The Value of Virtual Sales Agents
by Kyle B. Murray

Imagine walking into your favourite store to find that it has been
rearranged just for you. The walls have been painted your favourite
colour, the shelves display only your size, the store's buyers have
shifted through the new summer fashions and have moved the styles that
they expect will be the most flattering on you to the front of the
store. When you mention to the clerk that you are looking for a new
pair of running shoes, he asks a couple of questions about where you
run, how much you want to spend, and what features you want, all the
while rearranging the store so that the shoes that best match your
preferences are set out before you. Having completed your purchase you
leave the store and never notice that the store has been redesigned for
the next customer. This scenario is unthinkable in a traditional retail
environment, yet for an online retailer it is relatively easy to
personalize the shopping environment for each individual customer.

While personalization can be accomplished in different ways, our
research has focused on personalizing product presentation with the
help of a virtual sales agent. In general, virtual sales agents are
software tools that attempt to understand the consumer's preferences
and then use that information to improve the shopping experience by
filtering out inappropriate products and recommending only those
products that are best suited to each individual. Like traditional
salespeople, virtual sales agents are most effective when they
understand the customer and are able to match the customer's
preferences to available products. Understanding a shopper's preference
structure (i.e., understanding what the shopper likes and dislikes)
within a given product category can be accomplished in a number of
ways. In some cases virtual sales agents will group similar shoppers
together and make recommendations based on what other shoppers within
that group are buying. Other agents may simply watch the shopper and
infer her preferences from her behaviour, using that information to
make recommendations for future purchases. Alternatively, the agent may
take a direct approach, asking the shopper what he prefers and then
making recommendations based on those responses. Each of these methods,
whether used alone, or in combination, aim to enhance the shopping
experience by improving the match between what the consumer wants and
what the store offers. Research has demonstrated that when this process
is effective the software agent improves the quality of the choices
that consumers make and reduces the effort required to make those
decisions. This is a significant benefit, because as a rule, without
agent-assistance improved decision making requires greater effort, and
less effortful decision making results in lower quality decisions.

Unfortunately, few online retailers are using virtual sales agents.
This is a mistake. Consumers need advice and assistance when shopping
for products online as much as when they are shopping for products in a
bricks and mortar store. Building an internet store that is simply an
electronic catalogue fails to take advantage of the real benefits of an
online presence. Online retailers control the shopping environment in a
way that is unimaginable in a traditional bricks and mortar store. Why
then do businesses create generic environments when they could create a

store that is personalized to each individual shopper? One reason may be a sense that personalization improves that shopping experience at great expense to the retailer without any meaningful impact on the bottomline. However, there are at least two reasons why this does not have to be the case. First, most online retailers are already storing their inventory information in a database that can be easily adapted to display product information conditional on who is looking at the site. Second, like salespeople in traditional retail outlets, virtual sales agents can have a direct effect on a store's sales performance. In fact, the ability to control the shopping environment gives online retailers a unique opportunity to influence consumer decision making.

For example, recent research has demonstrated that different backgrounds on a web page can affect the choices that shoppers make. In one study participants were invited to shop for a sofa in a simulated online store. The store used a background with clouds, which pre-tests indicated was associated with comfort, or a background with pennies, which pre-tests indicated was associated with price. The shoppers who had clouds in the background preferred the more comfortable and more expensive sofas, as compared to the shoppers who had pennies in the background. Although the webpage changes are relatively subtle, and the shoppers themselves are unaware that the background has influenced them, such changes can have a significant effect on consumer choice.

Another obvious advantage for retailers in electronic shopping environments is the ability to control the format in which information is presented. When a virtual sales agent recommends products it has the ability to display that information in a number of different formats. Marketers have long recognized that, in most cases, shoppers will accept information in the format that it is displayed; even though the way the products are displayed can affect the choices that the shopper makes. For example, in a traditional setting retailers recognize that displays that are at the consumer's eye level are more effective. In an online environment, the order in which products are displayed, the emphasis given to different products or products features, and the ease with which certain products or product information can be found are all under the control of the retailer and can be adjusted for each individual shopper.

While these techniques create new opportunities for online retailers, it is important to note that the ability of the online retailer to influence consumer choice is unlikely to be detrimental to the consumer. Again an analogy can be drawn to the traditional salesperson, who can influence a buyer's choice to a certain extent, but can only rarely convince a consumer to buy inferior products or products that do not meet the consumer's needs. Moreover, when the salesperson does recommend inferior products, or products that are poorly matched to the needs of the consumer, they lose their credibility and the trust of the shopper. The same is true of virtual sales agents. Without the trust of the customer, the store and the agent will be rendered ineffective. As a result, electronic markets have an inherent mechanism for limiting the influence of a virtual sales agent: consumers will accept influence only insofar as the advice does not lead them to make poor choices. However, in a market with many equivalent products, the retailer may be able to personalize electronic environments in a way that gives their products an advantage over others. In this regard, virtual sales agents are powerful tools that can help buyers make better decisions with less

effort, while at the same time improving the retailers product positioning and influencing the buyer's decision making process. Because they are able to simultaneously improve customer satisfaction and corporate profitability, well designed agents are beneficial to both retailers and consumers.