Internet information via a picture of a barcode or “smart code,” small printed designs on paper that are links to web sites. The web sites NeoMedia link to will provide exclusive offers, opportunities to partake in competitions, or the ability to purchase tickets. The media by which these codes can be acquired include advertisements on posters, leaflets, packages, or in newspapers. Prior to being referenced as Quode, this software was referred to as Paperclick and had great success in Japan, where 90 percent of cell phone users have clicked on smart codes to arrive at interactive content. To enable this service, the user must download the Quode software. There is conversation now between NeoMedia and cell phone manufacturers to pre-install the software on the devices phone manufacturers produce. Chief executive of RSCG said, “Quode gives us the opportunity to make our communications live beyond the media in which they appear and facilitates a new level of consumer engagement for advertising. It represents a great opportunity for [Euro RSCG] to make our advertising work even harder for clients. Harnessing the potential of digital media is a central focus for Euro RSCG.” (Hamilton, 6)

In 2001, R.R. Donnelley & Sons, the largest commercial printer, announced a partnership with AirClic, Inc. Airclic develops technology that links barcodes to web mobile devices, and Donnelley became the designated reseller of these barcodes for the directory publishing industry. Ronald Daly, president of Donnelley’s Telecommunications unit, claims that: “The benefits of this technology and our partnership with AirClic bring us even closer to revolutionizing the way buyers and sellers communicate with each other.” (Bar-code Deal for Directories)

Jason Fell, an author for Folio Magazine, a publication covering the magazine industry, writes about the GossRSVP technology, which was released in 1991. GossRSVP was founded in order to make print interactive, as well as enhance the value of print. The technology uses mobile device texting functions as an interactive service, allowing consumers to receive promotional information. Consumers can either text or take pictures of barcodes created by the technology. Current consumers, including Questex Media, Study Breaks, and Teen Ink, claim that this interactive technology helps keep print up to date with their tech savvy consumers. A number of subscription packages are available from GossRSVP; the technology can help in marketing, form personal relationships by way of media, and respond to customer needs (Fell).

RFID

"Electronic tag identification information read by radio frequency, best known as Radio Frequency Identification (RFID), is a result of the combination of a substrate with an antenna connected to an integrated circuit empowered by a radio frequency that transmits tag information to a receiver." (Freedman) This is how RFID is described by Graphic Arts Monthly writer Henry Freedman. These RFID tags are increasingly being used in the industry to track packaging, and the cheapest way to produce RFID antennas are by printing them. By expanding their printing capabilities to include RFID antennas, RFID opens up the doors for current printing companies to expand their revenue without hiring or training new employees (Freedman).

Although printing RFID antennas is relatively similar to traditional printing, extra monitoring may be required as printable electronic inks cost up to $5,000 a gallon. A popular RFID print manufacturer, Spartanics, Inc., designs printable electronic screen printing presses around electronic ink requirements. This allows Spartanics to use their current screen printing presses to manufacture RFID tags. RFID tags are manufactured with a relatively simple process; after tags are printed, electronic components specific to customer requirements are added to it to customize RFID tags. For existing printers, the market for RFID antenna printing could be a great opportunity to expand into (Freedman).

In an article for Graphic Arts Monthly, columnist Lisa Cross states that: "The marriage of digital and conventional printing is no small task," (Cross) She is referring to the use of RFID at the United States Government Printing Office (GPO). The GPO faces the need for increasing security with documents such as passports. Current Public Printer, Bob Tapella, who heads the GPO, has submitted plans integrating e-Passport blanks with RFID chips in order to accommodate the growing demands for more security. This has evoked a positive response. "Growing demand– last year 24 million passports valued at $350 million, up from $17 million the year before– lead the GPO in March to open a second secure production facility in Stennis, Mississippi." (Cross)

According to Elise Hacking, author of the article "Breaking it Down" in Print Professional Magazine, recently noted that RFID, among ecommerce and direct mail, is showing the highest increase in sales within the graphic communication industry. Barcodes/RFID had sales figures of $126 million in 2008 compared to $8 million in 2007. Although this seems to be extreme growth,

it is thought that the distributers filled out the forms used for this survey differently from one year to the next. Considering the survey for 2008, Barcodes/RFID make up 3.61 percent of the sales within the graphic communication industry (Hacking, 20).

At the Association for Computing Machinery (ACM) International Conference Proceeding Series in Grenoble, France, Anne Blayo and Bernard Pineaux presented on the potential of RFID within various printing processes. They noted that because of conductive inks or organic polymers, it appears that printing electronic components like RFID antennas should be an inexpensive, efficient method for their creation. There is development going on for printing RFID tags, and some solutions are already in existence. With so many different printing processes, there will eventually be a mastered technique for printing all components of an RFID device. The benefits of a low cost, high efficiency RFID tag would be vast (Blayo, 27).

PURLs

In Printing News, a journal designed to evaluate the printing industry trends and news, Joseph Finora, a freelance business and marketing writer, wrote an article discussing the need for innovative marketing strategies in order to succeed in the current recession. The marketing strategy noted emphasizes retaining successful clients and using effective marketing tools to do so. Interactive services are noted as the current marketing trend that needs to be used in order to provide benefits and features specific to current customers. Print marketers need to understand new approaches in digital and social media marketing (Finora).

"Internet technologies are high in the area of interest and printers must use print technologies to enhance existing web efforts and not compete against them. Printers can also use the Web to measure the success and failures of campaigns through the use of technologies such as personalized uniform resource locators (PURLs)." (Finora) PURLs allow printers to target customers who currently hold interest and have already responded to wanting to know more information about a product. It is important to word emails in a way which will initially guide consumers to PURL sites designated for them. New online services, such as PURLs, help maintain mutual relationships with customers allowing the print industry to move forward. In the current recession, it is important to grow and preserve business technologies (Finora).

Finding the right way to build customer relationships, advertise creatively, and increase

revenue to today's highly competitive economy is tough, as noted by writer, Jeff Brooks, in Florida Trend magazine. However, a number of 21st century strategies can help businesses reach valued customers (Brooks). Companies such as Paramount Performance Marketing use Personalized URLs (PURLs) in order to personalize web sites for each customer on direct marketing mailing lists. PURLs can be used for a number of interactions, including "generating leads, updating databases, measuring response or getting customer feedback." (Brooks) PURLs are used in conjunction with direct mail, which allows companies to know what source drew customers to their personalized web site. Direct mail is a form of personalized marketing that allows the use of unique information to target specific individuals. Jon Cummins, chief executive officer of Paramount Performance Marketing, claimed a 65 percent response rate as opposed to a one percent or two percent response rate from traditional marketing (Brooks) .The cost of PURLs are not too expensive, and they help companies to use web sites, which are a growing means of advertisement (Brooks). Other forms of smart marketing in this economy include social networking sites such as Twitter, catering to customers, networking, and coupons and offers (Brooks).

According to the article, "PURL: Personalization, Security Concerns" within Printing Impressions magazine, personalized URLs (PURL) require a large amount of the recipients personal information. When there are PURL marketing campaigns it is necessary to allow the recipient to follow up outside of the PURL allowing them to choose not to type in their personal information. It is also required to have a large enough server for such marketing, because spreading out the dispersion of PURLs to the recipient will not prevent several of them from using it at the same time during peak viewing hours. If a recipient has problems seeing the page, then the marketer has lost their one chance (PURL).

Scott Dubois, the vice president of cross-media services and marketing at Reynolds DeWaIt in New Bedford, Massachusetts, also brought up a valid concern related to PURLs. Dubois is wary about the security factor, considering that people could figure out the patterns as to how the information is stored and if no security is in place they could access other people's landing page. He also stressed the importance of having the web address hidden from view when sent through the mail (PURL).

Brad Lena, Printing Industries of America (PIA), senior technical consultant, suggested only

asking for the database field headers rather than the actual data. He also reminds printers that the database management warrants a higher cost for the customer because they are used to paying a higher cost for data services than they would for print (PURL).

With regard to personalized and database marketing, less often equals more says Arthur Middleton Hughes, vice president of KnowledgeBase Marketing, Richardson, Texas. Emailing too often will lead to the receiver opting out of the communication at which point all available communication is cut off and reduces the response rate. Hughes also added that options should be limited in emails, so that the reader does not get distracted or overwhelmed (PURL).

Frank McPherson, president of Custom Data Imaging in Markham, Ontario had some advice as to how to produce variable data jobs. McPherson noted "We have product lines that are strictly done by the data department with no one from graphics or prepress getting involved. One of our data people runs the press for that work," he revealed. "We've saved 8,000 to 10,000 man hours a year doing work that way." These jobs McPherson describes are often simple in design but complex in data, so it is easiest to avoid conflict by leaving the job in the hands of one person mean while cutting back on labor costs (PURL).

Summary

In order to cater to the technological needs of consumers, The Wall Street Journal launched The Wall Street Journal Interactive in hopes of preparing for their future markets. GossRSVP, RFID, and PURL technologies were all created in an effort to move the print industry from a traditional printer to a more interactive service provider. GossRSVP offers unique tracking and advertising services to printed materials using barcode technologies that can be scanned with mobile devices. GossRSVP technology is clearly emerging in the print industry, as leading print companies such as R.R. Donnelley have began to invest in its uses. RFID antennas, considered to be printable electronics, are also emerging in the industry as profit builders for traditional printers; RFID combines the use of digital and conventional printing. PURLs allow traditional printers to provide services that bring advertisers increased control of customer leads and tracking. PURLs bring consumers of traditional print into the realm of online media which allows the linkage of print and digital resources. Cited print industry professionals have predicted that traditional print is moving into interactive print; in response to this, GossRSVP, RFID, and PURL technologies help to ease the

transition of print into the technological world for consumers.

Chapter III – Research Methods

The research methods used in this study include elite and specialized interviewing, descriptive research, and content analysis.

Elite and specialized interviewing includes detailed discussion with print professionals that will address perceptions regarding interactive print. Five interviews with professional printers were conducted. Industry professionals were engaged in a discussion through "precise, open-ended questions, but questions that were open to refinement as the research and interviews continued." The subjects included printers that have been faced with the challenge of incorporating interactive print along with several advertising agencies to determine the need for interactive print. Subjects interviewed were obtained through the Cal Poly Advisory Board and included Steve Viner, Publisher of Study Breaks magazine; Thaddeus B. Kubis, President of NAK Marketing and Communication; Ferris Ferdon, Associate Publisher/Owner of TRAVELHOST Central Coast; Ryan Casey, General Manager of University Graphic Systems; and Jason Mockford, Cal Poly Student Orientation marketing representative.

These questions were addressed during the conversations but were modified depending on the direction each conversation took:

1. To what extent have you observed interactive print in the past, including RFID, PURLs, GossRSVP, and/or others? If so, what was your experience? How does the success rate compare to the campaigns that did not use interactive print?

2. To what extent have you seen an increased interest and need for interactive print from your print buyers?

3. How much value does interactive print add to a particular job and are the buyers recognizing that value and ready to make a higher investment?

4. How do you see interactive print affecting the graphic communication industry?

5. What would be the necessary steps to implementing interactive print into a printing company? What are some of the challenges and obstacles?

6. To what extent do you see interactive print playing a role in the future of the printing industry?

In order to quantify the qualitative data gathered in the interviews, content analysis was used. Content analysis is one of the most popular methods used in communication that quantifies qualitative data that has been gathered through other research methods to draw conclusions. The information is quantified in a manner that is objective, systematic, and quantitative, while using language that is direct and simple (Levenson). Data will be categorized into a five-point scale with one being "con" and five being "pro," based on responses derived. If a response to one of the questions validates that interactive print will be extremely useful for the future of the printing industry, then a score of one was recorded for that particular question. This method was repeated for all information gathered from each interview conducted.

After the elite and specialized interviews were conducted, the information gathered was used to create relevant and pertinent surveys for print consumers in order to gain supplemental data. This allowed survey questions to be more channeled toward specific benefits that can be derived for print consumers. A survey with a sample 61 print professionals in the printing industry was conducted to generalize answers representative of the entire United States printing industry. Customers of Goss, who are some of the largest printers in the world, were sent an online survey questioning their opinion of potential benefits of interactive print derived from their experience and exposure in the industry. The subjects were primarily large print publishing companies in the graphic communication industry. An email with an online survey attached was sent out to primary contacts of print consumers. After the data was collected, answers were quantified to supplement interview responses.

Chapter IV – Results

The elite and specialized interviews were conducted of the five selected professionals: Steve Viner, Publisher of Study Breaks magazine; Thaddeus B. Kubis, President of NAK Marketing and Communication; Ferris Ferdon, Associate Publisher/Owner of TRAVELHOST Central Coast; Ryan Casey, General Manager of University Graphic Systems; and Jason Mockford, Cal Poly Student Orientation marketing representative.

Figure 1: Elite and Specialized Interview response summary

Quantified Data Questions	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Average
To what extent have you used interactive print in the past?	2	4	3	3	3	3
Is interactive print successful?	2	5	3	4	4	3.6
To what extent have you observed a need for interactive print from your consumers?	3	3	2	2	2	2.4
How much value does interactive print add to current jobs?	2	4	3	3	4	3.2
How do you see interactive print affecting the Graphic Communication industry?	5	5	3	4	4	4.2
What is the ease of implementing interactive print into your current workflow?	1	2	1	3	3	2
To what extent do you see interactive print playing a role in the future of the printing industry?	5	4	5	5	4	4.6

Figure 1 outlines the scores of each participant along with overall averages. The scores ranged from low (1) to advanced (5) levels of interactive print and they were scored accordingly.

Once information was gathered from the elite and specialized interviews, a survey was conducted to gather the industry perception of interactive print. The sample population consisted of 61 print professionals from various sized companies and various roles within the organizations. *Figure 2* through *Figure 9* provide the questions that were asked along with a visual representation of the results. The survey circulated throughout the Cal Poly Graphic Communication Advisory Board, Cal Poly Professor contacts and online networks, and several graphic communication blogs in an attempt to gather randomized subjects.

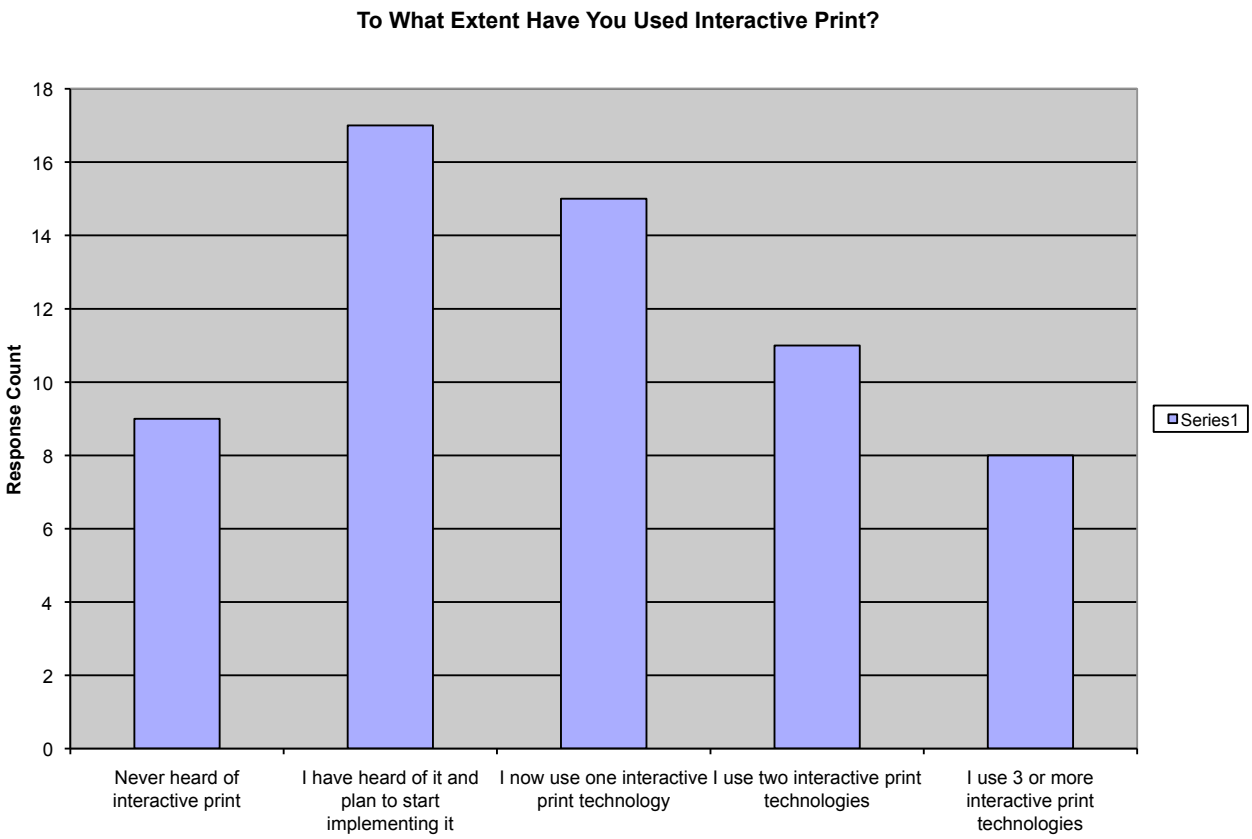

Figure 2: Survey responses to number 1

Figure 2 summarizes the use of interactive print in surveyed industry professionals with most respondents (28.3%) indicating that they have heard of interactive print and plan to start implementing it.

Figure 3: Survey responses from question number 2

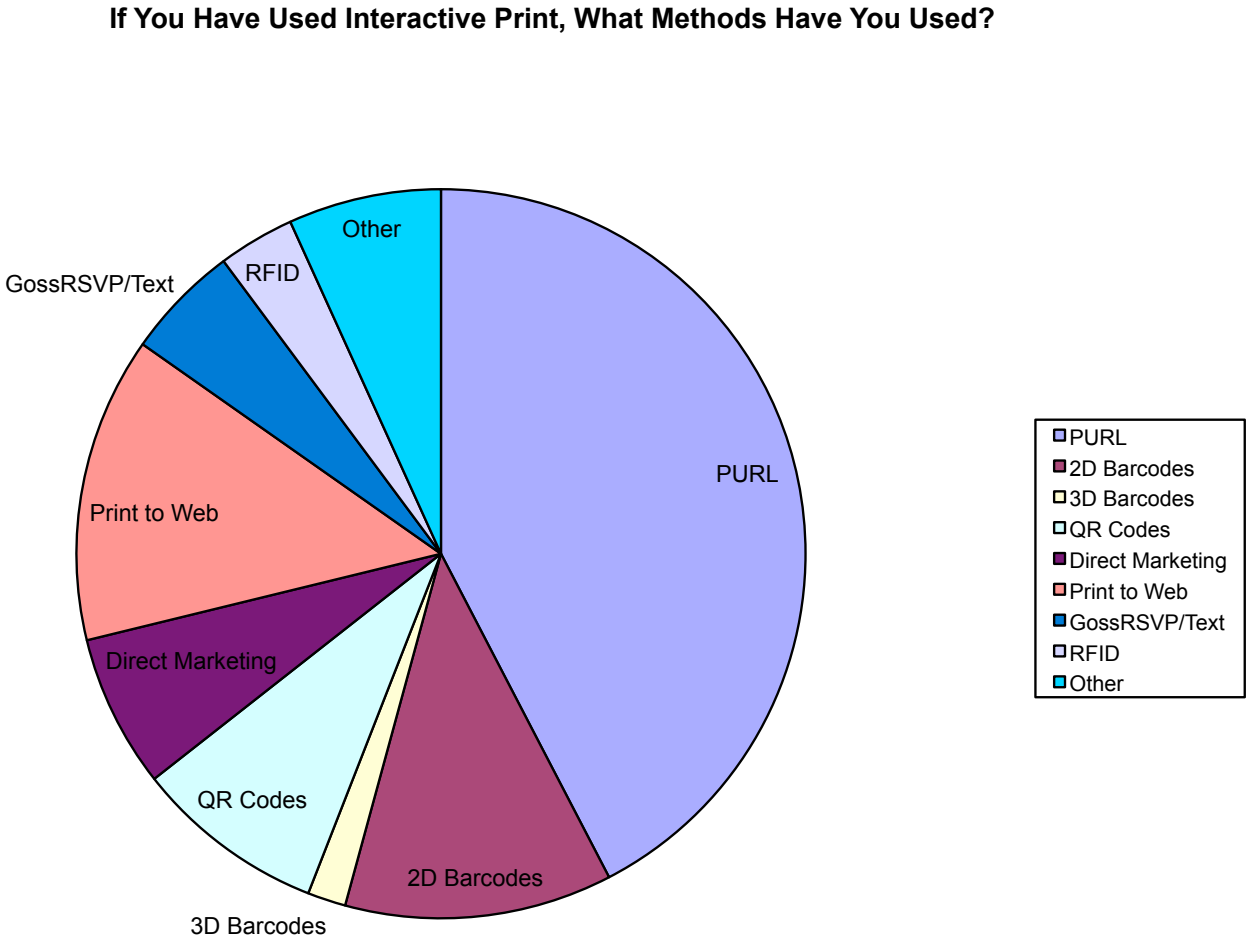

Figure 3 is a pie chart of question 3 that was posed as a comment box to gather the specific forms of interactive print that that respondent used. Above are some of the most common responses that were collected from the 41 people that participated in this question.

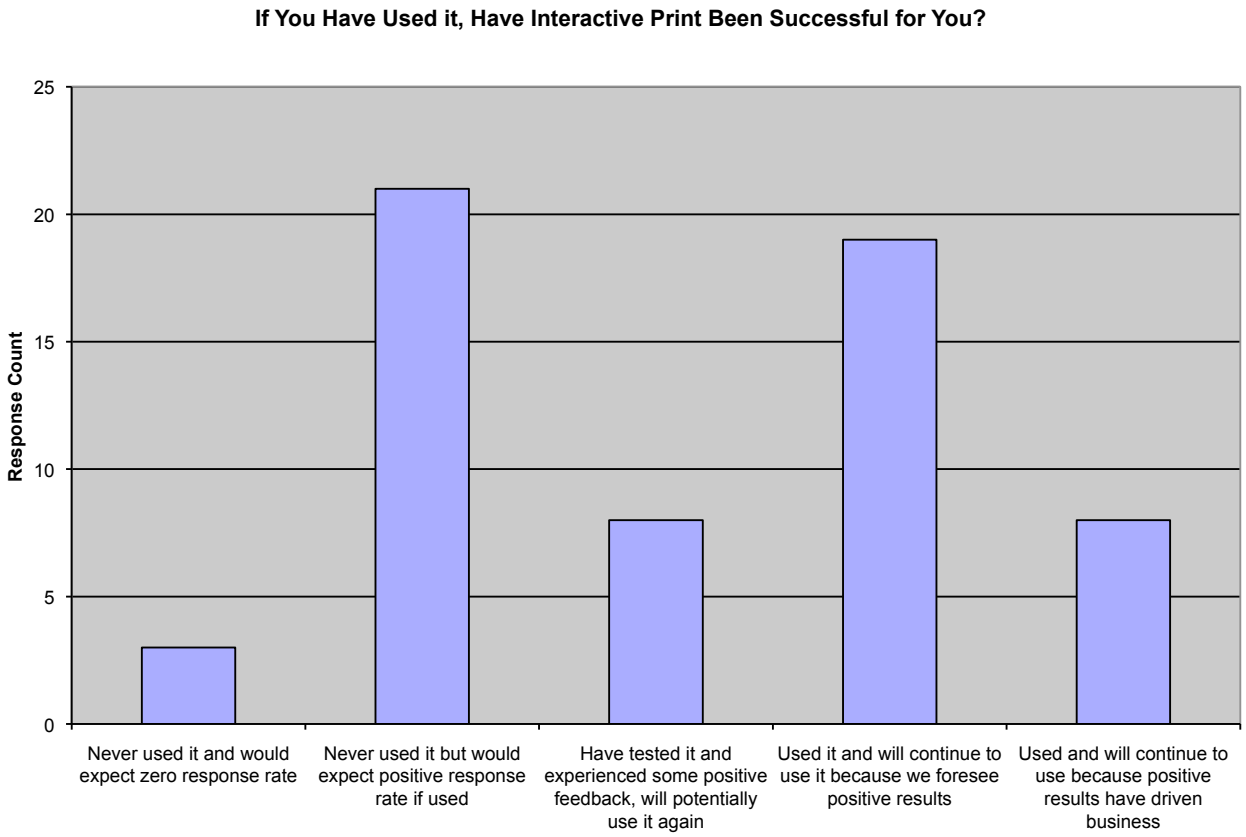

Figure 4: Survey responses to number 3

Figure 4 collected information on the success rate of interactive print. Most people had either never used interactive print but would expect a good response rate (35.6%) or they currently use it and will continue because they foresee positive results (32.2%).

Figure 5: Survey responses to number 4

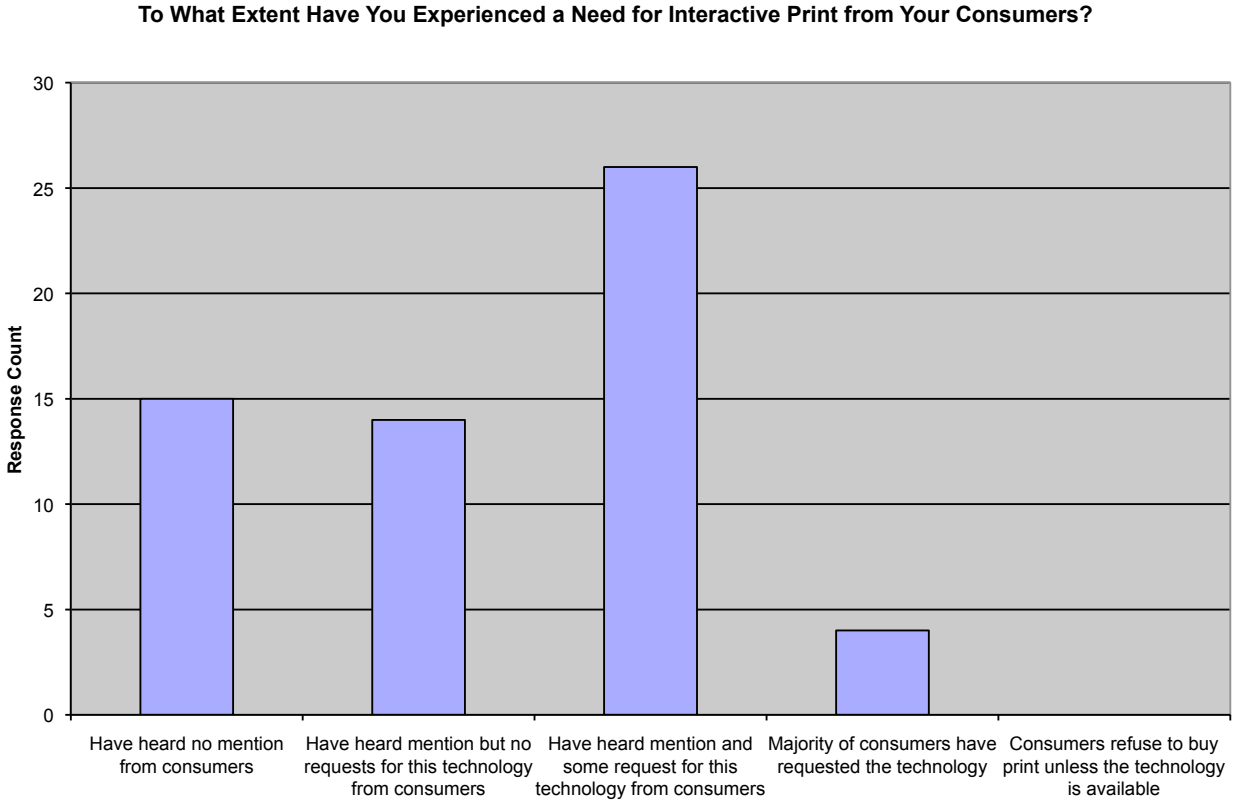

Figure 5 measured the current consumer demand for interactive print from their print providers. Forty-four percent said that they had heard mention of interactive print and some interest.

Figure 6: Survey responses to number 5

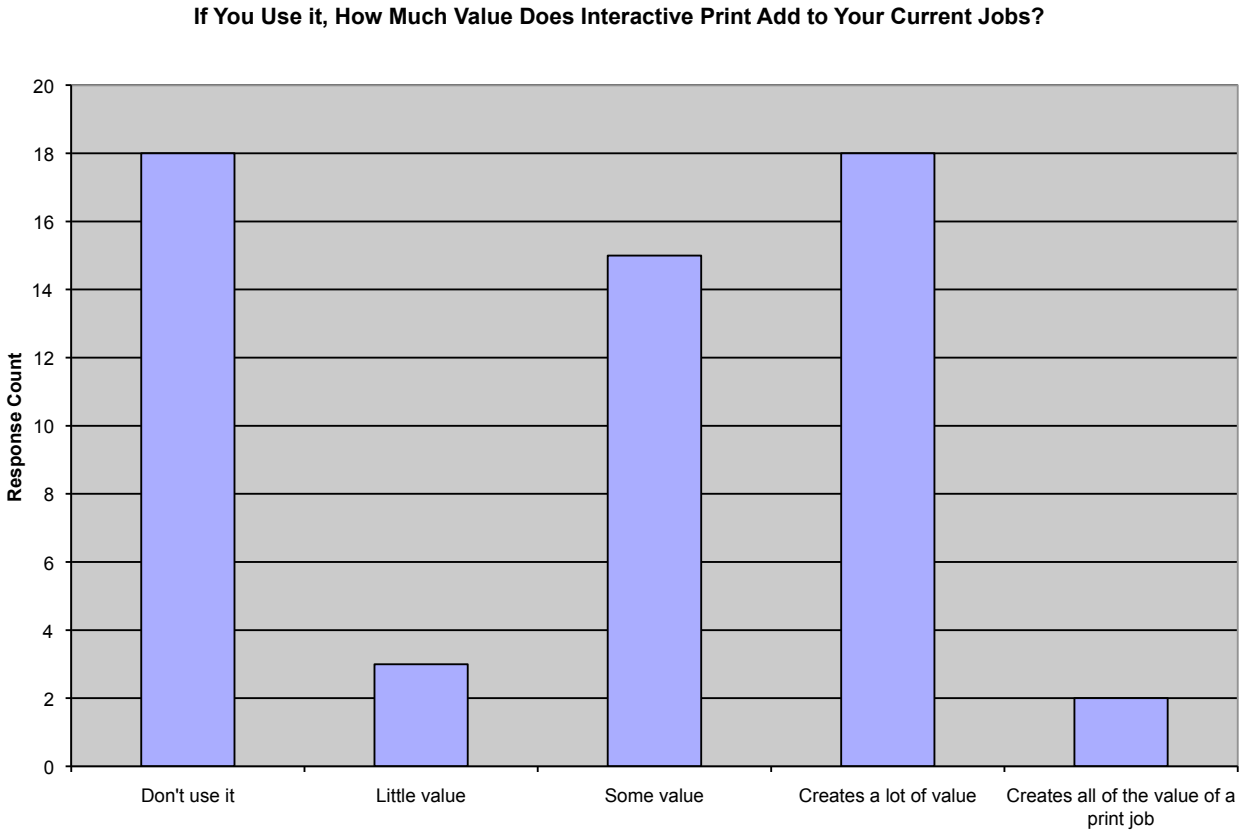

Figure 6 demonstrates the results of the question focusing on the value that interactive print adds to current jobs. Most people do not use interactive print so could not respond, but 32.1% said that it creates a lot of value.

Figure 7: Survey responses to number 6

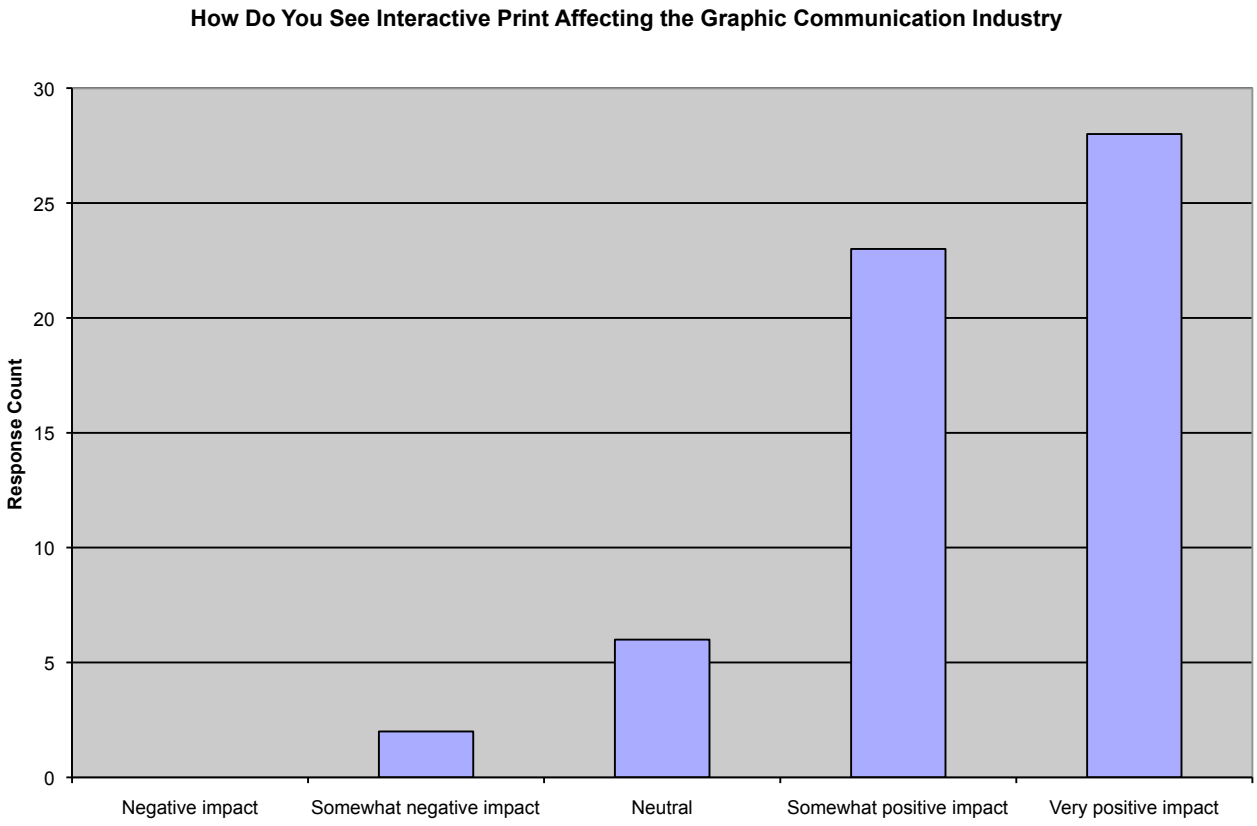

Figure 7 shows a bar chart of how the respondents felt that interactive print would effect the graphic communication industry in the future. A very positive impact was seen by 47.5% of the participants.

Figure 8: Survey responses to number 7

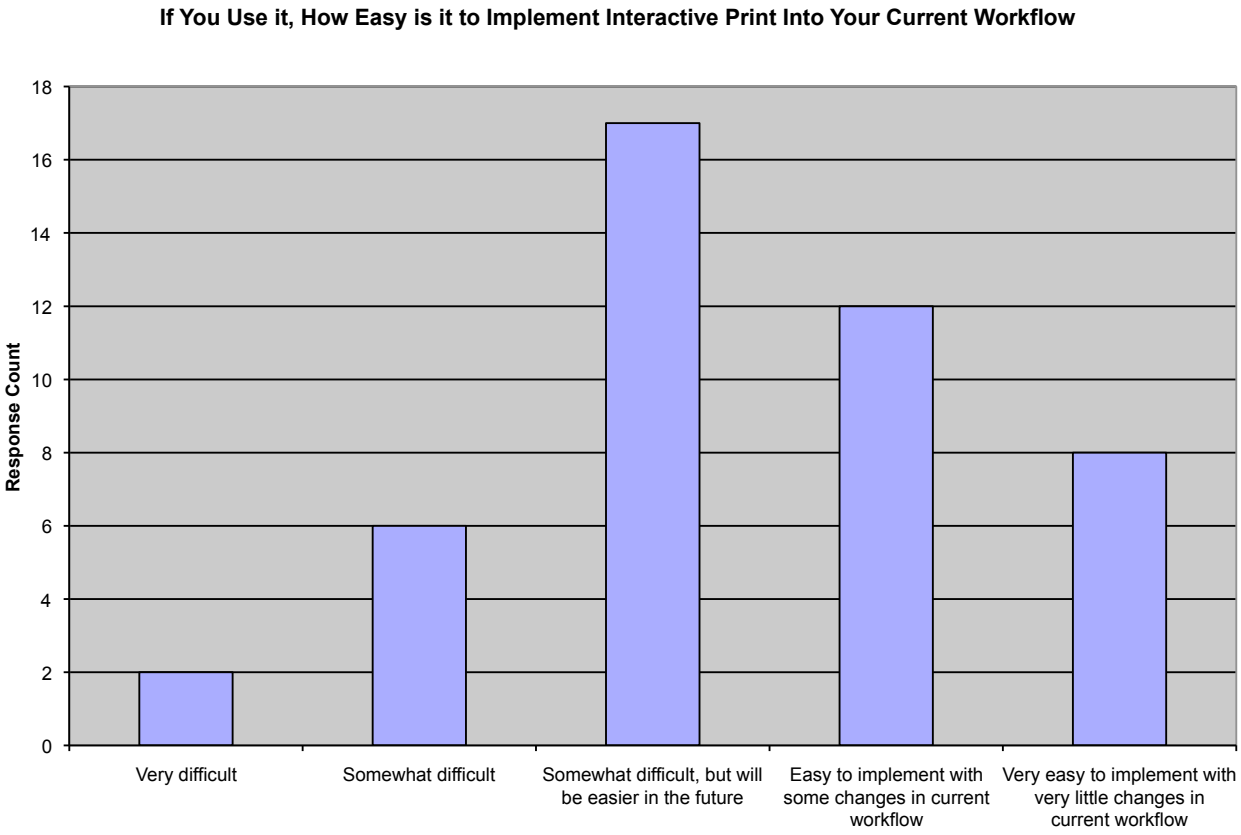

Figure 8 demonstrates the survey responses to the question regarding how easy it is to implement interactive print into a printer's current workflow. The question that received the most selecting (37.5%) was that it is somewhat difficult to implement interactive print but that it will get easier in the future.

Figure 9: Survey responses to number 8

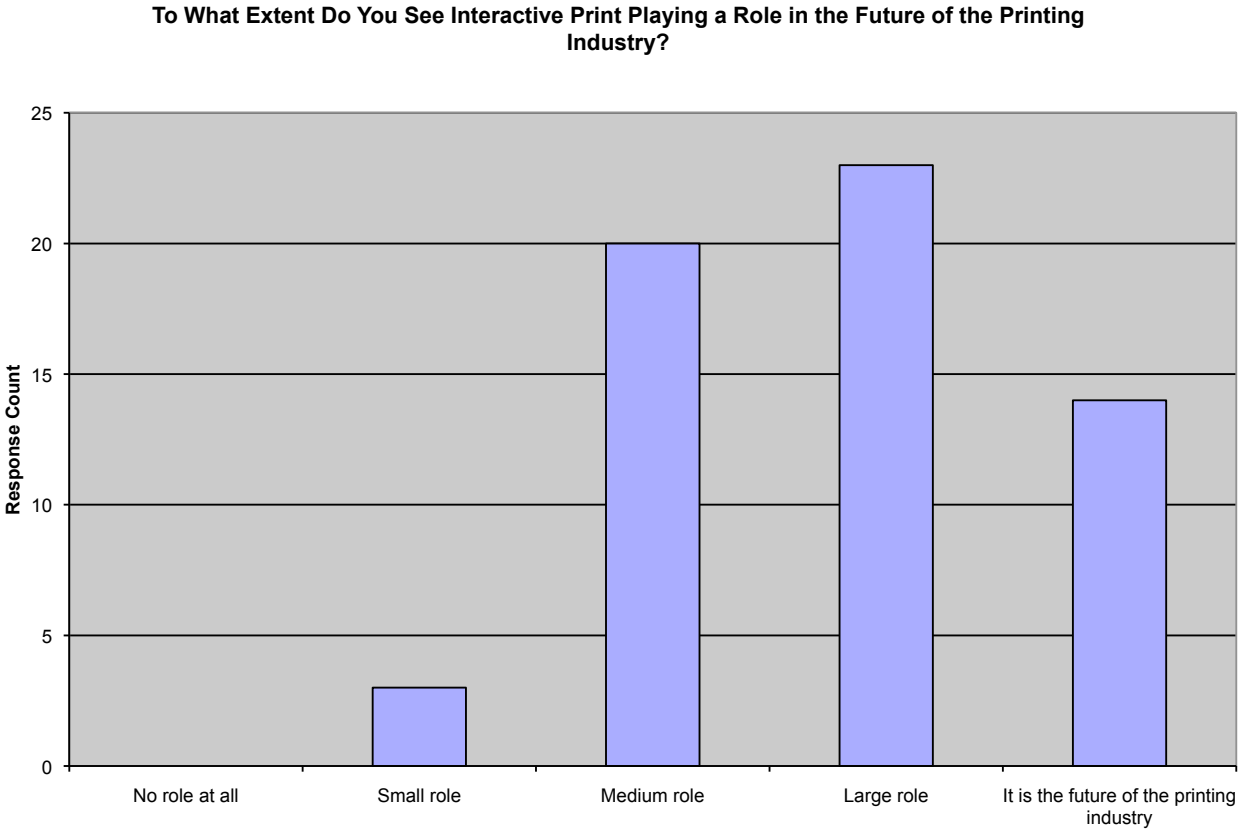

Figure 9 demonstrates print providers current perception of the role of interactive print in the future of the printing industry. Thirty-eight percent of the respondents agreed that interactive print would play a large role, with 33% responding that they see interactive print playing a medium role.

Chapter V – Conclusions

This study, similar to most research studies, is subject to response bias due to a small sample size relative to the population of the graphic communication industry, as well as a sample subset that was not directly representative of the overall industry. However, results were recorded in a relatively controlled manner. While there may be survey bias, we are confident that the information developed is a clear indication of the knowledge and direction of interactive print.

Most current uses of interactive print include print to web, as well as the use of PURLs. The graphic communication industry is still at its beginning stages of adopting interactive print and the use of related technology into its current workflows.

The current printing industry is generally unaware of what, where, and how the major trends of interactive print function. This results in a print provider audience that is unaware of overall emerging technologies. This makes it difficult for interactive print technologies to clearly reach the end-consumer and create demand. Since interactive print in the printing industry includes such a broad range of technologies, this has created a cloud of confusion regarding what interactive print is for the overall industry.

There is a current use of interactive print among larger companies, such as Quad Graphics, R.R. Donnelley, and Kodak. Emerging smaller companies are attempting to create a niche market with technology-based print solutions. This may pave the way for the rest of the industry to follow suit, as with most major trends in graphic communication.

Companies that are developing such technologies need to clearly understand the value chain of current printers, where technologies fit into their current workflow, and simplify their communication with printing companies.

Although people are currently wary of implementing new technologies, they do see it as a benefit and highly possible necessity in the future.

Bibliography

"About GossRSVP." RSVP. 2009. 01 June 2009 <http://www.gossrsvp.com/about/default.aspx>.

"Bar-code Deal for Directories." Graphic Arts Monthly. July 2001: 24-24. 7 Mar. 2009.

Blayo, Anne, and Bernard Pineaux. "Printing Processes and Their Potential for RFID Printing." ACM International Conference Proceeding Series. 121 (2005): 27-30.

Brooks, Jeff. "Sales Pitch. (Sales & Marketing)." Florida Trend. 1 Mar. 2009: 24-24.

Cross, Lisa. "Cell Phone-to-Print/Web Application." Graphic Arts Monthly. Sept. 2008: 10.

Cross, Lisa. "Change Ahead for GPO?" Graphic Arts Monthly. Jan. 2009: 4-4.

Fell, Jason. "Expanding the Print-to-Mobile Cache." Folio Magazine Http://www.foliomag.com/2009/gossrsvp-expanding-print-mobile-cacheE. 3 Mar. 2009.

Finora, Joseph. "Market Your Way Out of a Recession." Printing News. CLXII (2009): 9-9. Factiva. 26 Apr. 2009 <http://global.factiva.com.ezproxy.lib.calpoly.edu:2048/ha/default.aspx>.

Freedman, Henry. "Diversify into Printing Electronics." Graphic Arts Monthly. Dec. 2008: 23-23.

Hacking, Elise. "Breaking it Down." Print Professional. 20 Nov. 2008: 20-30.

Hamilton, James. "Euro Snatches Mobile Ad Deal." Campaign. [Teddington] 8 Dec. 2006: 6.

"PURL: Personalization, Security Concerns." Printing Impressions. [Philadelphia] Nov. 2008, Digital Digest sec.: 46.