Virtual Assistants & Self Service:
Are Animated Digital Characters for Real?
Abstract

Virtual assistants, or VAs, are not a new concept, originating in the mid 1960’s (without digital representation of course) and making a brief resurgence in the early 2000’s before quickly fading out again. Over the past 2 years however, interest in virtual assistants (or digital characters) and their use in the online self-service and sales ecosystem has returned.

Today, a recent analyst’s vendor landscape identifies over 65 companies worldwide that are working on digital character development in some form or another.

If you are curious about the potential benefits of VA technology for your organization, there are a number of issues that must be considered to ensure that any future implementation of a digital character for self-service is successful. This paper examines some of the key initial considerations that should be used when determining whether the use of a digital character makes sense for your organization.

Chief among these considerations is the combination of both rational and emotional intelligence as a means of ensuring success with any virtual assistant strategy.

Other important considerations that are relevant to the discussion include:

- coupling the ability to deliver one right answer based on the nature of a customer question with proper use of facial coding and body language;

- creating an experience where the digital character is a guide to the user experience, versus being a “talking head” that recites answers;

- the importance of looking beyond the sheer novelty of using a digital character when determining if and how your organization might benefit from the technology; and

- ensuring that the deployment of a specific brand icon or identity (whatever form that may take) is in line with your organization’s brand promise.

An improperly executed VA strategy will only serve to increase customer frustration with self-serve initiatives and cause the customer to associate their poor experience with the digital character and its organization. When implemented correctly however, the use of VAs can help customers build an affinity with an organization via a helpful digital character that will assist them in achieving the best customer experience. This paper will help you understand and execute a self-service strategy that generates results.
Known By Many Names

At this stage, perhaps a brief look at popular terminology for Virtual Assistant technology is in order. In North America the preferences include Digital Characters, Virtual Assistants or personas. Do a Google search for the term virtual assistant and you’re typically presented with results and ads directing you to a real live person off-shore helping you to accomplish administrative tasks.

For the purposes of our discussion we will use the terms Digital Character and Virtual Assistant interchangeably, as these terms are commonly used in North America. Other terms such as Chabot (used primarily in Europe) and Avatar (thanks in no small part to the James Cameron movie of the same name) are also popular. Whatever your preference, all terms refer to the same concept: the use of a computer program designed to deliver an intelligent conversation with a character form (not lifelike) with one or more human users via text and/or voice methods.

Why Use Virtual Assistants?

A fundamental problem faced by modern customers who are interacting with organizations online is the inability to find the answer to key questions. A September 2010 Harvard Business Review article entitled “Stop Trying To delight Your Customers” put it succinctly, saying: “57% of customers report having to switch from the web to the phone”. Another study by Harris Research in 2009 showed that companies today waste over $47 billion each year by forcing customers out of their desired channels.

The opportunity for the organizations serving these customers is to use next generation self-service technology to improve upon these rather dreadful shortcomings, to drive the efficiency of customer engagement by effectively resolving their service issues online. The results of applying this new breed of self-service technology effectively often includes:

- Increasing engagement and conversion, to drive new revenue,
- Greatly improving customer efficiency, leading to real impacts in customer satisfaction and loyalty,
- Protecting and expanding existing revenue while providing permission for up-sell and cross sell.

What’s more, the organization that truly embodies a post modern customer experience, accrues all these benefits while also having a bottom line impact on the costs. As Johan Jacobs noted in his latest research report Key Considerations for Virtual Assistant Selection, “Virtual Assistants do not take a leave of absence, and never get sick or demand a pay raise”. This non-stop availability delivers tremendous benefit to the customer experience, customer service, marketing and other areas of your business.
Choosing The Right Kind of Digital Character

There are a number of methods for implementing Digital Characters. One of the few approaches to categorizing the continuum of Digital Characters is provided by Jacobs in Key Considerations for Virtual Assistant Selection. Although the approach taken in the paper is sound and comprehensive, it does not discuss a critical requirement for any post modern self-service interaction. This fundamental component is the ability to provide an intelligent agent that delivers rational – and not just emotional – intelligence. That is, to place the necessary focus on the intelligence of the engine and its ability to derive the intent of many different questions that all relate to the same concept and, therefore, have one right answer. Fundamentally, any VA “worth its salt” in the post modern world of self-service must support a customer-generated question and answer paradigm.

This next generation philosophy is the anti-thesis of applying search techniques or, worse, tree-based solutions which are merely menus in front of FAQs.

When we consider the classifications of solutions which apply to digital characters, we represent the classification as shown in the chart below:

### Classifying Next Generation Self-Service

<table>
<thead>
<tr>
<th>No Character</th>
<th>Static Digital Character</th>
<th>Animated Digital Character</th>
<th>Animated Digital Character w/Intelligence</th>
</tr>
</thead>
</table>
| *Multi-channel | *Web/Mobile              | *Web primary               | *Web only  
*Emotional Intelligence |

Intelligent Question & Answer Engine
### Classification

The ecosystem for VA technology can be classified as follows:

| Level 1: a branded experience that is text-to-text. A customer asks a question and receives a response in a text based format. This approach can rapidly support cross channel consistent delivery of answers to customers whether a web, agent, mobile or social channel is used. |
| Level 2: a branded image that effectively interacts (commonly in a web centric solution) through a text-to-text method. The Digital Character typically does not interact with gestures or tone based on the questions. This level is meant to incorporate the customers brand into the ask approach. |
| Level 3: a sophisticated animation that is typically web focused and provides full animation with voice, text (or both) delivery of answers. You can interact with a sophisticated example of this at Athabasca University’s Second Life university campus where Petrov their Second Life 3D Digital Character, supports questions from other Second Life users related to the university. |
| Level 4: a rational and emotional component. It is the sophistication of the digital character and its intelligence that defines the experience, not whether it looks like a human character. Iris at IntelliResponse guides you through questions combining rational and emotional intelligence. Responding with emotion, facial coding and body language within the interaction while being able to handle complex and varied questions. |
Other key considerations that will affect the potential classification include speech-to-speech and voice-to-text. These typically are methods of converting the question posed by the customer.

**Does a Persona Offer Distinct Benefits?**

There has been a growing amount of research that points to increased engagement with the end customer in sales based engagements involving VA technology. Logically this should mean that customer service oriented interactions would benefit as well.

One study conducted by Lingyun Qui, et. al. from the University of British Columbia examined an investigation into the effects of Text-To-Speech voice and 3D avatars on the perception of presence and flow of live help in electronic commerce.

The results of this study indicated that the use of a Virtual Agent (i.e. proper intelligence coupled with a persona and voice) significantly increases consumers’ perceptions of flow, which is a construct depicting a user’s interaction with a computer as playful and exploratory.

As part of this discussion on a persona’s impact on the user experience, it is prudent to point out that poor delivery of accurate responses will undo any benefit gained by using the actual persona. This is an important point and gets right to the heart of the need for both emotional and rational intelligence in the post modern self-service environment.

Many of the current studies are examining the link between an individual’s level of engagement when interacting with a Virtual Assistant persona. The ability to instill proper facial coding, body language and emotions results in a more immersive and engaging experience, one that closely mirrors one that a customer may have with a live agent. As a caution, this is the very area where almost all companies in the digital character solution space fail. We explore the reasons why this is the case in the next section.
Three Key Considerations When Exploring The Use of Digital Characters

When examining the application of digital characters in a self-service environment, there are many factors to consider. At the root level however, there are three key considerations from which all other factors stem. These three key considerations are:

1. What is the brand persona established or planned by the customer?

2. Is the digital character a guide for customer experience?

3. Is the digital character supported by an intelligent engine?

We will examine each key consideration in detail in the sections that follow.

The Brand Persona

The development of a brand persona is an important strategic decision often made by the company and its creative agency. This process should begin of course, with a thorough evaluation of the strategic brand identity platform currently being deployed by the organization. As a first step, the key stakeholders must explore whether or not ANY persona of ANY TYPE is complimentary to the organizations brand platform and strategic mandate in terms of customer communications. One must be willing to question the rationale behind creating a character merely for the sake of creating one. If we examine well known brands, many do not have an external facing persona that is recognizable by the end customer. Well known examples of brand personas that have a digital character associated with them include McDonalds (Ronald McDonald), Royal Bank (Arbie) and Hotels.com (Smart). While using a fixed image to denote an element of customer service/engagement may be appropriate, however, an animated digital character could offer a deeper level of customer interaction and should, therefore, be carefully considered.

If there is a strategic approach to building a digital character that will truly “personify” the company’s brand identity and form an anchor for the customer engagement strategy, this matching of the brand promise to an appropriate visual representation can be useful. If an organization wishes to simply create a persona without attachment to the organization one must be extremely careful regarding the risks of confusing customers or diluting your brand identity. The composite characteristics of age, ethnicity, sex and physical attributes could be viewed as engaging by some consumers and offensive by others.
True Value: The Digital Character as a Guide

There are numerous examples of non-verbal animated characters and ones that actually speak, the latter of which are commonly known as “talking heads”. In considering the use of digital characters, some pundits give greater credence to animated characters that speak. In practice however, this practice can be fraught with potential pitfalls and often ends up confusing the customer, while causing significant administrative challenges for service organizations in maintaining voice-based digital characters. The reasons for these common issues can often be tied to a number of complications related to supporting digital characters as well as larger challenges related to the way in which an end customer interacts, trusts and relates to the digital character that is speaking to them.

When a customer is interacting with a digital character (for example entering a question) there are a number of important triggers that occur in terms of psychological and expectation-related boundaries. The best practice is to utilize the digital character as a guide to the overall customer experience, but not as the sole source of all of the “answers” per se.

In essence it is the digital character whom the customer views as a “helper” or guide to the effective delivery of customer service information. For example, if the answer requires escalation, the guide helps direct the customer to the most appropriate channels. That is, the digital character serves as a guide to “right channeling” to a live chat agent, call center or even email.

Importantly, if an effective answer is not available, the guide again provides alternatives to the customers. The guide’s purpose should not be to simply enunciate the answer to each of the customer’s questions. In fact most customers can read and process much quicker than waiting for the answer delivery via voice. As well, limitations in bandwidth, user interface (size) and other areas can affect the delivery.

Psychologically, it’s important that the customer view the digital character as a trustworthy third party working with the customer on his or her behalf to assist them in achieving their objective – not as an interruptive “pain”. Consider how easily this trust can be broken if the digital character speaks the answer to the question, and that answer is wrong or not available, or worse yet, if they interrupt the customer as they are making their way through their buying or service-related journey? The customer now has reason to doubt the character, and not view them as helpful or reliable. Eventually, this leads us to outright distrust or dismiss the content delivered by the digital character. (Anyone remember a certain ubiquitous paperclip animation?)

The Role of Emotional Intelligence

The key concept in the application of an animated digital character is to ensure that the approach melds the character with an appropriate level of emotional intelligence.
intelligence, applying both facial encoding for the character as well as body language. Almost every real-world implementation we have seen at this stage lacks these characteristics. Your customers will form an impression of the digital character within the first 1-2 seconds of the introduction just as they would with a human. The concept of ‘fight or flight’ will come directly into play, as a critical function activated by the oldest part of the human brain. How could a little digital character elicit such a primal response?

In an instant, consumers will subconsciously ask themselves, Do I trust this character or should I leave? Some emotional intelligence factors can be designed into the digital character to help build trust. For example if the character greets visitors with a smile, and with the palms of their hands open and facing up, the facial and body language coding is communicating comfort and trust. The character can then, through text or voice, provide a set of options. For example, by engaging visitors to, “Ask a question in the Ask box below.” This emotional intelligence transforms the relationship. The approach is not to convince the customer that he or she is speaking to a person, but rather to establish that the animated digital character understands the best way to guide visitors through the customer experience using visual cues that the customer already intuitively knows and will respond to in a positive manner.

Importantly, the key to utilizing an animated digital character lies with the ability to control the level of interaction, thus allowing the customer to dismiss and recall them as desired so they do not interfere with the delivery of the customer experience.

Rational Intelligence: The Engine That Drives Satisfaction

The key component of any successful customer interaction (regardless of whether or not a digital character is deployed) is providing the capability to deal with the customer interaction (typically a customer interacts through a keyboard but voice-to-text is also possible). Fundamentally, an organization can create the “slickest-looking persona” (static or animated) possible. However, if it is not supported by an engine that delivers the correct answer to the customer, it’s merely a pretty image or animation—and a dangerous one at that, since wrong answers will erode the trust the customer places in the persona. The bottom line is this – if you cannot deliver Answers to your customers self-service questions, all the animation and interaction in the world is not going to help you meet your revenue, deflection and CSAT goals.

The delivery of one right answer to customer questions is absolutely critical to building customer affinity and trust. In addition, this core capability must transcend the channel itself, ensuring that the interpretation of customer questions connecting them to the right answer works in social, web, agent and mobile environments. When combined with the right persona that has the emotional intelligence it can create a powerful and compelling customer experience.
Why Old School Self-Service Falls Flat

Historically, most “old school” self-service implementations have focused on either a static method of engaging the customer through a series of tree based menu items acting more or less as a static FAQ, or on search based approaches to return a list of pieces of content that may contain what the customer wants. In both of these cases the customer experience fails terribly triggering high customer effort and low customer efficiency.

The first approach assumes the customer can categorize their problem and that the designer of the tree interpreted this the same way. The second approach asks the customer to categorize what they are asking in terms that match the content that was indexed (something the customer will not be aware of). Neither of these approaches demonstrates rational intelligence.

The interpretation of the question in the customer’s terms and the relation of this question to a single correct answer should be the foundation across channels. Without this “rational” intelligence the best one can expect is that the customer will self-serve to the point of fortunately finding the correct content, abandon the purchase/action which drives revenue or escalate to the most expensive resource (i.e. the call center) in most cases. In either of these scenarios the result is a poor customer experience that results in escalating support costs and a lost opportunity to delight the customer and open the opportunity to drive new products or services.

The Uncanny Valley

One of the reasons for not differentiating between an animated human-looking character and a digital character is that in general the use of a human looking character within a customer implementation is not recommended. The Uncanny Valley phenomenon suggests that virtual characters approaching full human-likeness will evoke a negative reaction from the viewer due to aspects of the character’s appearance and behavior differing from the human norm. If for example we look at a picture below of a robot that is given humanistic facial features it typically causes a reaction with the viewer.

There are ongoing studies in 2010 and 2011 examining the impact of 3D animations that are attempting to determine whether there is real impact on the individual interacting with characters. The use of an animated character is a more appropriate approach than attempting to make the digital assistant as lifelike as possible.
Blueprint for Success: Planning A Virtual Assistant Initiative

When embarking on a next generation self-service initiative that may include a virtual assistant/digital character component, one should consider a number of key questions while laying out a deliberate, diagnostic approach for success.

Key initial questions to consider:

1. Does the organization currently understand the nature of the questions their customers are asking?

2. Does the organization understand the task orientation of the customer? What are the typical items the customer is attempting to resolve (sign-up for a credit card, send a wire transfer, get their Bluetooth device talking to their headset).

3. Is there a desire to support web, mobile, social and agent channels and differentiate the content based on the channel? Fundamentally is the customer willing to support different mediums for the answers based on the channel?

These first three questions help frame the content challenge. This challenge is important as it may be desirable (and recommended) that a Level 1 solution is put in place to begin the process. For example, based on the costs and administrative overhead required to build and maintain a Virtual Assistant persona (using a digital or real human image) you may only want to deliver content to the top 5-10 answers then use the Digital Character as a guide for the balance of the experience.

The next set of questions is actually a challenge for many companies, and it involves the use of coveted online “real estate”. The use of any level of Virtual Assistant requires the consumption of web page space. As the sophistication grows, (from a simple branded question box to an actual persona) the amount of space needed also increases from simply providing a method to ask questions (providing the answer can be done in a separate window for example). Success therefore is predicated on considering the following questions:

4. Typical use of digital or human Virtual Assistants is focused on driving engagement, the location of the Virtual Assistant is critical. Do you have the ability to set aside 10-20% of your prime web real estate to rendering a persona and providing an area for engagement?

5. Do you have a brand persona that you will use as the face of the organization or do you need to create one?
6. Are you focused on simple delivery through a rich text based response or do you want to integrate with voice? Keep in mind that ADA compliance (support for hearing or sight impairment) may be a consideration.

The next question encapsulates several considerations relating to the various channels for engagement. The intelligence brought to the delivery of one right answer is critical regardless of the channel through which the customer is engaging. Therefore, the next question to ask is:

7. What are the most important channels in which your Virtual Assistant will appear – either now or in the future?

Answering this question requires careful consideration, and leads us back to the premise that Virtual Assistant personas work in some channels, but not others. Some current limitations are based on bandwidth or other short term technical limitations. In other cases personas may simply not be an optimal delivery method. For example:

- Internal customer care agents (voice, chat or email response agents). Do persona’s truly improve the internal agent service rates?

- Social mediums (Twitter, Facebook or other areas where the richness is not available)

- Mobile (primarily due to limitations on viewable “real estate” and bandwidth related to rapid delivery of content)

Technical limitations (Flash on the iPhone) or bandwidth (needed for sophisticated animation or video delivery) are all considered to be short term limitations. Consider the growing influence of these alternate channels on the servicing of your customers.

The final questions that need to be explored in the use of Virtual Assistant personas involves the management of these new “people”. When beginning the process of implementation, we noted that considerations for the management of the appropriate persona are important. An additional level of content complexity is introduced when using personas with almost the same consideration for digital and human personas. For example, in voice applications, it is wise to anticipate the ongoing need to manage, edit, and develop new voice responses. Important questions relating to persona management include:

8. Will you be using a consistent persona (human or digital)? How will these be adapted for new and updated content?

9. How will the management of personas influence or impact the speed at which you can implement new responses/content based on business need?
Conclusion

As noted at the beginning of this paper, there is a general belief that there may be competitive advantages gained through the deployment of Virtual Assistants in a self-service environment. In some cases this is true, however the competitive advantage specifically stems from the use of animated digital characters in the appropriate channel, using the right methodology and applying the right approaches to their use. As seen in the recent Harvard Business Review article “Stop Trying to Delight Your Customers” as well as many recent studies on customer self-service, the advantage goes towards those firms focused on the challenge of customer experience management as a whole, and in particular, on reducing the overall effort required to solve informational inquiries in a self-service environment. The first step involves introducing high customer efficiency and low customer effort in both service and sales interactions.

Where customers have a specific brand persona they are developing (or have developed) to augment the self-service experience, this adds to the overall customer experience. The introduction of animated digital characters that bring emotional intelligence into the equation coupled with the imperative of rational intelligence, produces an optimal experience that achieves best practice and, more importantly, a true competitive advantage.

For More Information

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