INTRODUCTION
Persona development is an established practice used during the strategy and design phases of a project when companies bring new products to market. Typically companies approach the segmentation of personas as they approach the marketplace: defined by variables like role, income, product usage and age. These are important factors, and can help companies create compelling offers that resonate with target audiences.

Yet these factors are not always sufficient for segmenting personas to drive truly effective solutions. A given customer may have sophisticated tastes or financial acumen, for instance, yet have a very simplistic orientation toward technology. Conversely, “basic” customers with regard to buying patterns or some other bundle of demographic variables may possess technology mastery and have the capacity to create surprising levels of value with an application. TandemSeven has formalized a segmentation method that builds on the traditional marketplace approach by more closely considering relevant behavioral factors.

In this paper, the authors reveal the art of creating behavior-based personas by melding two characteristics—information needs and technology inclination—into cohesive, meaningful identities that will help development teams make appropriate tradeoffs with confidence. Furthermore, the paper formalizes the relationship between interaction style and the required sophistication of information. The following pages detail how companies can create solutions that delight their customers more reliably by incorporating the ways in which customers interact with technology into persona segmentation.
STRENGTHENING AN ALREADY POWERFUL TOOL

Any company for which software is a differentiator is aware of the power of personas. These fictional, composite identities represent core application users, allowing development teams to home in on the most important customer needs, preferences and behaviors.

Compared with user profiles, which describe types of users, personas describe specific people: “Janet,” for instance, might be a 64-year-old single schoolteacher who enjoys cruises, does not love the Internet, and would rather use a desktop computer at the library than a mobile device in her car.

And while user profiles may be rich in statistics, personas support an understanding of critical users’ most common and important tasks. This makes personas a powerful tool for user-centered design. Personas can be applied to decisions throughout the development process, from project planning and prioritization, through design and development, to evaluation and testing. The end result: Applications that win market share and drive business growth by meeting the most important users’ needs and preferences as closely as possible.

Companies often approach persona segmentation as they approach market segmentation: using such variables as revenue, purchased products and services, roles, and demographic factors including education, gender and income levels. These are critically important factors, and go a long way toward helping companies create personas that guide the development of user-centered applications. Yet while the variables just described give companies a good sense of who key customers are and what they want from an application, they provide little help in terms of how the application can support their interaction needs most effectively.

Consider the travel industry. A company may segment its customers by product consumption: whether they prefer bundles of flights, rental cars and hotels versus each service purchased on its own. The company may formulate personas using the same model and variables. Yet within each resulting segment and persona many different interaction styles may exist: Some customers who buy bundles want to complete transactions on the phone, while others prefer to do it online. Some require hand-holding when booking a reservation and others are more self-sufficient. Some prefer a small set of simple options, while others would like to control fine details of their travel plans. Personas based solely on market segmentation variables often miss these key differences.

In other words, while the personas this hypothetical company has created will help it determine which content and features to build into its product, they will fall short of enabling the company to tailor the user experience to its customers’ preferences. This failure can spell frustration for users and lost business for the travel company.

A NEW SEGMENTATION APPROACH: INTERACTION STYLE

The key to unlocking more value from personas is to apply behavioral segmentation to personas as illustrated in Figure 1. The matrix in this figure represents a behavior-based persona-segmentation model that uses two key dimensions based on interaction styles: information needs and technology inclination.

At the upper range of the information needs scale, users require more sophistication in the content and functionality of the applications they use, often with a higher degree of customization. At the lower end, users are satisfied with the basics.
Technology inclination refers to users’ proclivity to engage with technology to achieve their goals. At the high end, individuals are eager to customize views and features, and may even develop code to make applications and solutions do what they want. This is the prototypical “power user.” At the lower end sits the basic user, who expects an application to do everything for them out of the box without requiring any specific effort or focus on the application.

The art of creating behavior-based personas is melding these two characteristics—information needs and technology inclination—into cohesive, meaningful identities that will help development teams make appropriate tradeoffs with confidence.

**Figure 1. Behavioral Segmentation Model for Personas**

**SOPHISTICATED**

**Idealist**

**Typically:**
- Looking for singular tool suite
- Little interest in crafting own solution
- Strict requirements for consumption and presentation of information

"Why can’t you make it exactly like we need it?"

**Architect**

**Typically:**
- Uses unique collection of carefully chosen tools
- Deep interest in crafting own solution to precise specifications
- Strict and highly tuned information needs

"We wouldn’t look to one out-of-the-box solution to solve all of our needs."

**Satisficers**

Consider for example, the Satisficer, who falls in the bottom-left quadrant of the model, as illustrated in Figure 1. To “satisfice” means to tolerate the middle ground between a solution that satisfies and one that does not suffice, living with imperfections as long as basic needs are met. Satisficers may use menus even though keyboard shortcuts exist, simply because the former option is more familiar. This group tends to have low information needs and low tendency to engage with technology.

Satisficers also tend to have lower expectations from applications than other users: In the travel segment, for example, Satisficers simply want to be able to book a flight and get a decent price—they are not interested in intensive comparison shopping or bundling offers. In a wealth management context, Satisficers likely want a few basic reports from a financial management solution and will not demand much in the way of customization.
In fact, even if customization capabilities are available, Satisficers are unlikely to take advantage of them to improve their user experience or achieve outcomes more efficiently.

Compared with other types of users, Satisficers may be the easiest group to please—as well as the most important. This is because their wants and needs are foundational: If an application pleases them, it likely will provide an acceptable level of performance to more demanding users. The opposite is true as well. An application that fails with Satisficers also will likely fall short with others.

**IDEALISTS**

Designing an application that will please Idealists, who fall into the upper-left quadrant of the model, can be far more challenging. While sharing Satisficers’ disinterest in engaging with technology, Idealists place more sophisticated demands on the applications they use.

Returning to the travel example, Idealists want not only to book a flight, but also find a hotel and rent-a-car, and if bundles exist that provide a discount Idealists will expect to see these presented to them. Likewise, Idealists using a financial management solution want more reports than Satisficers and a higher degree of personalization—yet they are not willing to expend much effort to make that happen. Satisfying this combination of idiosyncratic content requirements and low interest in engaging with technology will require more effort from development teams, raising the questions of how many Idealists the solution’s target user audience contains, and how important it is to accommodate their demands.

**EXPLORERS**

As shown in Figure 1, personas with dominant characteristics falling in the lower-right quadrant of the model—Explorers—have a very different combination of interaction characteristics and require a different set of priorities in application design. Explorers tend to have basic information requirements, yet are willing to “roll up their sleeves” to maximize a solution’s capabilities. They may require only simple document views, for example, yet are willing and able to sift through many document formats to find the ideal version. Compared with other users of travel systems, for example, Explorers typically are not cross-shopping complex bundles, but may seek ways of maximizing their points for a single flight. Or they may toy with fine-grained options of arrival and departure times to secure the ideal itineraries.

Rather than ensuring full functionality resides at users’ fingertips, designers focusing on Explorers can afford to leave lower-priority features behind a layer of the user interface. Explorers will find the capabilities they need, and can capitalize on customization options to make an application work for them. At the same time, the experience for Satisficers is not hampered by the potential clutter of these additional features. Yet designers also must ensure the right level of sophistication is indeed attainable when these users set their minds on using it.

**ARCHITECTS**

In the upper-right quadrant of the model are Architects. Architects have the same eagerness as Explorers to “tinker” with an application to meet their needs, but will place relatively higher demands on it. Often they find ways of splicing together multiple applications to provide a comprehensive array of capabilities. For example, in the wealth management context, Architects may find ways to integrate their bank’s reporting tool with their own personal financial management system and customized spreadsheets or databases.
Given Architects’ unique technology demands and proficiency, designers must provide them with solutions that are readily customized, reconfigured, and integrated with other systems. Like Explorers, Architects are “power users” who will extract every last drop of performance out of a system, and unlike Idealists and Satisficers they require a minimum of hand-holding.

APPLYING BEHAVIORAL SEGMENTATION
In the real world, of course, these segments are not as clean and well defined. An individual customer can be a blend of two or more types of the personas just described, although one segment does tend to dominate for each user. Furthermore, software companies will almost certainly have all four types represented in their customer base, and designing a product to meet these disparate needs can be challenging. The key is predominance: Which interactivity characteristics are dominant in a given user and which behavioral segments dominate the target market? Such a determination will help a company understand the trade-offs the development team should make as it brings a given application to market. For example, a developer of software-debugging tools can expect a preponderance of Explorers and Architects, whereas users who select “simple” and “wizard” options in installation software are more likely to be Satisficers.

Overall, interaction styles provide a useful complement to more traditional persona-segmentation factors such as role, demographic characteristics, revenue potential, and product usage preferences. In particular, applying persona segmentation based on information demands and technology inclination can minimize companies’ chances of making wrong assumptions about what their customers want.

For example, it may make intuitive sense that “more sophisticated” users—those buying more products or with higher income—also want more sophisticated applications. Likewise, without considering interaction preferences, companies might assume customers with small, simple product or service portfolios have correspondingly simple expectations from technology. However, those assumptions often can be very wrong indeed. A high-net-worth individual with a sophisticated portfolio may, in fact, not be interested in using technology at all, and prefer a very simple application that does all the work for them. If that person’s wealth management firm doesn’t recognize this, it risks alienating a very valuable customer.

DRIVING REAL-WORLD VALUE: A FINANCIAL SERVICES CASE STUDY
The use of behavioral segmentation in persona creation can benefit virtually any type of company that develops products or applications for a broad array of customers. One company that successfully incorporated the approach is a leading financial services organization.

The company was looking to improve the fit between its online banking and investment services application and its customers. The application was designed to be the primary channel through which individuals interact with the firm. However, like many companies with a broad and large customer base, this bank found it difficult to make its portfolio management solution “all things for all people.” The institution’s customers exhibited a significant diversity of needs based on the financial products they used, their expectations and their personal styles. The company determined that employing a user-centered design approach that included behavioral segmentation would enable it to make the portfolio management solution more functional, useful and compelling to customers while enhancing the firm’s brand. One company stakeholder succinctly summed up the desired
goal for the portfolio management solution: “The interaction should feel as good as walking in the door and interacting with a relationship manager.”

One of the keys to achieving this vision was clarifying exactly which personas the portfolio management solution was designed for, and building in the capability to deepen the personalized user experience based on how customers interacted with the portfolio management solution over time. To do this, the company would first have to get a deeper understanding of how its portfolio management solution was being used and what the company’s stakeholders and customers thought of the application. The company, in collaboration with professionals from TandemSeven, embarked on a multi-stream research initiative.

One research stream was designed to help the firm better identify the business context in which its portfolio management solution operates. Activities in this phase included conducting in-depth interviews with company stakeholders, analyzing the portfolio management solution’s usage metrics, and surveying customers on their views of the application and its performance. The project team found that while customers used the system frequently, very few used its more advanced features. The team also discovered that while the company’s clients were united in their avoidance of the system’s money movement and custom alert features, they exhibited a wide variety of usage patterns for bill payment and brokerage functions.

In their view, stakeholders felt the portfolio management solution could be improved by soliciting and incorporating more input from those who use it. As one bank stakeholder put it, “We have a significant absence of the client’s voice in our processes today.”

A second research stream involved conducting a detailed review of the portfolio management solution’s design. This effort, which essentially benchmarked the solution against existing principles and best-practices in user-interface design, uncovered a number of opportunities to further improve the solution’s design to create a more compelling and relevant user experience. These opportunities included adding information and functionality, improving the system response time, enhancing visual clarity, and simplifying the complex, overly sophisticated design approach.

In the final research stream, the project team engaged a group of customers in sessions to explore their views of the portfolio management solution in depth, how it met their information and interaction needs, and the extent to which they conducted various activities online. These sessions would be key to helping the project team not only identify the features its core customers demanded, but also to ensuring that the portfolio management solution offers those features as effectively as possibly. At a high level, clients indicated that although the solution had several strengths, it also had areas in which it could improve—especially when compared with applications provided by other financial services companies that clients said they had used. These shortcomings included the lack of real-time data and other useful information, complexity, too much functionality for most users, and the absence of some features that users considered “standard,” such as text selection.

While the research identified key shortcomings in the portfolio management solution, it also provided the insights that enabled the project team to tailor the four-quadrant behavioral segmentation to the bank’s customers (Figure 2). This represented a significant step forward for the company: Its previous persona segmentation was based largely on investable assets and number of accounts. This segmentation effectively guided
the designers regarding which content must be made available to users, but provided very little value in terms of how users preferred to interact with the system.

**Figure 2.** Applying Behavioral Segmentation Model for Personas to a financial services firm’s customer base

<table>
<thead>
<tr>
<th>Personality Type</th>
<th>Sophisticated Segment</th>
<th>Power User Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPICALLY:</strong></td>
<td>• Moderate to large number of accounts</td>
<td>• Moderate to large number of accounts</td>
</tr>
<tr>
<td></td>
<td>• Looking for one good tool</td>
<td>• Uses suite of tools, shaped to personal needs</td>
</tr>
<tr>
<td></td>
<td>• No interest in crafting own solution</td>
<td>• Interest in crafting own solution to precise specs</td>
</tr>
<tr>
<td></td>
<td>• Strict requirements for functionality, information and reports</td>
<td>• Strict requirements for functionality, information and reports</td>
</tr>
<tr>
<td></td>
<td>&quot;Why can't the tool do exactly what I need it to do?&quot;</td>
<td>&quot;I don't expect the tool to solve all of my needs.&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology Inclination</th>
<th>Normal Segment</th>
<th>Simple Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPICALLY:</strong></td>
<td>• Small to moderate number of accounts</td>
<td>• Small to moderate number of accounts</td>
</tr>
<tr>
<td></td>
<td>• Will settle for one reasonable tool</td>
<td>• Would settle for one good tool if it existed</td>
</tr>
<tr>
<td></td>
<td>• No interest in crafting own solution</td>
<td>• Willing to craft own solution</td>
</tr>
<tr>
<td></td>
<td>• Basic functionality, information and reporting needs</td>
<td>• Some tailored information and report needs</td>
</tr>
<tr>
<td></td>
<td>&quot;It does all I need; I have a few things I need to do.&quot;</td>
<td>&quot;I'd love to be able to do more of this with the tool.&quot;</td>
</tr>
</tbody>
</table>

In the case of the bank’s customer base, Idealists had a moderate to large number of accounts and were frustrated with the system’s inability to do exactly what they wanted it to do. The company’s Architect segment also had a moderate to large number of accounts, yet, due to their more extensive use of other platforms to manage their finances, generally did not expect the system to address all of their needs. Satisficers and Explorers had relatively fewer accounts than the other two groups and, respectively, were more satisfied with the system and eager to use it to do more.

Using these and other insights generated through the application of the behavioral segmentation model, the project team created a detailed persona that embodied a “typical” customer for each of the four user types. These personas included age and other demographic variables, investable assets and length of relationship with the company, likes and dislikes of the current system, relative focus on banking or investment services, and the physical space from which they would access the system (Figure 3).

The four personas were critical to helping the firm understand how the unique characteristics of these four segments translated into information needs and critical features—which, in turn, helped guide the design team to make appropriate trade-off decisions when addressing the issues uncovered by the research.
The Architect persona—“Edward”—wants the new system to be less “clunky” and easier to navigate, and to allow him to assign nicknames to accounts, enter dates and work with exported data more easily. A retired owner of a publishing firm who now manages the family’s significant investible assets, Edward has sophisticated information needs that include real-time data and metrics such as gain/loss and return rates with comparisons to other time periods and market indices. The epitome of the power user, Edward draws on his extensive proficiency with technology to create his own views and reports.

In comparison, “Laura,” the Idealist persona, is a CFO for a money-management firm. Focused on growing her family’s wealth, she has little patience for technology that doesn’t do what it’s supposed to do. She finds most technology complicated and wants applications to work simply and reliably. However, that doesn’t mean her information needs are simple. To the contrary, Laura likes to keep a checkbook-style register of categorized transactions, understand at a glance how her investments are performing, see her exposure to specific equities across her portfolio and get up-to-the-minute rates on various products.

“Michel,” the Explorer, is a young but successful hedge fund co-owner and manager, and is concerned primarily with managing his cash flow and budgets. He has a much more ordinary perspective of the portfolio management solution than Laura or Edward: He’s not as concerned about the application being “pretty” as long as it gets the job done—which for him centers on supporting routine transactions such as paying bills, transferring money among his multiple accounts and receiving alerts concerning his accounts. But Michel also likes to tinker with software and, when he has the time, will experiment with applications just to “see what happens.”
The Satisficer of the group is “Alice,” whose investible assets are the most modest of the group. She’s more inclined to be focused on the daily finance basics—making sure deposits are made and that sufficient money is on hand for her obligations. Like Michel, she has relatively basic information needs: the ability to track bill payments, transfer money and see account history. But unlike Michel, her experience with technology is low. She expects quick response time and simple, intuitive designs. Meeting Alice’s needs is critical: Because she’s a relationship manager for the bank, the portfolio management solution must be simple enough for her to understand and explain to her clients.

This financial services provider is now in the throes of building the first release of its revised solution. Armed with interaction-based segmentation of personas, the prioritization of features to be delivered in this first, and in subsequent releases, was relatively painless. Furthermore, the firm has been able to make appropriate trade-offs in its design decisions, balancing the Architect’s needs for customization with the delivery of basic features that satisfy all personas, and particularly hit the sweet spot of needs for the Satisficer.

CONCLUSION: BEHAVIORAL SEGMENTATION IS A VITAL TOOL FOR SATISFYING CUSTOMERS
Not everyone loves technology. Even the most sophisticated customers may rather tinker with their finances or travel itineraries than with software, for example. Yet some users seek out the opportunity to lift the hood, move parts around and make an application “sing” like even its developers could not anticipate.

Obviously, these are important characteristics for software developers to understand. As we describe above, complementing traditional persona creation techniques with a new focus on segmentation by interaction styles can strengthen the development process significantly. By taking this approach, companies can ensure their most important customers’ needs and preferences are met as completely as possible by new products, fostering greater satisfaction and loyalty.

In today’s world, technology is a vital communication channel for all companies, and customer-facing products often are a proxy for the firm itself. By incorporating interaction styles into persona segmentation, companies can demonstrate their understanding of their most critical customers—and their commitment to pleasing them.

WHAT TYPE ARE YOU?
Although many people have elements of each quadrant in their technology interactions, there is generally one interaction type that tends to predominate. Based on the descriptions in this paper, you probably already have a suspicion about yours. Complete the questionnaire on the next page to find out if you are an Idealist, Architect, Satisficer or Explorer.
## Interaction Style Questionnaire

**Instructions:** Choose the most suitable response for each question, add up your points for each section and look to the key for your predominant interaction style.

### Technology Inclination

1. How often do you use shortcut keys rather than menus?
   - Never (0 pts)
   - Just for the most common commands (2 pts)
   - Often (4 pts)

2. Describe your typing skills
   - Hunt and peck (0 pts)
   - 4 to 6 fingers (1 pt)
   - Proficient touch-typing (2 pts)

3. With respect to manuals, user guides, tutorials and online help, you:
   - Never read these (0 pts)
   - Occasionally read these (2 pts)
   - Generally read these (4 pts)

4. When retrieving files on your computer, do you:
   - Often have trouble finding your files (0 pts)
   - Generally find files by browsing your folders (2 pts)
   - Find files by either browsing or using your desktop search tool (4 pts)

5. Do you create macros?
   - Never (0 pts)
   - Simple macros (by recording sequences of user input) (3 pts)
   - Complex macros (customized by your own code) (6 pts)

### Information Needs

1. What kind of software do you use to manage your personal finances?
   - None (0 pts)
   - Online banking (2 pts)
   - Download from online banking to personal financial management software like Quicken (4 pts)
   - Custom design your own financial management software (e.g., using MS Excel or MS Access) (6 pts)

2. How do you manage your email?
   - Use individual Web-based email clients (0 pts)
   - Use multiple email clients (e.g., mobile, desktop and Web) for each email (e.g., home and work) (2 pts)
   - Use multiple email clients (e.g., mobile, desktop and Web) to aggregate email from multiple sources (e.g., home and work) (4 pts)

3. Thinking of the software that you most frequently use for your work, how often do you need to personalize the content in your views or output to get the results you need (e.g., you personally design MS Excel spreadsheets or MS Access databases)?
   - Never (0 pts)
   - Rarely (2 pts)
   - Sometimes (4 pts)
   - Often (6 pts)

4. Thinking of transactional websites you visit most frequently, how often do you need to conduct complex transactions (e.g., bundled products; complex orders; complex travel arrangements)?
   - Never (0 pts)
   - Occasionally (2 pts)
   - Often (4 pts)

### Technology Inclination Score: _____

### Information Needs Score: _____

Now check the table below to find your predominant interaction style:
ABOUT TANDEMSEVEN
TandumSeven creates compelling digital user experiences across platforms and channels, including portals, business applications, Websites, and mobile and tablet apps. The company was founded on the principle of design and technology working in tandem to create superior user experiences. For over ten years, TandumSeven has partnered with numerous world-class organizations, including Bank of America Merrill Lynch, Bloomberg L.P., Campbell Soup Company, Citi, Experian, Orbitz Worldwide and Staples. The company is headquartered in the greater Boston area with offices across the United States. Visit http://www.tandumseven.com.

ABOUT THE AUTHORS
This paper was developed by Paul Eisen, Ph.D. with contributions from Karl Steiner, Ph.D. and David Clark. TandumSeven’s experts continuously develop thought leadership, present at key industry events and participate in various social platforms. Check out our blog at www.tandumseven.com/insights/blog to follow our experts’ perspectives.