Intelligent Analytics +
Agile Customer Journeys

Connecting the Insights
You Need With
the Experience
Your Customers Demand

KORCOMPTENZ
● ENGAGE ● ENABLE ● ACCELERATE

Customer Experience is King

The official Era of Customer Experience began in 1998 when *Harvard Business Review* published their seminal article, "Welcome to the Experience Economy." The overall thesis was straightforward: As price and differentiation increase, organizations move from providing basic commodities to staging customer experiences.

In one sense, this wasn't a novel concept. From Mercedes-Benz to Ritz Carlton, consumers have always paid a premium for a high-end brand, and those brands have always prided themselves on delivering a superior experience. What was new, however, was how this would affect almost every sector of the economy, from buying a computer to a cup of coffee. In 2014, *Harvard Business Review* returned to the topic to quantify the impact of the experience on consumer spending, and determined that the higher the perception of the experience, the more a customer was willing to spend, up to 2.4 times as much.
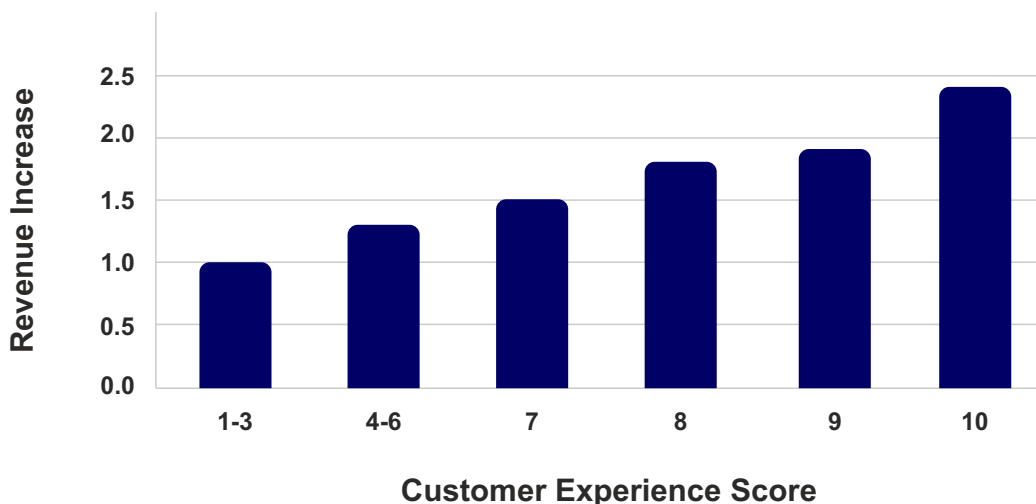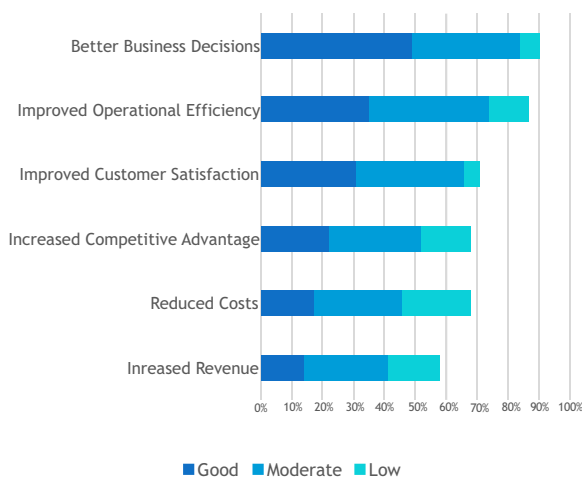
Technology Turns to the Experience

The sharp focus on customer experience has given rise, in part, to two related but distinct technology trends: Business Intelligence and Marketing Automation, as well as a new term of art to describe an organization's ongoing relationship with their individual consumers, the Customer Journey. Together, the two technologies empower Customer Journeys with the goal of improving the overall experience.

The primary imperative is to enhance every interaction with the customer, providing the right content at the right time, personalizing the messaging based on the unique profile of the individual, and streamlining every event from sales to customer service. A secondary goal is to generate more data about the customer, increasing an organization's understanding of their purchasing patterns, wants, and needs.
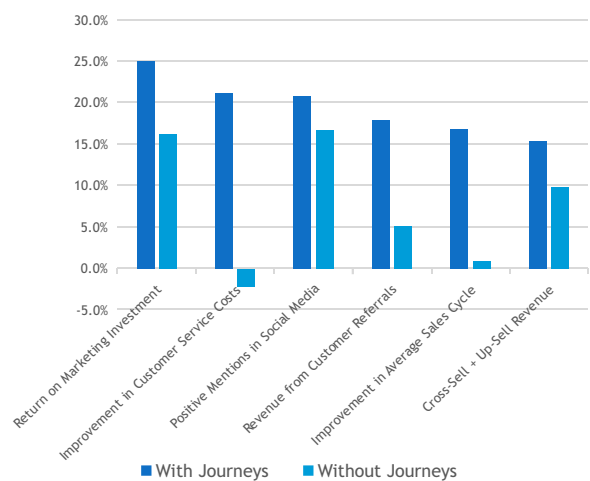
Business Intelligence

Better Business Decisions	
Improved Operational Efficiency	
Improved Customer Satisfaction	
Increased Competitive Advantage	
Reduced Costs	
Inreased Revenue	

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Good ■ Moderate ■ Low

Source: BI-Surveys.com

Customer Journeys

30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%

Return on Marketing Investment
Improvement in Customer Service Costs
Positive Mentions in Social Media
Revenue from Customer Referrals
Improvement in Average Sales Cycle
Cross-Sell + Up-Sell Revenue

■ With Journeys ■ Without Journeys

Source: Aberdeen Group, September 2016

In this fashion, Business Intelligence and Marketing Automation create a virtuous feedback loop where data output from Business Intelligence is used to inform the Customer Journey, then data from the Customer Journey is input back into Business Intelligence, increasing accuracy and improving results over time.

Basic Definitions for Our Purposes

Business Intelligence and Marketing Automation are both large and diverse technology markets, with hundreds—if not thousands—of platforms and providers. For the purposes of this whitepaper, we will be focusing on key areas connected to the customer experience and the overall Customer Journey.

A Simplified Customer Journey in Four Steps

Marketing Campaign → **Targeted Website** → **Sign Up** → **Automated Follow Up**

BI + The Customer Experience

Analyze Your Existing Data To Model Future Results

- **Revenue + Profitability**
- **Repeat Business**
- **Paths They Travel**
- **Marketing That Works**
- **What They're Worth**
- **How They Find You**

What you Need to get Started

Although the number of platforms, providers, and options is large, the minimum requirements are easily obtainable for most organizations, and some leading software packages are even open source with free-versions available. Regardless of what you choose, there are two platforms involved in addition to your website Content Management System:

Business Intelligence Application: The primary platform for performing your calculations and visualizing your data; some systems require a separate database, others include the database and visualizations in a single package. Your specific needs will vary considerably based on the amount of data you are including in your reports. You might also need a server if you are not using a cloud-based solution.

Marketing Automation Platform: The software that will capture information from your visitors and deliver follow up campaigns via email, text, app notifications, etc. In some cases, these features can be included in your website CMS. Reporting and activity tracking is usually included as well.

After you've selected your software, you will also need data on your transactions, website traffic, search engine and other marketing spend. Of course, there are additional data sources that can be added later; the goal here is to get you started with critical insights first and demonstrate success. In terms of skills, you'll need someone with marketing strategy expertise, a web developer, and a data analyst. These resources can be in-house or you can use an external partner like KORCOMPTENZ (trust us, we'd be happy to help).

What's the Plan?

We'll dive into the more technical and precise language of Business Intelligence and Marketing Automation in a moment, but before we do, it will be helpful to identify our objectives in plain terms. What are we trying to achieve with our first round of reports and enhancements? Most organizations are inclined to focus on the customer, and answer a few critical questions to drive more consistent and predictable growth.

What is an individual customer worth?

Which customers are the most valuable?

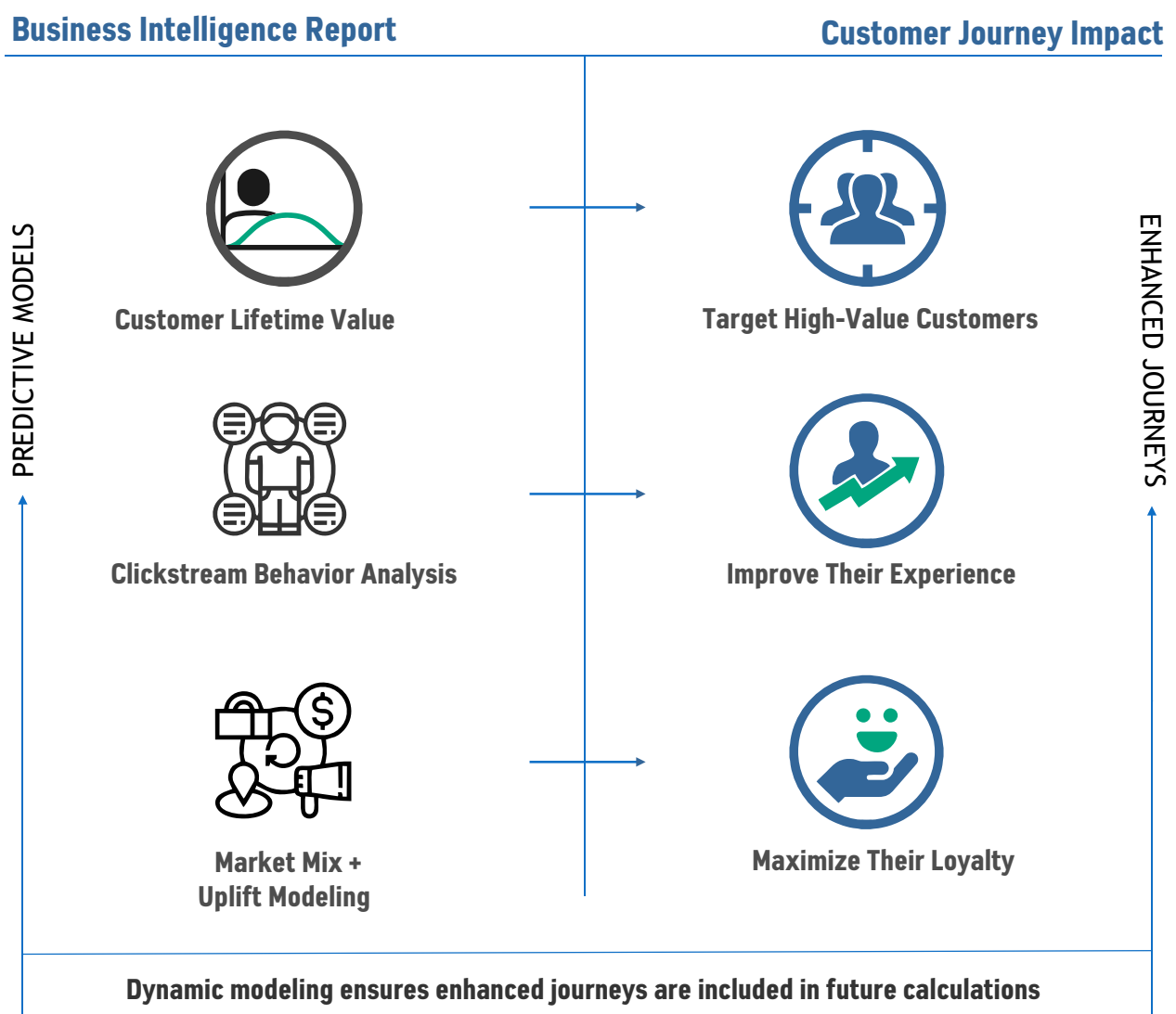Can we predict the revenue for each new customer?

How do we target them more consistently?

Are there opportunities to ensure they remain loyal?

A Unified Approach to Business Intelligence + Customer Journeys

Now, it's time to get a little more technical as we translate our key questions into actionable initiatives. The overall plan is to integrate 3 key Business Intelligence programs and Customer Journeys. First, we're calculating the life time value of a customer (CLTV) by segment and channel to better target higher value customers. Second, we're going to perform a Clickstream Analysis to model behavior as users interact with your website, including a framework to predict their next likely action, and improve the customer experience. Third, we'll measure how target audiences are responding to your marketing and develop a model of which customers are most likely to purchase.

Business Intelligence Report   Customer Journey Impact

PREDICTIVE MODELS   ENHANCED JOURNEYS

Customer Lifetime Value   →   **Target High-Value Customers**

Clickstream Behavior Analysis   →   **Improve Their Experience**

**Market Mix +
Uplift Modeling**   →   **Maximize Their Loyalty**

Dynamic modeling ensures enhanced journeys are included in future calculations

The CLTV Foundation

It shouldn't come as a surprise that Customer Lifetime Value is the foundation of your Business Intelligence and Marketing Automation initiatives. If you don't have a solid understanding of what your customers are worth, it will be difficult to determine who to target and the output of your marketing plans will remain unclear.

There are two stages to this process. First, an analysis of your transactional data that looks at three important data points:

Recency	How recently a customer has purchased
Frequency	How frequently a customer makes a purchase
Monetary	The value of those purchases

This data is used to group customers into segments—for example, a retail organization that sells both B2B and B2C—and channels—for example, the same organization that sells through their own website and Amazon. It's important to note that these segments are not the same as your marketing personas or targets. They're mathematical constructs driven by the data and the results may be surprising.

After the segments are finalized, the data is processed by an algorithm and the CLTV is calculated. The output represents the revenue and profit you can expect to realize for onboarding a new customer in each segment.

120 Days Average Purchase Days

2.76 /5 Average RFM Score

244.89 USD Average CLTV

RFM Segmentation

CLTV Segmentation

Top Customers by CLTV

Immediate Outputs

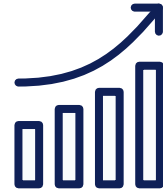The calculation of your CLTV value can be used immediately in (at least) four ways:

Adjust marketing campaigns and spends to focus on high-value segments

Improve relevant website content and include a conversion form to increase engagement

Implement a simple retention campaign and automated email series for high-value customers

Include CLTV data in your forecasts and marketing projections to compare changes over time

In addition, after a few iterations and refinements, the CLTV should become an increasingly valuable budgeting and forecasting tool.

Long Term Benefits

Focus on overall customer health

Control customer acquisition costs

Framework for targeting customers

Foundation for customer loyalty

Navigating the Click Streams

INDUSTRY DEFINITION

A predictive model of the various routes customers take, from discovering your website to making a purchase, allowing you to optimize the existing journey and implement new touch points on high-value chains

The next critical business insight is to develop a predictive model for how customers navigate your website, from arrival to purchase. This process, known as Clickstream Analysis, will enable you to determine the effectiveness of your current content and flow, and ultimately to develop a framework to predict where visitors are likely to go next as they navigate your online properties.

Pareto Chart for Site visits
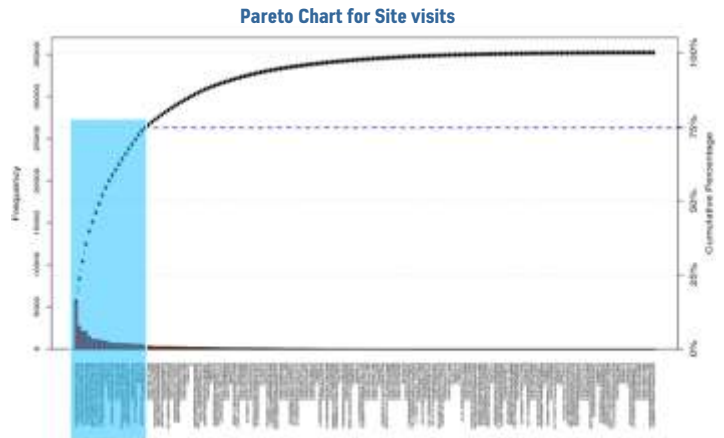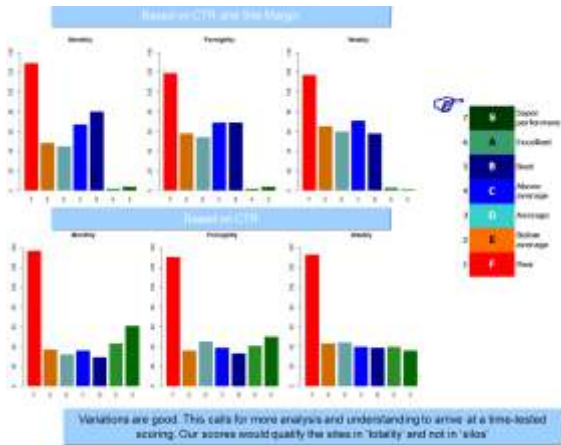
The primary model for Clickstream Analysis is the Markov Chain. Markov Chains are not specific to Business Intelligence, they can be used to visually represent any sequence of possible events where the probability of each event depends only on the state attained in the previous event. For our purposes, a Markov Chain used for Clickstream Analysis consolidates your web analytics and any supporting data into a framework that allows you to predict the next likely action for any page on your website.

ANALYSIS

▶ Web analytics and supporting data

OUTPUT

▶ Markov chain with probabilities for each step

▶ Heatmap visualization of transition probabilities

▶ Cluster visualization of segments and similar communities

WHAT TO DO ON A RAINY DAY?
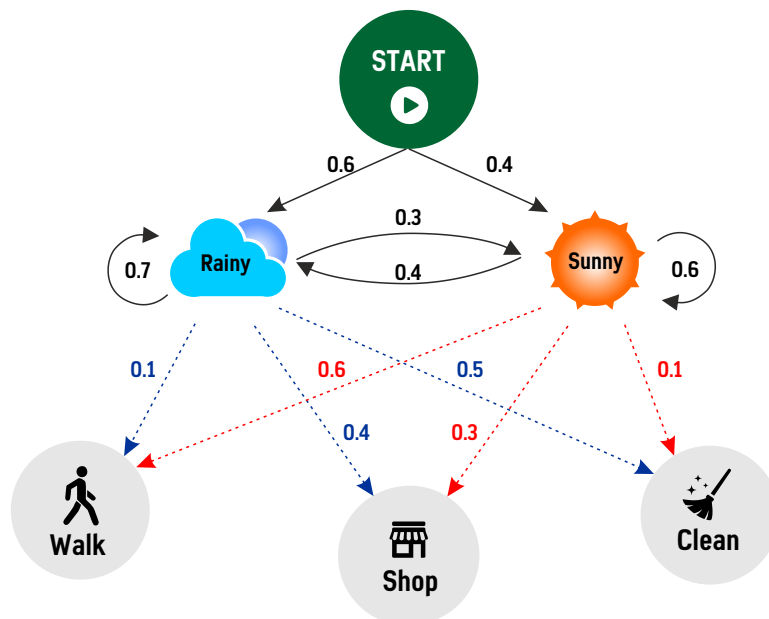
A Markov Chain is the visual representation of a sequence of possible events in which the probability of each event depends only on the state attained in the previous event

Clickstream Analysis can also be represented in other visualizations, including but not limited to:
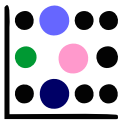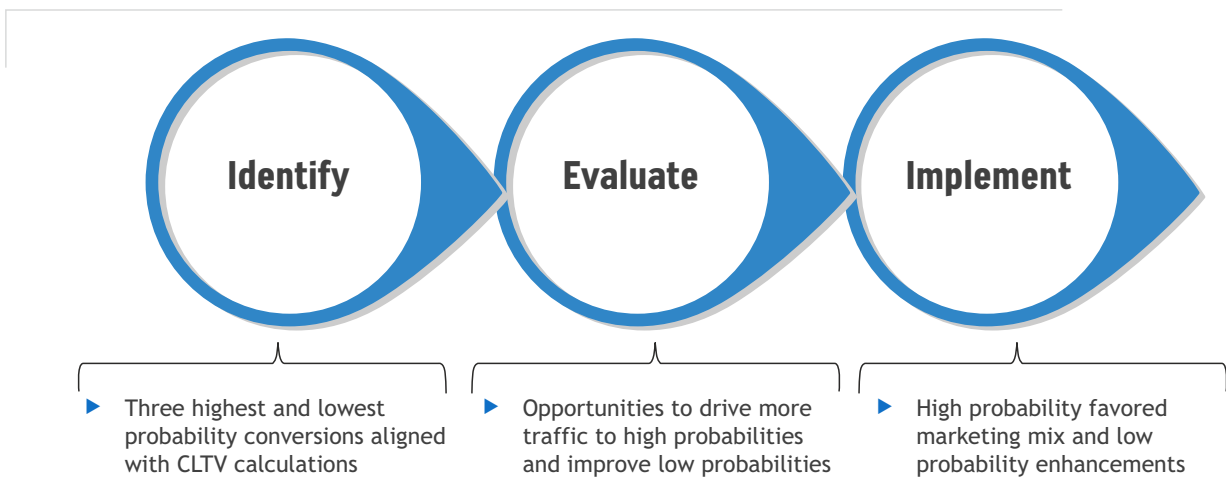
Heatmaps of transition probabilities	Cluster visualizations of segments and similar communities	Pareto chart that represents individual contributions and totals

Simplifying Complex Considerations

Identify

Evaluate

Implement

▶ Three highest and lowest probability conversions aligned with CLTV calculations

▶ Opportunities to drive more traffic to high probabilities and improve low probabilities

▶ High probability favored marketing mix and low probability enhancements

Unlike the CLTV, the output of your Clickstream Analysis is going to be very complex, potentially overwhelming, and there might not be any obvious conclusions. This should be anticipated because you have created a detailed map of how customers interact with your brand online. The map includes the probability—and therefore the ability to predict—a visitors next likely action, allowing you to run scenarios to determine the likely outcome of adding another thousand, ten thousand, or hundred thousand visitors.

The question is: What to do with all of this data? We recommend picking three high and three low performing pathways and making a few adjustments before re-running the data the following month.

High performers: Try to drive more traffic to those areas of the site and see if they continue to attract visitors and conversions; also consider adding a conversion form to these sections and including a short series of automated follow up emails for users that register.

Low performers: Reimagine these pages, revisit your cross-linking strategy, and add a conversion form with a short series of automated follow up emails, then revisit the performance after a month.

Measuring Your Marketing +
Predicting "Persuadables"

> **INDUSTRY DEFINITION**
>
> A predictive model of potential customers who are strongly influenced by your outreach efforts, and others that are not as receptive

The ability to understand how different audiences will react to your marketing efforts offers almost limitless opportunities to expand your reach, target new segments, and maximize your marketing return on investment. Imagine if you could know in advance how individual consumers are likely to respond, and adjust your campaigns before they even launch.

Market Mix and Uplift Modeling give you the ability to do exactly that. Of course, the mathematics aren't perfect and a computer is not a crystal ball, but on an aggregate scale and used over time, you will be able to segment your customers into four key types:

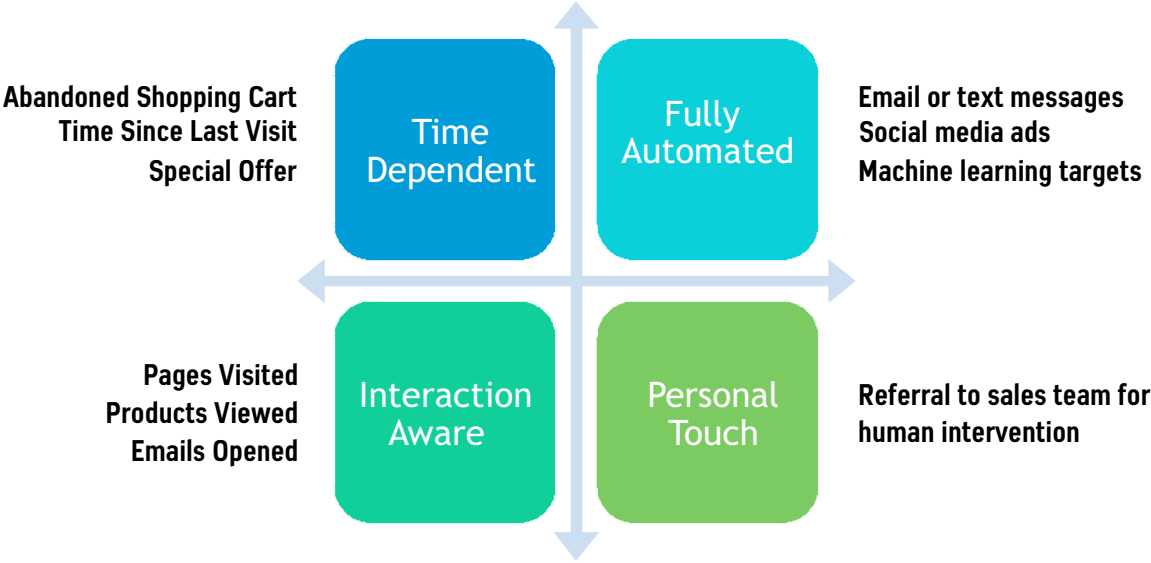|		Purchase *without* receiving an offer	
Purchase *after* receiving offer	**NO**	Do Not Disturb	Lost Causes
	YES	Sure Thing	Persuadables
		YES	NO

> ▶ An analysis of your marketing data leads to a predictive model for your most persuadable customers

Before we get there, however, there is some in-depth analysis to do on your marketing mix and your existing customers, including demographics and any supporting information you may have. Market Mix modeling allows you to differentiate the impact of critical sales drivers like price, competition, and marketing channels from external variables like seasonality. This allows you to measure the impact of each of the factors you control and calculate the efficiency and ROI of each marketing channel. You will also be able to deploy a multiplicative model to estimate sales; after the model is proven successful on your historical data, you can use it to make future predictions about your performance.

After you fully understand the impact of your marketing mix, you can correlate that data with your customer base to develop the uplift model. This model will segment your customers into four key types: The Lost Causes, those that are unlikely to purchase from you again regardless of the offer, the Sure Things, those that are likely to purchase again under any circumstances, and the more sensitive types. Do Not Disturbs will purchase on their own time and are best left marketed to sparingly, and the Pursuadables, the audience that is ready for a nudge.

After your existing customers are correctly modeled, you can apply a machine learning model like Random Forest or K-Nearest Neighborhood to predict the behavior of future customers with similar demographic and psychographic profiles. How you market to them will be based on the output of your Market Mix model, but be sure to include automated campaigns for both efficiency and impact.

Spotlighting Automation Opportunities

Abandoned Shopping Cart
Time Since Last Visit
Special Offer

Time Dependent

Fully Automated

Email or text messages
Social media ads
Machine learning targets

Pages Visited
Products Viewed
Emails Opened

Interaction Aware

Personal Touch

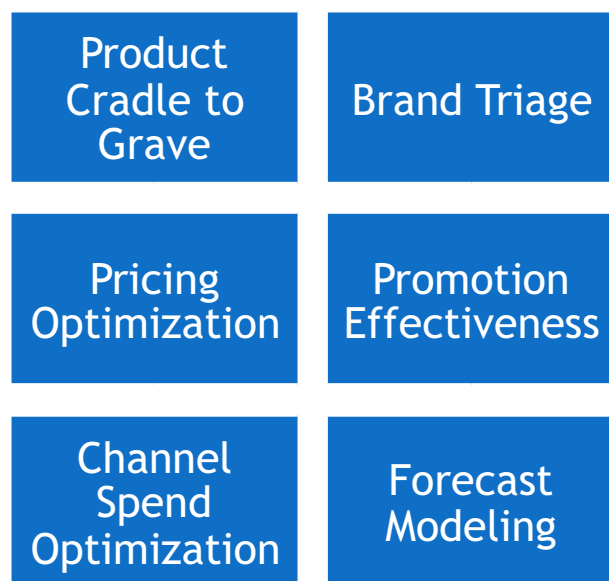**Referral to sales team for human intervention**

It is also helpful to consider the overall space of automated opportunities. Your platform probably supports a broad range of options, from time dependent contacts like "we haven't heard from you in a while, it might be time to reorder" to interaction-based campaigns that are triggered by specific behaviors such as the products a customer has viewed. You're also likely to have options for fully automated campaigns including some platforms that incorporate AI to determine when and what to send. At the same time, don't lose sight of the need for personal interactions. These systems can also be used to alert your sales team to make a phone call, sometimes the old-fashioned way triggered by the latest trends is the most likely to get results.

Where to Next?

Before we talk about the future, it's helpful to recap how much you will have accomplished by implementing the three programs and corresponding outputs we've discussed. You now have the tools to target and retain high-value customers, a model for how they will behave and the learnings to craft new clickstreams in the future. Combine that with predicting what customers and prospects you're most likely to influence, and you have a framework across the key outreach aspects of our organization.

The journey doesn't end there, however. There is always more to do, and below are a few more potential Business Intelligence initiatives for your roadmap. These should be very high value as you dig deeper into the data underpinning your organization. Your Customer Journey opportunities are likely to be much more specific to your business model, but hopefully you now have the tools to start experimenting and building out more complex journeys over time.

BUSINESS INTELLIGENCE

Product Cradle to Grave	Brand Triage
Pricing Optimization	Promotion Effectiveness
Channel Spend Optimization	Forecast Modeling

KEEP GENERATING NEW DATA

CUSTOMER JOURNEYS

▶ **Continue to build and evolve based on the data generated by your business intelligence initiatives**

Dealing with Platform + Information Overload

If anything in this whitepaper seems overwhelming, you're not alone. The benefits of implementing Business Intelligence and Customer Journey strategies in your organization are huge, but getting it done successfully, on time and on budget, is not without its challenges. For starters, there are over 3,700 web, marketing technology, and business intelligence platforms and applications available. Navigating the space can be difficult, and there is a good chance you're going to need a trusted partner.

KORCOMPTENZ is here to help. We've developed a proprietary Agile Methodology to simplify complex projects and focus on outcomes rather than getting lost in the inputs. This unique approach has been showcased at DigiMarCon East, the world's largest digital marketing conference series, and other venues and webinars, and we be happy to provide a free consultation about how it can benefit your organization. Contact us today.

We're Here to Help

KORCOMPTENZ is your total technology transformation partner, helping you engage your customers and prospects, enable your business, and accelerate your results. Request a consultation to learn more about our web and marketing technology services, business management solutions, mobile apps and custom development, and infrastructure management services.

Request a consultation

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