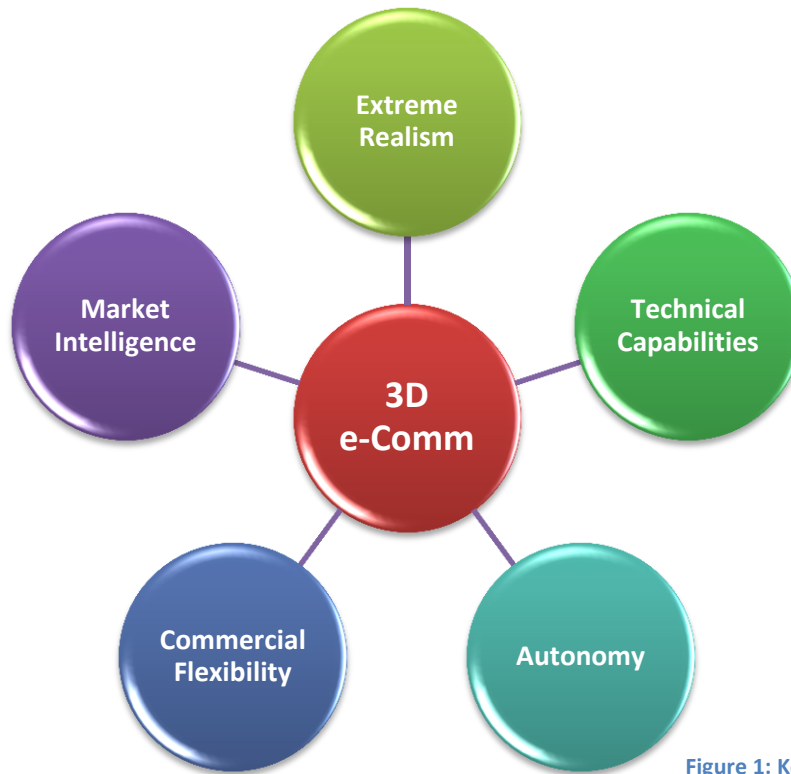# 2015

e-Commerce Evolved: 3D Stores

Figure 1: Key Attributes

Introduction

The ever-increasing use of e-Commerce in the retail marketplace is having profound impacts on customers' shopping behaviors and expectations. In order to remain relevant in today's retail industry, retailers must have robust e-Commerce capabilities that showcase their products in an appealing manner. To this point, significant resources are dedicated to developing attractive shopping environments for customers in store settings as well as on-line channels.

An exciting new frontier in e-Commerce involves the use of 3D store environments, which share many characteristics with gaming environments that have become ubiquitous. Customers are able to navigate stores designed to closely resemble traditional brick-and-mortar locations. The stores contain shelving with products arranged on them as they are in physical stores, flyers decorate the store walls listing current promotions, and individual products are rendered in very high detail. The collective experience is intended to be immersive and encourage customers to browse products as they would in traditional retail settings.

In the following paper, 3D e-Commerce will be explored in terms of five key attributes (see Figure 1) that are critical during the evaluation and consideration of solutions. This discussion will serve as an introduction to those not yet familiar with 3D e-Commerce, but it will also provide guidance on best practices that have begun to take shape in this exciting new retail market approach.

Key Attribute #1: Extreme Realism

The quality of the virtual 3D environment is a critical component of the customer's experience and its importance cannot be understated. The collective summation of attention to the store's aesthetic details, ease of navigation, and shopping functionalities need to be effectively designed and managed to deliver superior customer experiences.

Figure 2: Extreme Realism

Achieving an optimal blend of appealing design and technical functionality will ultimately deliver a sense of what is referred to in the industry as "extreme realism." To attain extreme realism, the 3D solution must allow for the uploading and integration of design elements (e.g. colors, signage, lighting, floor textures, etc.) specific to the retailer's brand image that is found in its physical stores.

Figure 2 provides an example of the realism that is achievable in effectively designed 3D environments. The unique lighting effects, glossy floors, mannequins, and posters all combine to provide a highly realistic look to the store.

Key Attribute #2: Technical Capabilities

Given the number of different operating systems and devices, the accessibility of the solution needs to be carefully considered. Increasingly, customers are shopping on mobile devices, which means that the

solution must be scalable to smaller screens. Additionally, the environments must be accessed in a manner that is not overly burdensome on the device's battery, the customer's mobile data limit, and wireless network connection speeds.

An important aspect that cannot be neglected is the range of e-Commerce capabilities available to customers in the 3D environment. Customers are savvy and have expectations in terms of shopping cart functionality, managing payment methods, selecting delivery times, and several other options that have become commonplace in the e-Commerce market.
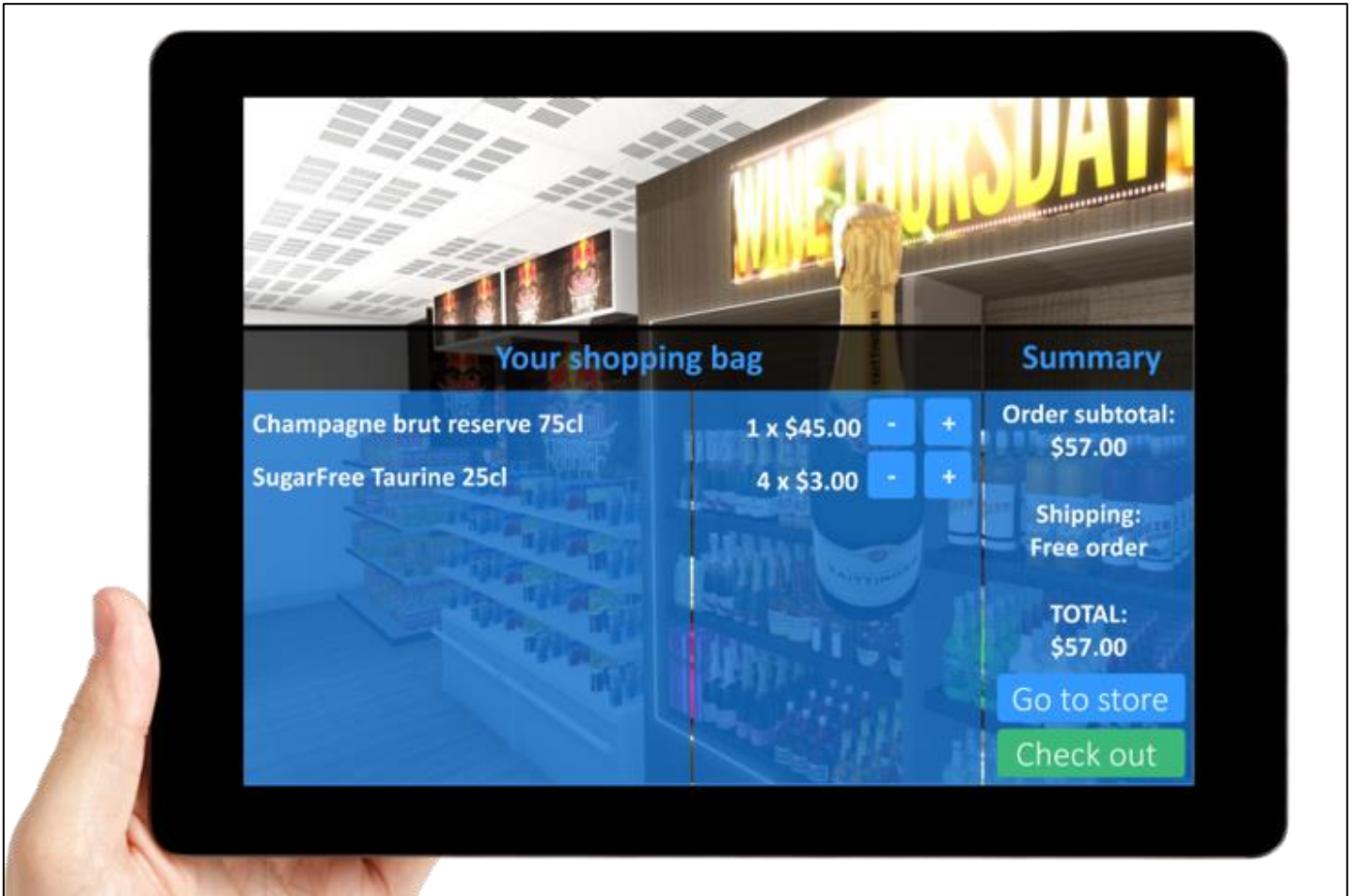
Figure 3: e-Commerce Capabilities

Retailers must be cognizant to maintain this core functionality and ensure that there is consistency in the solution's capabilities.

A final capability that must be explored is the ease with which new products can be introduced into the 3D environment. Being able to quickly photograph, catalog product features, and push the new item to the production environment is critical in the time-sensitive retail industry. One best practice available to the market is referred to as 'product modelization', which allows for a single photograph of a product to be used to create a 3D rendering of the item. Figure 4 demonstrates
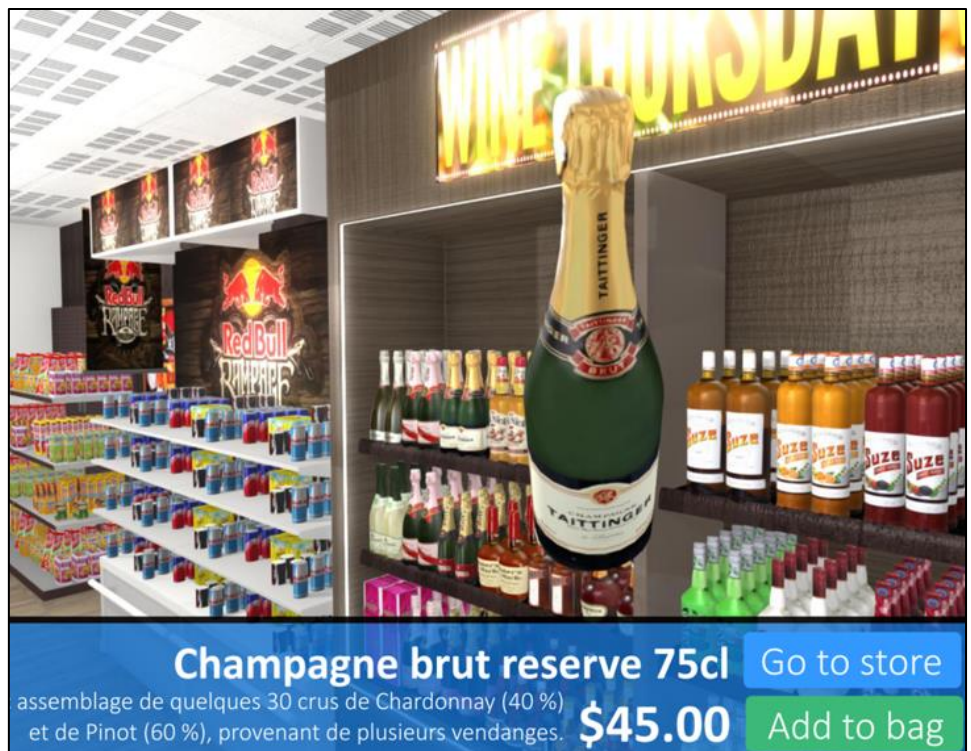

Figure 4: Product Modelization

the use of a single picture of a champagne bottle that was used to create a 3D rendering. Having access to this functionality will be particularly important for retailers with high product counts and limited resources to create extensive product picture portfolios.

Key Attribute #3: Autonomy

The process of developing 3D stores and updating various components of the environments (e.g. pricing, promotions, store layouts, etc.) needs to be managed in an efficient manner. Access to a developer platform is critical to achieving a sense of autonomy, as it will enable dynamic changes and updates based on the retailer's strategic and tactical directions.

An effective developer interface will enable trained staff to operate in a drag-and-drop environment. Completely new stores can be created in a week or two

of development time with comprehensive product offerings, pricing information, and attractive layouts.

The key advantage to the developer platform is that it puts the retailer's team in control of the solution rather than having to rely on a vendor that provides support to multiple clients. Turnaround times for changes to store layouts, pricing updates, product displays, and promotions management will be greatly reduced. Effective utilization of the developer platform will enable the retailer to create a fresh and current environment for its customers.

Figure 5 depicts the user interface of a developer platform. As is evident from the screenshot, the developer has complete control over design aspects, product offering, product placement, and pricing.
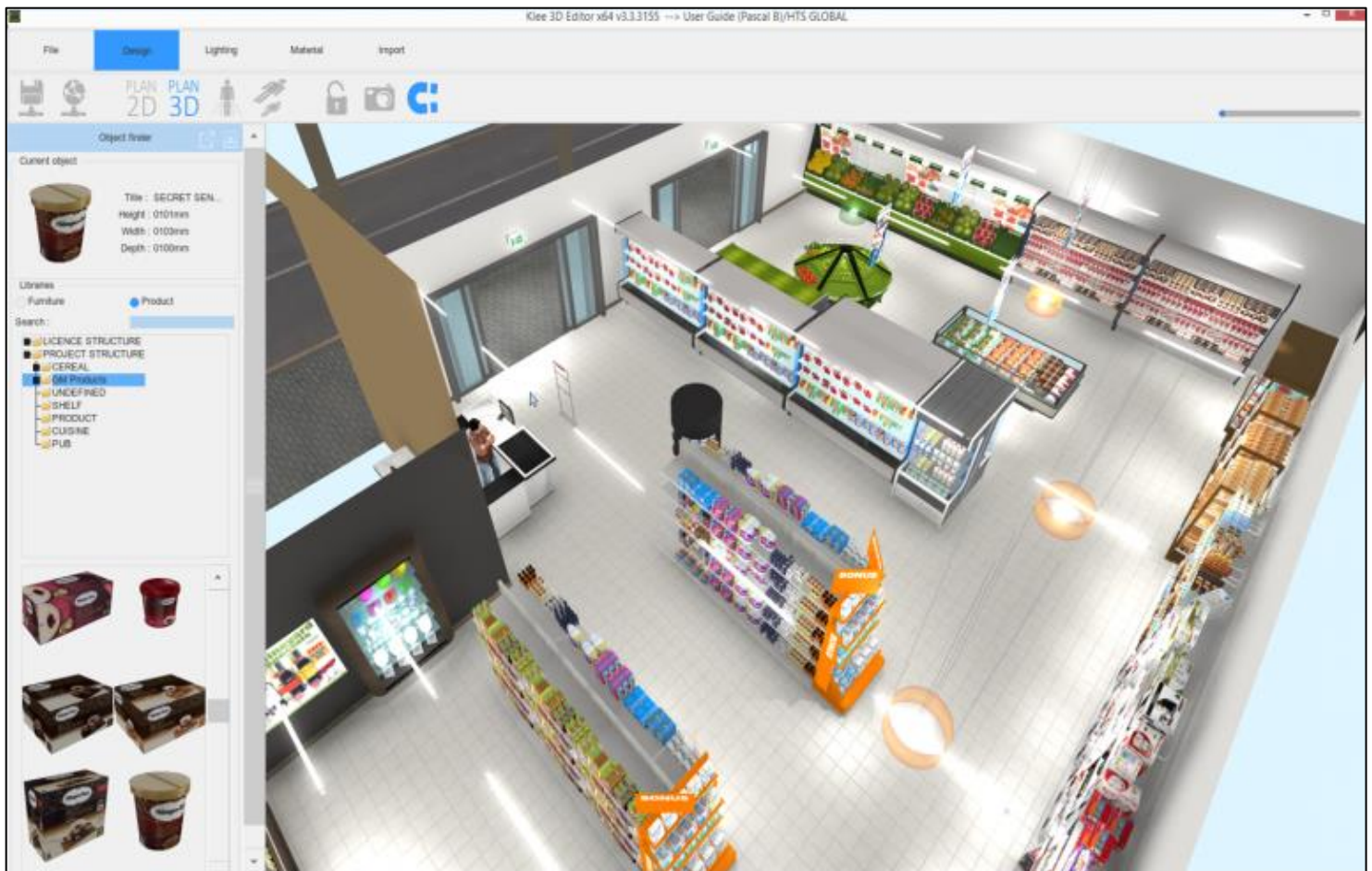
Key Attribute #4: Commercial Flexibility

As is the case with any new market approach, securing a flexible commercial model will be critical to the initial and ongoing success of the 3D environment. Retailers exploring options in the market should anticipate finding a range of commercial options available to them with varying degrees of commitment and upfront investment requirements. Identifying the right partner should help the retailer to navigate some of the confusion that may arise during this stage of the process.

A strong, strategic partner should perform a comprehensive assessment of the retailer's operations, its objectives, and the strategies it is employing to achieve them. This holistic mindset should then be applied to the development of the 3D solution and the associated commercial arrangement. Optimal pricing approaches should be focused on nurturing the retailer's 3D environment during its incubation period and evolving with it as it grows into a mature state.

Key Attribute #5: Market Intelligence

Possessing the ability to track and analyze customer shopping behavior is a key added value of the 3D environment. With comprehensive monitoring mechanisms in place, retailers will be able to gain insights into market indicators such as understanding which areas of the store are popular with customers, evaluating the effectiveness of product displays, and determining how long certain customer demographics are remaining in the store.

Another interesting concept for market intelligence data involves utilizing the information that customers provide in their profiles and trends derived from their purchase histories. With this information, retailers could customize store offerings to the clients' specific needs. In a clothing store setting, only clothing options matching their size requirements and fashion preferences would be displayed. In a grocery store setting, customers with food allergies would only see foods that are safe for their consumption. The result of this approach would be a highly personalized shopping experience for each individual customer.

In figure 6, a sample market intelligence report screen is displayed. Retailers should have the ability to configure the platform to their specific requirements. Additionally and importantly, the application must enable customers to opt out of the tracking mechanisms.

Closing

The next couple of years will likely see an accelerated adoption of 3D e-Commerce platforms by the retailing industry. The technology required to develop and utilize the solution has arrived, and customers are sure to be interested in the enhanced shopping experiences.

While the technology is available in the market, retailers should exercise caution when evaluating their options and potential partners. Implementing an underdeveloped 3D environment or one that is ill-suited to the retailer's needs can result in wasted resources, poor customer shopping experiences, and risk to the retailer's future in the e-Commerce arena.
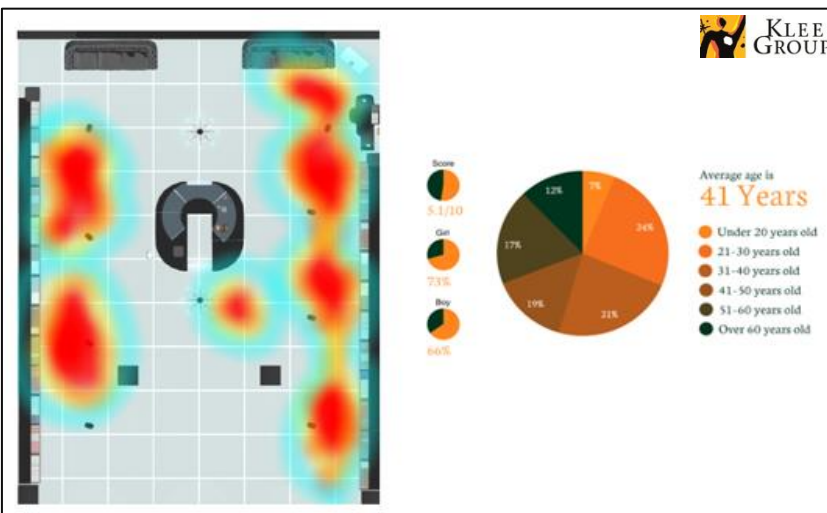

Figure 6: Market Intelligence

When evaluating options, retailers should engage partners that perform a comprehensive assessment of their retail strategy, which includes their existing systems infrastructure (i.e. OMS, WMS, ERP, etc.), existing e-Commerce solution, strategic direction, and resource availability. Through this assessment, retailers will gain a detailed understanding of their existing situation, the options that are available to them, and any investments that are required to transition the business to a 3D environment.

A final point worth noting is that the process of designing, launching, and managing a 3D e-Commerce solution can be quite exciting. The interactive nature inherent to the solution provides for a broad degree of marketing and brand enhancement possibilities. Retailers contemplating the transition to such a platform should not be intimidated or overwhelmed by the situation, as there are very capable partners available to support their efforts.

About the Authors

Brock Eckles
Advisor, Retail & CPG
UST Global
brock.eckles@ust-global.com
+1 214 986 4514
www.ust-global.com

Brock has over 15 years of experience in global supply chain operations. During much of that time, he worked for third-party logistics providers on designing and improving clients' supply chains. He has a strong background in e-Commerce operations design, facility design, transportation network optimization, continuous improvement and business development activities. While working with clients, he has the ability to leverage knowledge of best practices and industry trends to reduce operating costs, improve efficiencies, increase supply chain visibility and mitigate risks to business continuity.

Brock has spent time in Asia, Latin America and Europe working for large logistics companies. He has extensive experience with SAP, Red Prairie, Manhattan and various other supply chain systems.

Pascal Fredet
UK Country Manager
Klee Group
pascal.fredet@kleegroup.com
+33 (0) 608 344 209
www.kleegroup.com

Pascal has over 20 years of experience in Information Systems. He has led projects for large companies ($500+m turnover) operating in several industries (Retail, Manufacturers, Cosmetics, Food, Petrol, Automotive Aftermarket etc.). He has a strong knowledge of e-Commerce and Internet-based systems.

Always in contact with new projects and customers, Pascal's strengths lie in identifying customers' needs and critical issues. His focus is to create the most effective solutions for the customer. He is passionate about new technologies that improve efficiencies and develop new business models.

Pascal's clients are mainly based in Europe, US and Canada.

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