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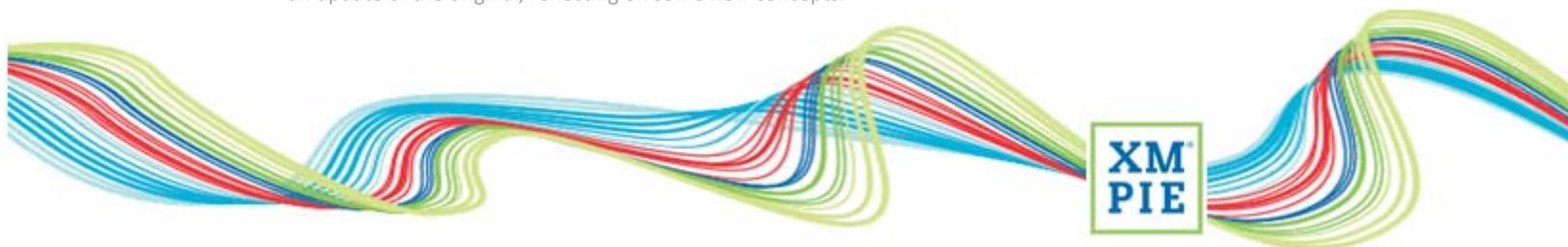
1:1 Cross-Media Communications and its Integration with 1:1 Business Workflows

Individualized Communications Management (ICM)
— A New Paradigm for 1:1 Business Workflows

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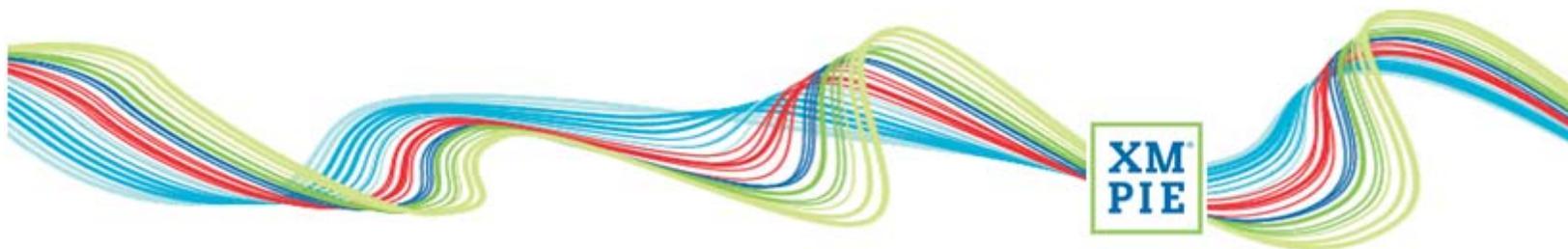


¹ Original work was named: Revolutionizing Marketing, The New Power of Cross-Media Communications. This paper is an update of the original, reflecting on some new concepts.





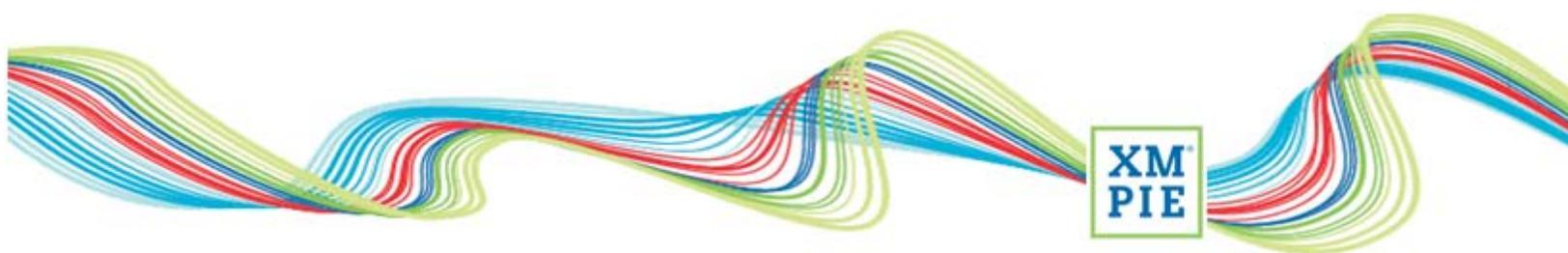
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Executive Summary

As the graphic communications industry continues to evolve from a print-centric to a communications-centric industry, many service-providers, enterprises, and graphic communications departments are looking to master 1:1 cross-media communications technologies. For the service businesses, this is a critical stepping stone for becoming providers of the non-commodity, higher-value and longer-term services that individualization in marketing and other business disciplines demand.

However, such a shift in business focus is not trivial. It is likely to involve rebranding of the business, adopting new business models, becoming an e-commerce-style 24/7 operation, and changing the sales focus from targeting print buyers to targeting marketing executives. It also involves transitioning from being a print provider to a provider of 1:1 cross-media communications solutions. Regretfully, the complexity of this transition is often ignored, leading to adopting narrow-focused, media-specific, point solutions that attract the beginners but fail to deliver the expected benefits.

The goal of this paper is to help the reader understand what 1:1 cross-media communications is all about, what are the benefits to be gained, and what kind of investments are needed in order to realize these benefits.

1:1 cross-media communications is the ability to reach the target audience (e.g., consumers) through multiple media channels, and interact with the individuals of this audience using consistent messages that are individually relevant in content, presentation, timeliness, and channel.

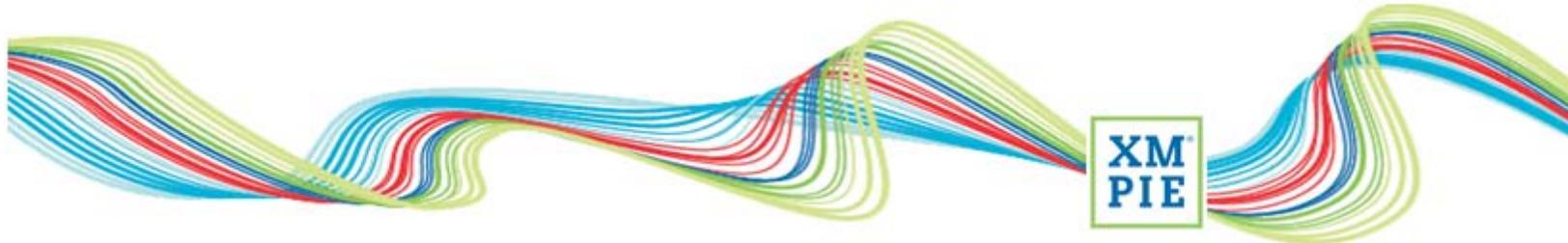
Such highly-personalized dialogues are engaging "conversations," involving both inbound and outbound communications that may use a mix of print, email, Web and mobile media as touch points. Hence, expanding the media mix beyond print must also include expanding the communication style from solely outbound to interactive, and the campaign concept from a one-time drop to a conversational interaction across time and touch points.

It's important for the reader to understand that while one can implement a cross-media strategy by carefully managing and coordinating a collection of media-specific point solutions, this will be prohibitively expensive and inefficient. This is especially true when changes in campaign strategy or content are needed (and last minute changes are always needed). As a result, people resort to either abandoning 1:1 cross-media altogether, or to using trivial personalized content (name and address are the only variables) or design (same design for print and Web), which defeats the entire purpose of creating a highly-personalized, attractive and engaging dialogue with the members of the target population. XMPie's software addresses the

Many in the industry oversimplify the task of creating 1:1 cross-media communications campaigns. This leads to point solutions that attract the beginners, yet do not deliver the expected marketing benefits.

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XMPie's software enables efficient implementations of effective, holistic, cross-media strategies.



above challenges, precisely. With XMPie, one can create campaigns that are state-of-the-art for each media channel – in design, content, interactivity, and data integrity – and, at the same time, have highly-consistent messaging and branding across all channels in the media mix. In other words, XMPie software enables **cost-effective** implementations of 1:1 cross-media communications campaigns that are **results-effective**.

In this paper, we are also presenting the idea that an integrated solution for 1:1 cross-media communications is critical but not sufficient for a successful 1:1 marketing (or business) strategy.

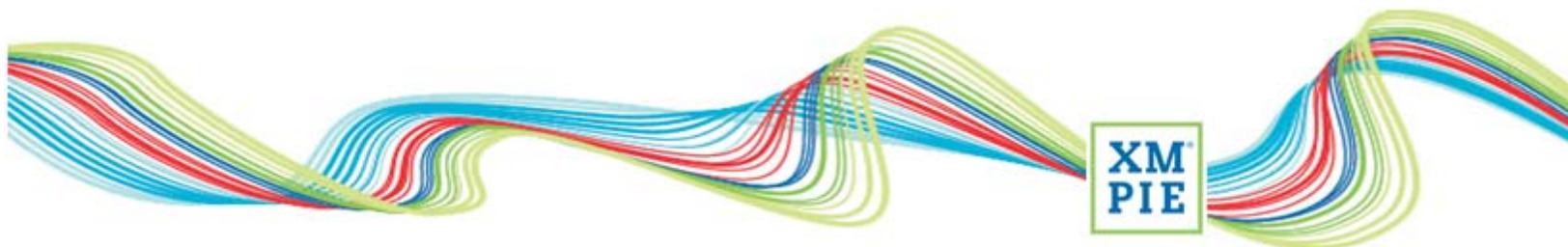
The ideal solution for 1:1 business communications should be a hub that integrates 1:1 cross-media communications with business-focused solutions from campaign planning, through event tracking, to online reporting and analytics.



Figure 1 — Marketing Hub

Such 1:1 business and media integration will enable real-time leveraging of knowledge acquired through interaction for improved relevancy and targeting of messages (see Figure 1 — Marketing Hub).

In this paper, we are introducing *Individualized Communications Management (ICM)* as the software and services category that makes creating such an ideal business and media integrated solution a practical, cost-effective reality.



Introduction

As the graphic communications industry continues to evolve from a print-centric to a communications-centric business, many service firms are looking to 1:1 cross-media communications solutions to boost both top and bottom lines, and increase the value they bring to their customers. Yet 1:1 cross-media communications campaigns can be costly to implement and can present immense project management challenges. For many service providers, assembling the new skills required to add these services can be a daunting task. Additionally, there is often confusion about what is meant by the term 1:1 cross-media and, as a result, we see simplistic campaigns that show the concept, but fail to bring the expected results.

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1:1 Cross-Media Communications – Why practice it? What’s required? How to implement?

Marketers are accustomed to leveraging a variety of media, including print, as they push their brands and messages to the market. With the advent of the Internet and the increased utilization of other digital means of communication (sometimes, collectively, referred to as *new media*), marketers have now a broad spectrum of digital communication means at their disposal — including email, Web, cellphones, and other mobile devices.

Moreover, with such a broad selection of digital communication devices, consumers choose what to see, what media to use to see it, and, of course, when to see it.

The ability to communicate individually with consumers, which is what digital printing and new media enable, combined with consumers’ expectations for relevancy, forces marketers to optimize their media spend by shifting budgets to individualized, consumer-oriented, multiple-channel communications.

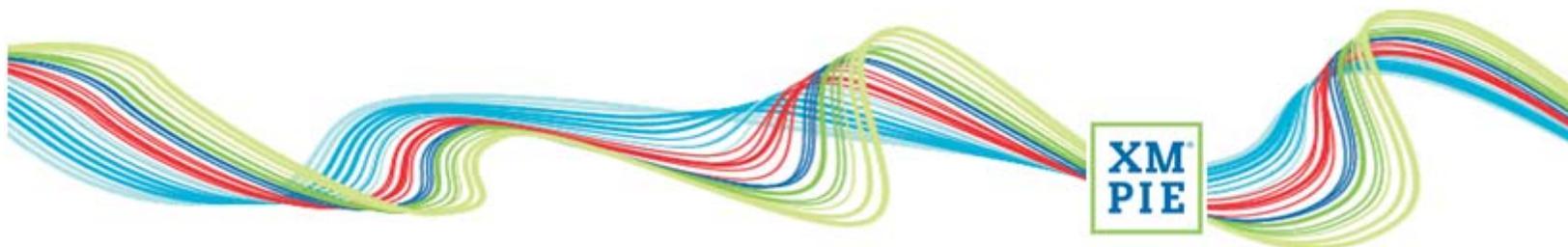
It emerges that in today’s multi-channel world, a 1:1 cross-media communications approach is essential for effective marketing. The challenge for marketers lies not in whether to adopt cross-media as a strategy, but in how to implement it cost-effectively and in a timely fashion.

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In order to understand why cost-effective implementation of 1:1 cross-media communications campaigns is a true challenge, it’s important to define what such campaigns are all about:

1:1 cross-media communications is the ability to communicate with the target audience using a mix of outbound and interactive communications, across print and digital media, with **consistent** messages that are **relevant** to the individual recipient — in content, presentation, timeliness and channel.

Two seemingly conflicting requirements emerge from the above definition. One is for message consistency across all media touch points; we call this one the *consistency across channels* requirement. The other one is that the



media experience will be relevant, which means that it should be state-of-the-art for that particular media (otherwise, the media experience may be perceived outdated, overly simplistic or archaic, which will all contribute to the experience becoming irrelevant); we call this one *channel specialization*. Let's examine how *consistency across channels* and *channel specialization* can exist in harmony, as the definition above requires.

Cross-Channel Consistency and Channel Specialization — A Challenging Requirement

A simplistic approach for satisfying the *consistency across channels* requirement is to use the same design across all media. It is certainly efficient since it involves one brief, one design, and minimal cross-channel coordination. However, is it effective? Regretfully, the answer is “no” (except possibly in special cases, such as electronic bill-presentment). People expect state-of-the-art interaction style and design per channel; they do not want, for example, to visit a Web page that looks like a printed page, or to view a printed document that looks like a Web page.

A simplistic approach for *channel specialization* is to have media-specific teams, each creating communications that are individually tailored for their channel. While certainly enabling relevancy in media experiences, the multiple team nature of this solution requires a lot of cross-team coordination, which leads to cumbersome and expensive implementations. In addition, each team uses different tools and different processes, which is excessive. And to top it all, the following campaign-wide activities must be done and repeated, separately, for each team: Brief, Business Rules (formulation and programming), and Design.

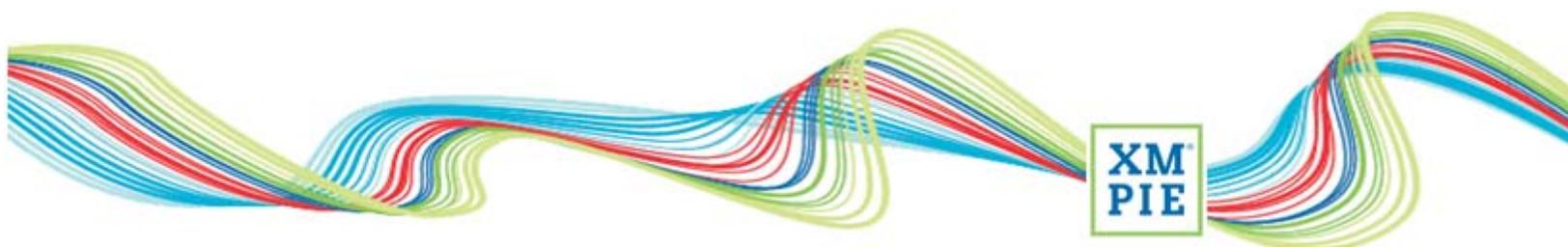
As a result of using multiple teams in order to achieve superb experience for each media, a common requirement such as changing a rule within a campaign, for example, means re-briefing, re-designing, re-programming, validating cross-media consistency, and re-deploying by each media team separately! Even changing a data or assets source becomes a redundantly repeating task, and a complex cross-team coordination effort. In addition, information gathered through interaction in one channel, such as response to a Web form, is not easily available to other channels, which leads to inconsistency due to high latency across channels.

Thus, in order for marketers and their service providers to launch cross-media campaigns that will bring the expected breakthrough results, they need a solution that will allow for *channel specialization* **and** *cross-channel consistency*. Such solutions were not available until mid-2000 when XMPie was founded.

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The Skills, Disciplines, and Workflows that are Required for Successfully Implementing 1:1 Cross-Media Communications Campaigns

1:1 cross-media communications campaigns are different in nature from print-only campaigns (static or variable). They are “24/7” and open to the world; they are interactive, not just outbound; in many cases they become integrated with other business management or information management systems of the organization.



As a result, the following become common issues to manage when launching 1:1 cross-media communications campaigns:

Online databases – use of data must be an online process where updates to the data from a user visiting a Web page, for example, are immediately available to all other channels that “play” in the campaign. No offline pre-processing should be permitted. Moreover, the data sources that interact with the campaign must be state-of-the-art commercial databases; hence, handling relational databases with multiple tables is a must. Sometimes there is a need to handle several different data sources.

Rules for determining individualized content and/or design – this is very basic; however, because of the multiple channel nature of cross-media campaigns, rules must be encoded in ways that fit the programming and design frameworks of each media channel. Naturally, it is highly desirable that rules, like data, be shared across all channels.

Design templates and their association with rules – different types of design templates for the different media channels must be managed (e.g., Adobe InDesign templates for print, and HTML templates for Web), and for each, there must be a clear definition of how they interact with dynamic content (some tagging system to mark dynamic objects where tags are associated with rules).

Composition systems – the ability to create (batch and on-demand) personalized documents (print, email, sms, Web) by merging design templates with dynamic content that has been computed from the data through application of the rules. Especially for print media, such systems must render the personalized documents into a variable data print stream in formats understood by the target print systems.

Interactivity – there must be a way to take information provided by users, in events such as landing on their personal micro-sites, and use it immediately for updating database information. It is critical that such new information be available for the rules and document composition mechanisms of every other channel in the campaign, so that any communication that follows an interaction will reflect such new information. While *interactivity* is the expected behavior within a website, it’s certainly not the norm in cross-media dialogues. Hence, it needs to be stated explicitly as an issue to manage, as we do here.

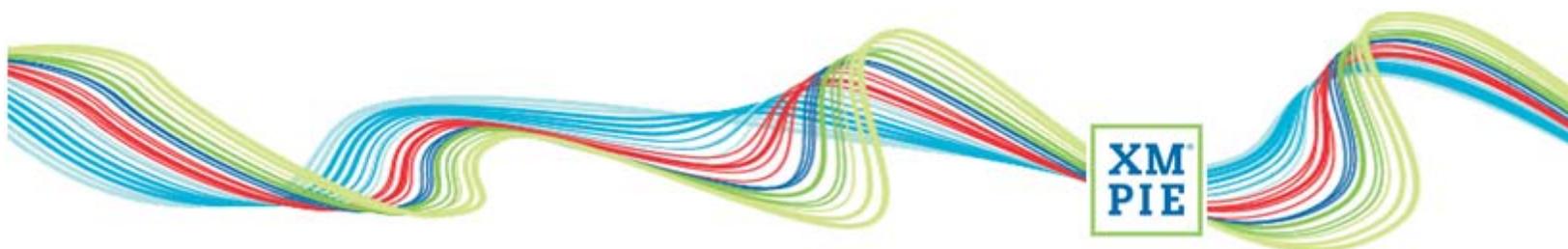
Tracking, analyzing, reporting, and refining – the live, 24/7, and fully-digital nature of Web media, demands that tracking, analyzing, and reporting will be real-time (also for cross-media campaigns).

Fault Tolerance – the 24/7 nature of such campaigns, which in many ways means “lights-out operation,” implies tight requirements on uptime. Such requirements are customary in the Web world; they can be fulfilled only by employing solutions that are accepted as commercial-grade for fault tolerance.

Bandwidth and responsiveness – the online and on-demand nature of such campaigns means that, at times, there can be very high demand for events, such as serving individualized websites upon landings. Being able to scale-up in order to manage demand picks, using commercially accepted methods of the e-commerce world, such as adding servers, load balancing them, etc., is a must.

Security – with cross-media, the guarantee of confidentiality of information becomes an online, 24/7, fully-digital proposition. It’s not enough to have strict rules inside the print shop about handling customers’ data. Now, firewalls must be defined and activated, and protection against the hackers of the cyber space must be provided. Moreover, personalized websites must be handled in secured ways that match the norms of running a cyber space business.

Multidisciplinary skills and know-how – production of a cross-media campaign will involve multiple parties with various skill sets. Professions and roles typically involved in creating cross-media campaigns are:





- **The content owners**, usually marketing professionals or agency staff who require the ability to monitor campaigns, start to finish, with tools that simplify the ability to analyze results;
- **Print specialists** who design for printed output;
- **New media specialists** who design for Web, email, SMS, and other electronic forms of output;
- **Database specialists and/or programmers** who ensure that the various databases are accurate and that they are updated to reflect campaign outcomes. These professionals also often program the business rules and define their interaction with the data sources, as well as prepare sample data to enable campaign development without tying up the live databases of the organization; and
- **Project managers** who ensure a streamlined and effective workflow in developing, implementing, managing, and tracking various media and touch points.

While not every cross-media campaign is as complex as implied by the above, the issues above always need to be addressed. In smaller teams and simpler campaigns, each individual will cover multiple issues.

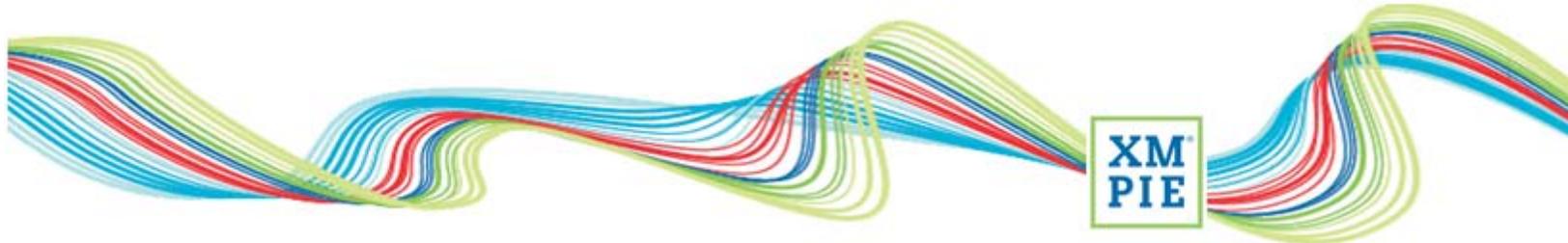
XMPie Solutions for 1:1 Cross-Media Communications

The XMPie software was designed as a set of media, logic, data, and workflow tools that are sharing a common technology foundation. Out-of-the-box, the software allows for highly-collaborative campaign development by professionals from the design, programming, and marketing disciplines (see

Figure 2 — Integrated Cross-Media Campaigns). In addition, the platform architecture of the software can be leveraged for creating custom solutions by customers, value-add resellers, or integration partners.



Figure 2 — Integrated Cross-Media Campaigns





ADOR® Technology – The Secret Sauce of the XMPie Solution

ADOR®, which stands for Automatic Dynamic Object Replacement, is the foundation technology of XMPie. Two elements of the technology — ADOR® Objects and Interactive Content Ports (ICPs) — enable the *channel specialization* and the *cross-channel consistency* properties that are so critical for successful 1:1 cross-media communications campaigns.

ADOR objects are the “contract” between the collaborating design, programming, and marketing professionals. They represent the variability in a campaign, and they can be used to bring dynamic content to a document or get information from a responder in an interactive media. They shield each discipline from the others, allowing, for example, modifying designs without bothering about the data and rules that drive ADOR values, or, as another example, changing rules without bothering how an ADOR object will be used in a document, or in what media it will be used.

ICP technology opens ADOR objects to the Web. It provides read/write access to ADOR objects via the commonly used abstractions of *database* or *Web services*. Because the development tools for the Web (and new media) natively support such abstractions, the ICP technology enables the new media world to work with ADOR objects without any change in tools or workflow. This simple yet breakthrough innovation allows the new media creative professionals to continue using the tools and workflows that they are accustomed to and, as a result, enables creating state-of-the-art personalized Web (and other new media) interactions, while automatically (!) maintaining consistency across channels.

In essence, ADOR objects and ICP are the enablers of 1:1 cross-media communications campaigns that are state-of-the-art media-wise **and** highly consistent across media channels, which is a key success factor for such campaigns.

ADOR®s and ICPs in Action

Consider the following example of a cross-media campaign that uses both ADORs and ICPs.

(ADOR object names are *italicized*; sample values are between quotes.)

A mobile telephony provider wants to encourage customers to upgrade to 3G mobile devices and services. The business rationale is to increase revenues by (a) device upgrade, (b) increased airtime, (c) increased data consumption, and (d) subscription to premium services.

The method is to approach existing customers with an attractive offer to upgrade to 3G. The expectation is that with relevant information and an attractive offer, many will respond and upgrade.

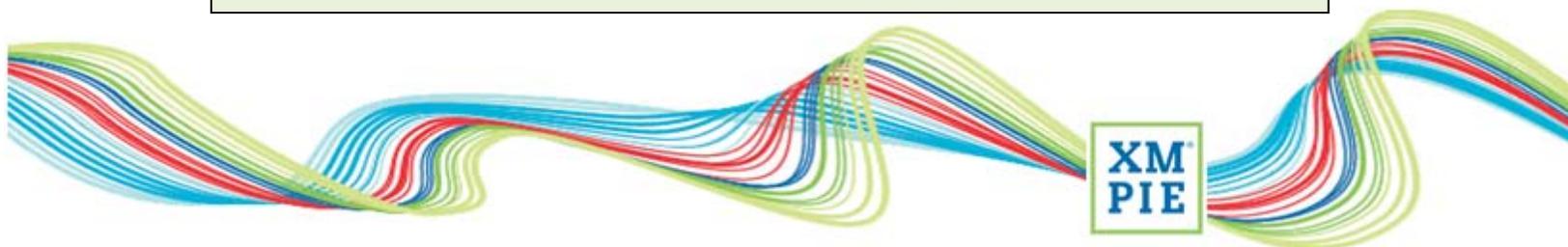
For relevancy, the *offer* will depend on the customer’s *current plan* (“Basic,” etc.), *average monthly bill* (\$ value), *usage style* (“Personal,” “Business,” etc.), and the *current device* (name) the customer is using.

For engaging the prospect in a dialogue, they choose to start with a postcard that will be creatively appealing and relevant, and will include a *personal URL* directing the recipient to visit a personalized landing site. The landing site will present visiting prospects with a customized image of their current device, their offer, and will ask them to interactively update their usage style. The landing site will be using ICP, hence showing and updating the exact same ADOR objects that the print media is using.

Once a visiting prospect updates usage style, the offer will be revised in real time, and the prospect will be given the opportunity to respond to the more relevant modified offer.

When the prospect decides to accept the offer, the following will occur:

- A “thank you” SMS will be sent in real-time to the prospect’s mobile phone number, including confirmation of the offer selected and the usage credit.
- A “thank you” postcard, with all relevant information, will be mailed to the prospect’s address.
- Internal systems of the mobile provider will be updated so that the offer can be fulfilled.



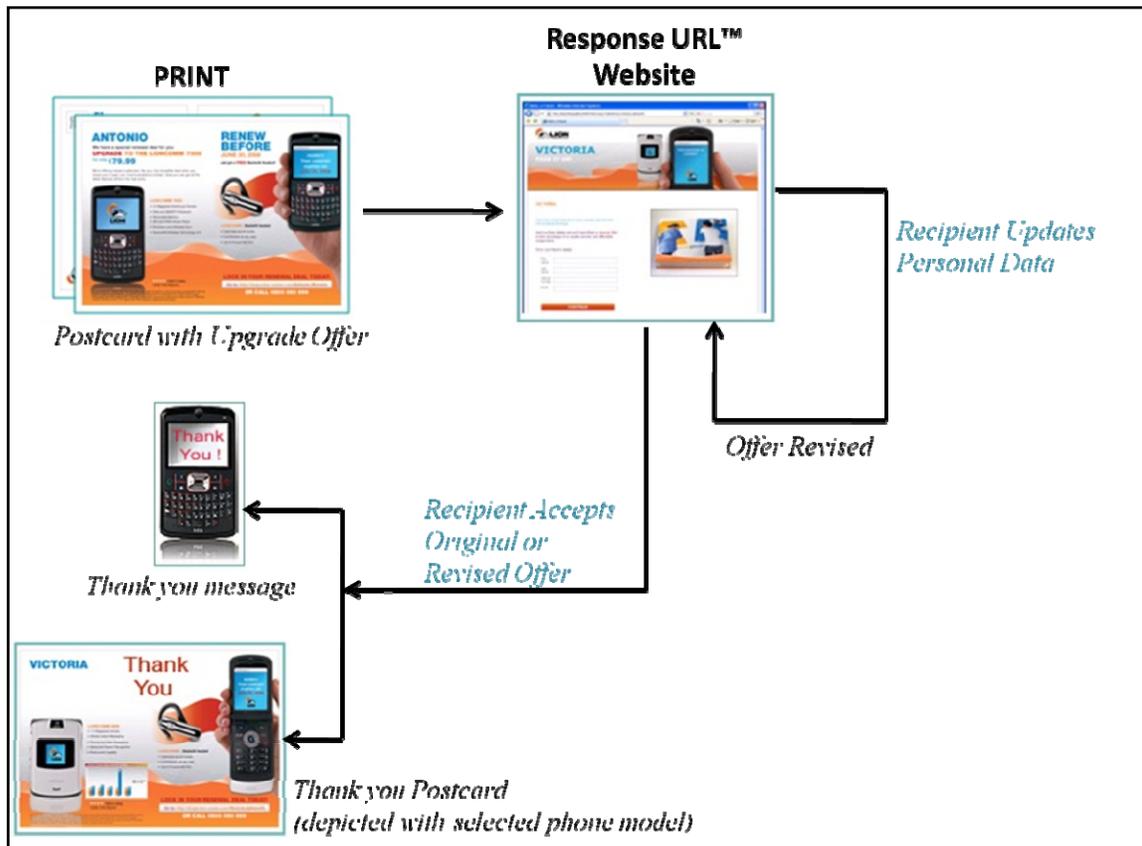


Figure 3 — ADORs and ICPs in Action Example

Individualized Communications Management (ICM) — The Next Frontier

Upon examining many 1:1 cross-media communications campaigns, one realizes that, in fact, they are all coherent personalized dialogues that transcend time and media, and are reaching the right customer, with relevant information, to create results. As we discussed above, the ability to augment such campaigns with business disciplines — such as events tracking, analytics, reporting, and ability for online modification of data, logic, or design — is of high value to the business executive.

This realization ignited the invention of *Individualized Communications Management (ICM)*, which we define as the category of software (or services) that enables integrating business and media disciplines into one framework of managing 1:1 relationships. While such integrated solutions exist for email communications, there are none for cross-media communications. ICM enables exactly this. It knocks down the media/media and the business/media barriers, and it streamlines the transition from business intelligence to communications relevancy and vice versa.



The Analytics View of ICM

Because most 1:1 cross-media communications campaigns are dialogues, the ability to track campaign performance, analyze results, and make real-time decisions, such as changing the message, refining the audience, or changing the media, is critical for their success. This “track, analyze, refine” capability must be media independent, reflecting on the holistic view of the cross-media campaign, and it must be timely and consistent across all channels, otherwise there will be no dialogue. Ideally, the performance measurements that should be available to the business manager must be broad in nature — from the common and simple measure of “how many responded?,” to a bit more sophisticated measure of “what’s the split among responders between those that received ‘Offer A’ and those that received ‘Offer B?’,” and to a more sophisticated measure such as “of those responders that received ‘Offer A,’ what is the split according to, say, the phone model that they currently own?” Such idea measurements are sometimes difficult to provide, especially in a timely fashion since they require integrating information from various sources.

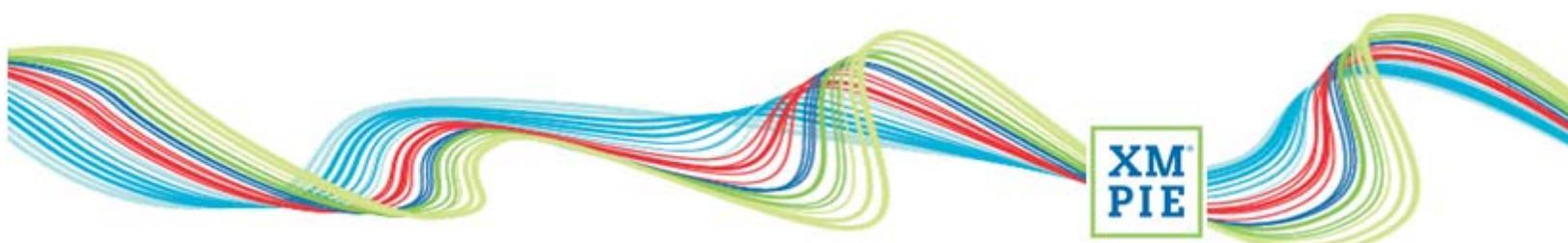
XMPie Analytics

XMPie, through its PersonalEffect® suite of solutions, provides “track, analyze, refine” capabilities that are timely, comprehensive, and consistent. Unique to the XMPie solution is its leveraging of its ADOR technology for tracking and reporting. Upon recording events, as part of tracking, the XMPie software adds to the tracked event the ADOR values associated with the recipient in whose context the event happened. For example, together with recording an event of landing on a personalized landing site, the tracking data will also include the phone model currently owned by the landing customer and the offer that was given to them.

The analytics power of such an integrated view of campaign history is unprecedented. In a single report, one can view all relevant information. There is no need for extra IT projects that will cross-check standard event information with CRM data or other sources of data in order to provide marketing with meaningful analysis. In fact, in many cases, the complexities (and costs) involved with such IT projects lead marketing professionals to use only very trivial analysis, ignoring the high-value knowledge that is there in the data, but not readily available. This leads to less than optimal results, at best. Moreover, such an IT-process, even if done in a timely fashion, will most likely introduce redundancy in business rules programming. This is because the software must mimic the rules of the campaign (for example, *offer* might be a calculated value — based on *current phone model* and *overall usage history* — and not a field in the database). Having such rules encoded twice — one time in the campaign software and one time in the analytics software — may become a source of inconsistencies between reality and analytics and, even worse, wrong choices for follow-up steps and, eventually, poor results.



Offering tracking data that transcends media and includes the campaign’s variable data, as provided by the XMPie software, opens a whole new world of possibilities. Hence, the XMPie software offers a breakthrough solution that will elevate one-to-one marketing to new heights and bring new levels of marketing effectiveness. This elegant, out-of-the-box solution can grow with the needs of the marketer, and can be tightly integrated with a wide range of enterprise-wide solutions, delivering the first end-to-end, enterprise-level, integrated cross-media marketing solution available in the marketplace.



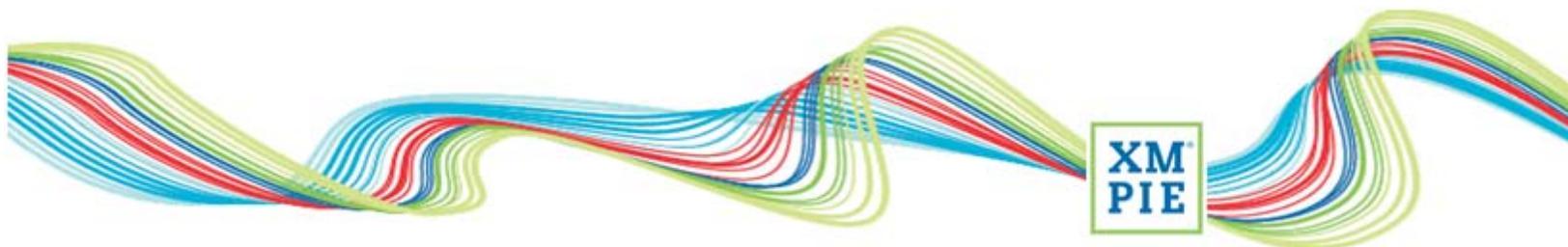
Summary

There is no question that cross-media is the wave of the future for marketing communications. Many variable data applications were designed for print first and will face difficulties in translating effectively to non-print media. A true cross-media marketing solution will allow users to take advantage of the power of each individual media-channel, and will not force them to reduce the quality of their campaigns to the lowest common denominator of these channels.

An effective cross-media solution, as outlined in this white paper, will:

- Enable channel specialization together with cross-channel consistency;
- Enable cost-effective and timely implementations for first deployment and for further refinements;
- Make the print and new media channels as current and relevant as possible, providing for interactivity and outbound communications that are immediately and always reflective of each other, and creating relationships and two-way dialogues rather than a series of outbound messages;
- Leverage state-of-the-art, industry-standard tools for creative professionals, programmers, and database professionals. Without that, the creative professionals will not participate and the resulting communications will not meet recipients' expectations for media experiences;
- Be a platform that, through APIs and other means, enables integration of the solution to the specific workflows or systems of the various stakeholders;
- Enable deploying solutions that adhere to IT requirements of security, scalability, and resiliency; and
- Allow marketers to monitor and track campaigns, manage responses, perform analytics, and refine campaigns from moment to moment and wave to wave, instantaneously, and from a single, intuitive interface.

ICM is the software category that enables integrating 1:1 Business Relationship strategies with 1:1 Cross-Media Communications Technologies. Such integrated framework of Business and Media opens new horizons for individualization in business. The XMPie suite is a leading ICM solution. For more information, visit www.XMPie.com.



About the Authors

Jacob Aizikowitz is a founder of XMPie, and has led the company as its CEO, and in other roles since its inception in July 2000, to becoming the leader in software solutions for variable data publishing and its acquisition by Xerox Corporation in November 2006.

Prior to XMPie, Jacob was Senior Corporate Director, Systems Technologies at Scitex, where he headed R&D projects that resulted in highly-innovative digital printing products. Prior to joining Scitex, Jacob was with IBM Haifa Research Lab, launching its Application, Solutions, and Services group. Jacob was part of the founding team of Electronics For Imaging (NASDAQ: EFII), where he served initially as Director, R&D, and later as VP, Engineering. He holds a Ph.D. in Computer Science from Cornell University. Dr. Aizikowitz can be reached via email at jacob.aizikowitz@xmpie.com.

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