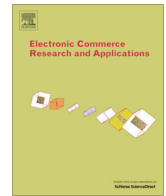


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Website features that gave rise to social commerce: a historical analysis



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ABSTRACT

Social commerce is a form of commerce mediated by social media and social network services (SNS). As a multifaceted phenomenon, social commerce can be studied from different angles and analyzed through the lens of various disciplines. This article examines website technical features to depict the transformation of e-commerce into social commerce. We first develop a conceptual framework to capture three emphases of e-commerce: transactional, relational and social. Then, we use the framework to conduct an historical analysis of the actual website screen captures for five top e-commerce companies since their websites were established. We were able to identify and classify a total of 174 emerging technical features. Our results show that: (1) all three emphases were expressed in the websites and have been reshaping their business and marketing strategies over the years; (2) there was a clear blooming of social features in 2007; and (3) there has been a significant effort to strengthen customer and merchant ties through relational features. Our findings signal that there still is room for further exploration of the social emphasis.

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1. Introduction

Social commerce is a new wave of e-commerce in which traditional e-commerce is mediated by social media and social networking services in order to promote online transactions and shopping-related information exchanges (Wang and Zhang 2012). Social commerce utilizes features that support people's participation in the marketing, selling, comparing, curating, buying, and sharing of products and services in online and offline marketplaces and communities (Zhou et al. 2013). The increasing attention and popularity gained by social media and social networking services over the past several years have brought new opportunities for e-commerce. They also have challenged and redefined traditional vendor-push business models and marketing strategies (Liang and Turban 2011). Social commerce is a more social, innovative and collaborative way of doing business (Parise and Guinan 2008). It has transformed e-commerce into a more socially-centered and user-driven environment (Wigand et al. 2008). More than ever before, consumers are at the center of social commerce business models (Huang and Benyoucef 2013). At the same time, e-commerce businesses have been exploring new features to add to their technology platforms, and designing more tailored websites (Hajli 2012). Web 2.0 technologies and tools are being applied to engage people to share interests, with or without real-life connections in commerce related activities. In this sense, weblogs,

wikis, and social bookmarking systems are changing the role of consumers into more participatory actors in the commercial process (Ickler et al. 2009).

Despite the pervasiveness of social commerce in business and in people's lives, not enough scholarly attention has been devoted to study the social commerce phenomenon (Wang and Zhang 2012). Among the published academic studies on social commerce, some have focused on consumer behavior and social shopping activities by observing factors such as loyalty (Huang 2011), social influence (Amblee and Bui 2011, Kim and Srivastava 2007, Pagani and Mirabello 2011), social ties (Liang et al. 2011) and purchasing behavior predictors (Olbrich and Holsing 2011). Some examined design features and their impacts. For example, taking a more artifact-oriented approach, Grange and Benbasat (2010) analyzed both utilitarian and hedonic affordances of social shopping features and the perceived usefulness and enjoyment associated with them. Huang and Benyoucef (2013) proposed a multi-layered model containing a set of principles for the design of social commerce websites, which is divided into four major layers: individual, conversation, community and commerce. These two studies are particularly helpful for us to understand how some social commerce website features may impact social shopping activities. However, to our knowledge, there has been no systematic investigation that maps social commerce features and discusses how these technical features are incorporated over time into e-commerce retailers' websites to support their online business models and strategies in social commerce.

We believe that technical features are responsible for supporting information sharing and social interaction thus are important

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enablers of new ways of online commerce (Grange and Benbasat 2010). A better analysis of the evolution of the technical features can provide great insight into the transformational nature of e-commerce into social commerce.

Applying a longitudinal qualitative approach, this study examines the evolution of technical features on e-commerce websites to demonstrate how these sites progressed over time and transformed into more social commerce-oriented platforms. Five popular U.S.-based e-commerce websites (Amazon, eBay, Overstock, Wal-Mart and Target) are analyzed based on their historical website versions retrieved through the Wayback Machine (available at archive.org) over the course of twelve and a half years. We aim to answer the following questions: (1) How has each of the top five e-commerce websites evolved over time in terms of their technical features? (2) And how have these websites, collectively and individually, transitioned or transformed from an e-commerce approach to a more social commerce orientation?

Section 2 offers a brief overview of e-commerce and social commerce. Then Section 3 presents a conceptual framework that categorizes e-commerce activities according to three different emphases: transactional, relational and social. Section 4 discusses our methodology, and reports on the e-commerce websites that we sampled, our data collection procedure, and the categorization of different technical features. Section 5 presents and discusses our findings. Finally, we draw a number of conclusions, and highlight some practical and theoretical implications of our study.

2. An overview of e-commerce and social commerce

With Web 1.0 and other Internet based technologies came the rise and fall of e-commerce. The failure of a large number of online companies during the collapse of the dotcom bubble between 2000 and 2001 (Cassidy 2002) demanded that firms should re-examine their strategies to operate and sustain virtual channels and develop a better understanding of consumer behavior, and customer loyalty and retention (Machado 2005). Web-based businesses started implementing new functionalities in their websites to enhance word-of-mouth advertising, build loyalty and retain clients, as well as to allow consumers to experience online shopping in a more social and interactive way. Supported by emerging technologies associated with Web 2.0 and massive adoption in the marketplace of social networking services, e-commerce began to experience a paradigm shift with the rise of social commerce.

Despite some empirical evidence that some web-based businesses implemented features to enhance social interaction and collaboration among consumers in the late 1990s (Curty and Zhang 2011), the expression *social commerce* is officially credited to Yahoo! This occurred with the launching and announcement of two social commerce tools: Shophosphere and Pick Lists (Yahoo! 2005). Social commerce can be understood as a technology-enabled environment in which consumers can interact in social shopping activities, such as product search, product information sharing and aggregation, and collaborative decision-making (Shen and Eder 2011). These social features carry unique and interesting capabilities for online shopping (Grange and Benbasat 2010). Examples of features that support these social shopping activities are: wish lists, discussion forums, chat rooms, geo-tagging and geo-locators, blogs, podcasts, tagging, social networks, ranking tools, and recommendation systems (Jascanu et al. 2007). Also, some social commerce websites allow consumers to shop in an environment similar to social networking platforms, combined with one or more remotely-located shopping partners (Leitner et al. 2007).

Social commerce is beneficial for both consumers and merchants (Hajli 2012). Merchants can explore alternative revenue models and make more profit by attracting potential buyers via

recommendations and consumer interactions, which can be established in social networks and collaboration environments. Firms can strengthen their ties with their partners and sustain better relationships with customers, foresee market trends, and identify new business opportunities. Social commerce also serves as a strategy for monetizing social media by the application of a two-way strategy: helping people connect where they usually buy, or guiding people to buy where they usually connect (Marsden 2010).

Since it is still relatively new, the term *social commerce* is not always used with consistency (Liang and Turban 2011). Some refer to it in the short form of *s-commerce*, and other terms such as *collaborative shopping* and *social shopping* are often used interchangeably. Nonetheless, in agreement with Rad and Benyoucef (2011), we believe that social commerce differs in scope when contrasted to social shopping or collaborative shopping. Social commerce encapsulates both seller and buyer networks, as well as the platforms where shopping activities and the related interactions take place. As a result, social commerce should be considered as being broader than the act of sharing shopping experiences with others.

3. A conceptual framework for the evolution of e-commerce

In searching for an approach to understand different online commerce emphases, we turned to marketing strategies that have been developed in the past. After all, the main purpose for company websites over the years has been to further their success with marketing. Marketing strategies are shaped by the overall goals of business, and they help to define the appropriate business and revenue models that have direct impacts on business returns. Two main types of marketing strategies addressed by the academic literature are transactional marketing and relationship marketing. They are often compared and contrasted, but others view them as simultaneous and complementary commercial strategies (Auruškevičienė et al. 2007, Zineldin and Philipson 2007). They also can be applied to both online or offline contexts.

Rouse (2009) defines *transactional marketing* as “a business strategy that focuses on single, ‘point of sale’ transactions. The emphasis is on maximizing the efficiency and volume of individual sales, rather than developing a relationship with the buyer.” Transactional marketing is primarily a profit-oriented strategy, wherein tactics are put in place to establish one-time exchanges with consumers. Transactional marketing gives priority to effective trading and sales, as well as interactions and transactional exchanges involving “single, short time exchange with a distinct beginning and ending” (Rao and Perry 2002, p. 59).

In contrast, *relationship marketing* focuses on establishing and sustaining networks between firms and consumers, or between firms and business partners, emphasizing long-term lasting relationships. Rao and Perry (2002, p. 599) state that relational exchanges entail “multiple linked exchanges, extending over time,” which are often associated with “economical and social bonds.” As Li and Nicholls (2000) point out, relationship marketing involves planning for the exchange process beyond the exchange itself for higher levels of joint participation. This strategy also presents a more considerable level of mutual interest from the parties involved, and entails more persons and more primary personal relations. In this manner, the relationship marketing approach recognizes that the value of customer loyalty and cooperative alliances with other firms is not driven by immediate profitability concerns (Auruškevičienė et al. 2007, Hastings 2003). Instead, it is oriented toward creating and maintaining long-term relationships, and achieving sustainable profitability. Based on the assumption of mutual benefits, relationship marketing became known for supporting companies’ stability and permanent competitive advantage.

With the development of the Internet economy and the growth of social media, scalable communication and ubiquitous accessibility make a third commercial marketing strategy relevant: *social media marketing*. According to Qualman (2010), this term was coined in 2006 by Rohit Bhargava, a digital strategist and marketer, to represent the strategy of leveraging user-generated content as a basis for establishing mechanisms that engender trust by offering endorsements. Social media marketing seeks to build engagement through interactions and to promote communication among potential consumers and existing customers in interactive communities to improve traffic and sales (Gillin 2008). Social media marketing is motivated by the opportunities and potential returns brought about by consumer socialization and engagement. Practitioners have viewed this as the movement of marketing toward the “social Web” (Weber 2007). Likewise, Evans and McKee (2010) consider social media marketing as the next generation of business engagement. It relies on the development of the social ecosystem that online companies are a part of, and the importance of companies to explore this environment to foster brand awareness and recognition, attract potential customers, and take advantage of user-generated content to support business strategy and value-generating analysis.

The three marketing strategies we have discussed can be employed by e-commerce businesses to emphasize three strategies that may lead directly or indirectly to profit via content sharing and trading activities: transactional, relational, and social. The three strategies can coexist in the same commercial environment and are potentially applicable to any type of e-commerce business. Fig. 1 summarizes the strategy emphases and the relationships among merchants, consumers and customers.

Merchants represent business companies and sellers who offer services or products for profit. Consumers represent, in a broader way, people who intend to purchase, or may acquire goods or services for use or ownership. Customers represent shoppers who have conducted at least once some sort of business transactions with merchants. In other words, consumers are potential customers, whereas customers will have gone through the act of shopping at a particular merchant.

The *transactional emphasis* can be established among merchants (B2B) or between merchants and customers (B2C) with the focus on immediate sales. The *relational emphasis* occurs among

merchants (B2B) or between merchants and customers (B2C or C2B) with a focus on potentially recurring customers for long-term and continued purchases. Merchants explore ways to identify business partners’ and customers’ profiles, shopping habits and preferences, and establish customer relation management strategies for trust and loyalty. These relationships add value to the transactional emphasis, and integrate networks for non-monetary trades and monetary exchanges that may result from this relationship building.

The *social emphasis* involves primarily C2C exchanges with the focus on communication and collaboration among customers and consumers. User-generated content creation, exchange, and use are the key characteristics in this e-commerce emphasis, as indicated by the information icon in Fig. 1. Consumers interact with customers to obtain information about products and services, merchants’ reputations, and other experiences associated with the transactions. Customers may generate reviews that are capable of exerting influence on other consumers or customers in their purchasing decisions. To enhance this e-commerce emphasis, merchants provide platforms for such communication and collaboration, and incorporate social media and social network features into their websites.

The three emphases relate to each other in terms of transforming consumers into customers and leading to the ultimate profit-making goal in an iterative fashion. For example, business transactions give customers the sources of information that they can provide to others in the relational emphasis, in which consumers may eventually make purchases after reading the reviews or after exchanging ideas with customers. In Fig. 1, this is represented by the thin line between the transactional and social emphases (Transactional ↔ Social). Customers in the social emphasis may become those who will maintain a long-term relationship with the merchants. It is the merchants’ desire that loyal customers are more likely to spread good word-of-mouth through comments and reviews in social media and social networks (Social ↔ Relational), which will garner the attention of more consumers who made transactions one time in the past (Social ↔ Transactional), or will become recurring customers (Social ↔ Relational). Steadier customers are likely to make more purchase transactions (Relational ↔ Transactional).

Based on our conceptualization of the three e-commerce strategy emphases, and in agreement with the belief that the re-creation

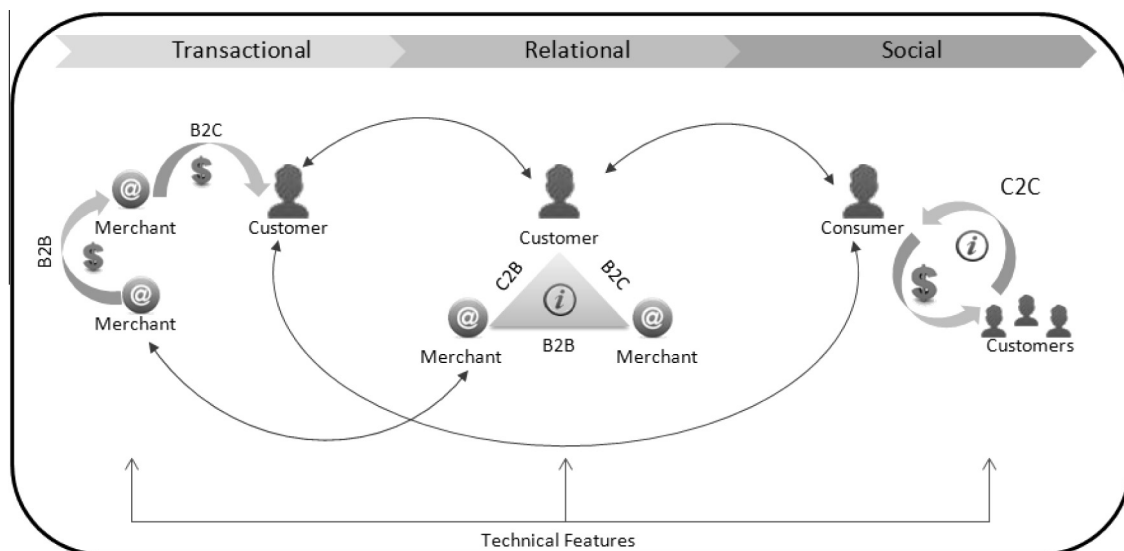


Fig. 1. Three e-commerce strategic emphases and relationships among involved parties.

Table 1
Technical features that support e-commerce emphases.

Category	Description
Transactional	Features that support activities related to agreements and concessions established between a buyer and a seller to trade an asset/commodity. Example technical features are those related to shipping tracking, product search and checkout tools
Relational	Features that seek to forge new and/or maintain long-term relationships between merchants and consumers and/or business partners. They support commitment, loyalty and trust building. Based on consumers' and partner's information, location, profile and shopping habits, retailers are able to tailor better relational strategies. Example relational features are: targeted promotions, recommendations based on previous searches (browse history) or purchases, membership/affiliation advantages and reward programs
Social	Features that promote and support interactions between or among consumers/customers, through which they are able to share opinions, experiences, comments about products/services or merchants. The social activities may impact user generated content (UGC) and crowdsourcing to support buying decisions, leverage sales (transactions) and forge recurring customers (relationships). Social activities in e-commerce websites may take place in social channels such as: forums, discussion lists, rankings, polls, ratings and reviews

of online business strategies is influenced by the functionalities offered on the platforms (Ickler et al. 2009), we posit that technical features in e-commerce websites can be examined according to their ability to support the different strategic emphases. Table 1 defines the three types of technical features that can be found in e-commerce websites. This classification will be used in our longitudinal analysis of the website features of a selected set of e-commerce websites.

4. Methodology

The phenomenon investigated in our study is the inception of various new technical features at different e-commerce websites over time. For such an investigation, the longitudinal quality method is appropriate. Longitudinal qualitative studies are useful for investigating and interpreting changes in processes over time in different social contexts (Holland et al. 2006). According to Ruspini (1999), longitudinal study methods involve three main requirements: (1) data should be collected at least in two different periods of time; (2) the cases that are studied have to be similar or broadly comparable; and (3) data analysis should involve some comparison of data across the different periods.

The sample websites in our study were chosen based on the results of a survey deployed through the Mechanical Turk hosted by Amazon.com. A total of 100 workers, including 59 females and 41 males between 18 and 64 years old located in the United States, participated in this task. They had an average of five hours of online shopping activity per week. Each participant was asked to indicate in an open-ended answer format and in order of preference three U.S. websites at which they shopped frequently. Respondents received a monetary incentive in U.S. dollars for completing the survey.

From the 300 website responses, Amazon, eBay, Wal-Mart, Target and Overstock were the top five websites mentioned. These websites also were in the top twelve of fifty websites in a 2011 ranking by the National Retail Federation (2011). This cross-validation ensured that the five sample websites selected are among the popular and successful ones in the vast universe of e-commerce websites. See Table 2.

Except for eBay, which is classified as an online marketplace, the other four companies are considered to be general merchandise

companies. Among them, Wal-Mart and Target operate in both the online and brick-and-mortar environments.

We collected retrospective longitudinal data via the WayBack Machine Internet Archive (archive.org) during January, February and March 2012. The Wayback Machine is recognized as a valuable tool to track and investigate the evolution of websites. This is useful for longitudinal studies, since the World Wide Web is a changing environment (Murphy et al. 2007). The Internet Archive Initiative, a non-profit organization responsible for curating a digital library of Internet sites, has maintained the Wayback Machine since 1996. It captures and stores screenshots over the lifetime of a URL, which preserves different versions of websites over time, and organizes them in a calendar fashion by years, months and days.

Our data pool includes Wayback Machine screen captures starting from January 1999 until June 2011, a twelve and a half year period. For every year of activity for each website, we retrieved quarterly screen captures. We explored the first screen capture available within each quarter of a given year, and identified, listed and described all of its features in a spreadsheet. Our data set includes a total of 250 website screen captures, or fifty per website.

A *feature of a website* is an attribute that is prominent, conspicuous or characteristic, and creates a special attraction (Free Online Dictionary of Computing 2010). In the present study, features include functions, tools, plug-ins, services and applications that have clearly identifiable purposes to support online business and commercial activities, as well as user interactions with merchants and other users.

During the data collection, we recorded each identified feature in a spreadsheet, along with its website and year of introduction. Whenever it was available, a description explaining the purpose of the feature was included. In some cases, additional searches were conducted about various features and their corresponding websites in order to identify trade articles or business announcements that could provide additional information about the implementation of the features. We excluded shopping bags, shopping carts and similar features from the list. These are essential features for all e-commerce websites. We identified a total of 174 distinctive features in the five websites. Among the 174 features, 32 or 18.4% appeared in more than one website. (See Appendix A.)

Each feature was then coded according to the e-commerce strategic emphasis, attributing only one code per feature. (See Table 1

Table 2
Websites analyzed.

Website	Launching year	Rank (survey)	Rank (NRF)	Type	URL
Amazon	1995	1	1	General Merchandise	http://www.amazon.com
eBay	1998	2	3	Online Marketplace	http://www.ebay.com
Wal-Mart	1999	3	2	General Merchandise	http://www.walmart.com
Target	1999	4	7	General Merchandise	http://www.target.com
Overstock	1999	5	12	General Merchandise	http://www.overstock.com

Table 3
Technical features identified.

Category	Amazon	eBay	Overstock	Target	Wal-Mart	Total	%
Social (S)	8	15	10	5	4	42	24%
Relational (R)	20	25	19	14	16	94	54%
Transactional (T)	17	13	3	3	2	38	22%
Total	45	53	32	22	22	174	100%
%	26%	30%	18%	13%	13%	100%	

again.) To ensure reliable coding, we invited two additional independent coders to re-examine and re-classify each of the features. A rate of 73.5% agreement was achieved after the first round of coding, and 100% in the second round of coding.

5. Findings

5.1. An overview

Appendix A lists all 174 features, their introduction dates and websites, brief descriptions, and their strategic emphasis categories. Table 3 lists the total number of new features identified in each of the three categories across the five websites over the twelve and a half year period. Among the five websites, eBay presented the highest number of social commerce features (30%), followed by Amazon (26%). Amazon leads with the highest number of transactional features introduced and eBay leads in the social and relational features categories. The total number of relational features surpasses the other two combined.

Figs. 2–4 illustrate the introduction of the new features in the three categories over the years in the five websites.

For the transactional features, there was a peak for the introduction of new ones in 2008. The distribution of relational features, which have been stable over the years, had the lowest number of new introductions between 2007 and 2009. The social features had a similar peak, though it came one year earlier in 2007. eBay and Amazon were the early birds in incorporating new social features in 1999; the other three websites did not have any social features until 2002. Between 2000 and 2001, however, there was a noticeable gap in the introduction of new social features, while there was a decline in the final three years.

Fig. 5 offers a timeline visualization of features introduced by the five websites. Separate representations for each of the five websites are shown in Appendices B–F. The social features are located above the timeline and denoted by circles (○). Relational features are right below the timeline and indicated by triangles (△). Transactional features are toward the bottom and marked with

squares (□). The distances between the features are for convenience only and are not meaningful. A new feature that was introduced in the same year at different websites is identified with the different websites where the feature was introduced. In cases where there was a similar feature that was introduced in different years, only the first appearance of the feature is shown.

The results affirm our assumption that the three emphases – transactional, relational and social – coexist and evolved at different points of time through the implementation of new features to support the firms' marketing strategies and business models.

The figure also shows the following transactional features that were introduced: dedicated order tracking, currency conversion, product and services auctions, money transfers, faster checkout, product search, sales parameters and indicators, and optional multi-channel access to the platform, such as smartphones. These features have modernized the online transaction-making process and have assured a more secure environment. For the relational features, different features have appeared over the years, including: website personalization, live shopping assistance, historical searches, rewards and affiliation programs, product alerts, reminders and recommendations from the website.

Related to the social features, Overstock added Facebook and Twitter features in 2009, followed by Wal-Mart and Target a year later. All three websites adopted features such as “Like Us on Facebook” and “Follow Us on Twitter”, with the intention to gather more followers and friends who were exposed to their announcements and news. Overstock and Target also connected with YouTube in 2010. The same year, Overstock incorporated the function “Tweets about Overstock” by aggregating and displaying on their homepage tweets generated about Overstock in microblog services. The company also began to make use of user-generated content to better support its social emphasis.

The timeline further reveals differences among the technical features that we identified. Some features are simpler, such as reviews, ratings and polls, while others are more complex and incorporate several different functions into one. Examples include “Neighborhoods”, “Purchase Circles”, and the “eBay Café”. Among

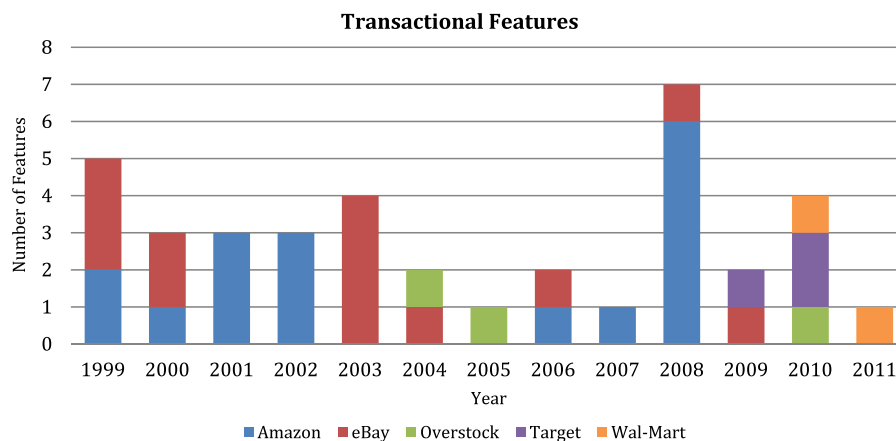


Fig. 2. Transactional features over the years.

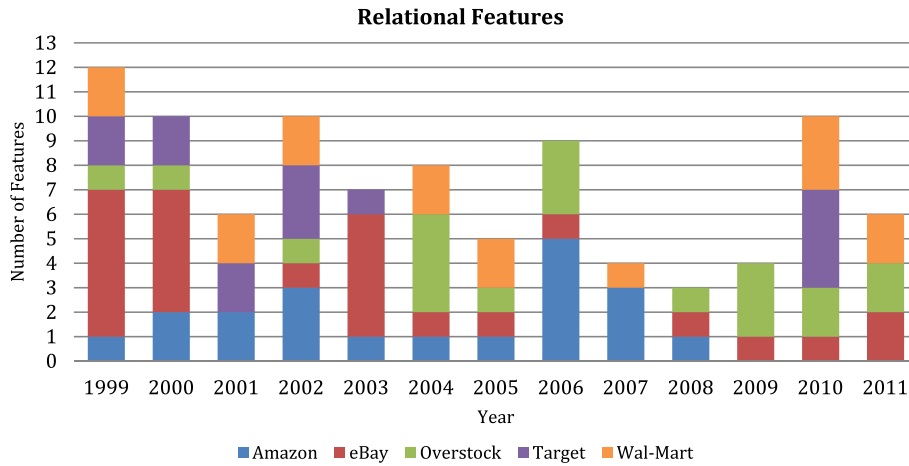


Fig. 3. Relational features over the years.

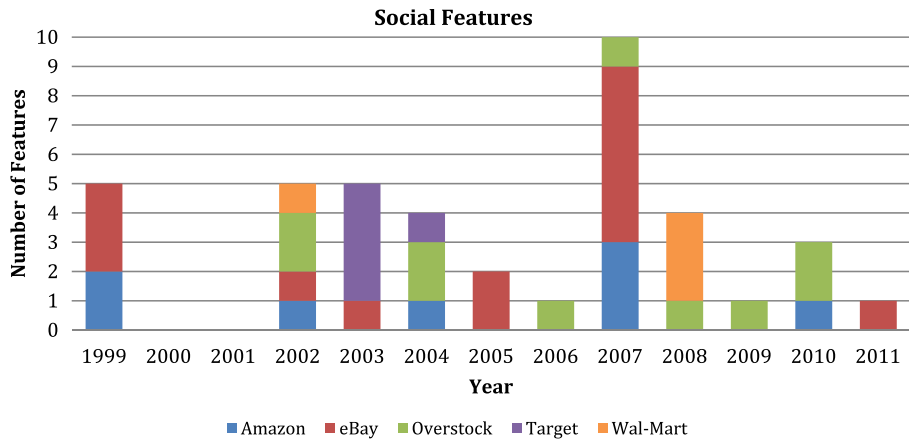


Fig. 4. Social features over the years.

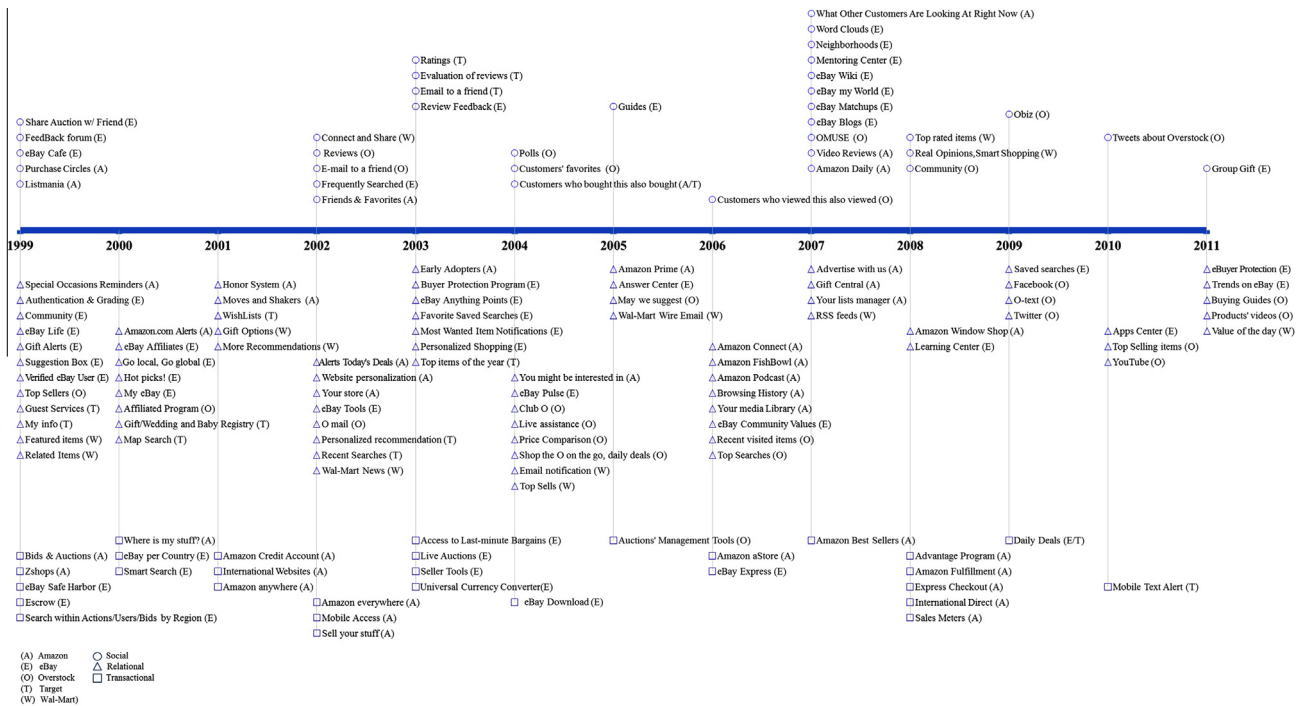


Fig. 5. Collective timeline of new feature inception.

the five websites, Amazon, eBay and Overstock seem to have incorporated more of these features in their platforms, usually carrying the name of the company in these features.

5.2. The transformation to social commerce and the evolution of social features'

The implementation of social features supports the third e-commerce emphasis, which relates more directly to social commerce. We next will provide more details about the social features that we identified for the years that our data cover in chronological order. Then, based on the analysis of each social feature's purposes, we classified the social features into different categories to gain more insight. Although we initially thought that the social emphasis in e-commerce started receiving greater attention from 2005 onwards, our results show that eBay and Amazon were pioneers in implementing social features in their platforms much earlier than 2005 in the late 1990s.

5.2.1. Late 1990s Endeavors

In 1999, Amazon and eBay launched four important social features: "Purchase Circles", Amazon's "Listmania", the "eBay Café" and the "FeedBack Forum". All had the main goal of community building. The "Purchase Circles" feature was announced as a service to help shoppers find the most popular products in different cities, universities and workplaces with the purpose of assisting users' personal buying decisions and promoting more informed purchases. According to Hafner (2000), this service was intended to enable customers in different groups to search for popular products, especially books. Readers also were able to learn about the buying preferences of people with whom they shared interests or characteristics. Also, people could obtain insights about a place, a location or an organization by observing related sales trends. In 2007, the service was discontinued and Amazon's website announced that this feature was undergoing a major renovation. Until now, the feature has not been re-launched. Cleverly (2007) has speculated that the service had to be reevaluated due to information privacy concerns, because it was a vast and open source for data mining.

"Listmania" from Amazon allows a customer to share compiled lists of products with other consumers. This feature is still active, although its purpose overlaps to some extent with traditional wish lists. Amazon continues to use "Listmania" and wish list features. Wish lists are designed for personal tracking of desired products with different privacy settings, while "Listmania" lists are searchable and accessible to any user of the platform.

The "eBay Café" was originally launched as a discussion board to support chatting among members of the eBay community. This feature remains active at eBay's website. Despite advances in eBay's functionality and interface design over the years, the mechanics of the "eBay Café" feature remain the same. Users can interact with other members related to ongoing discussion topics in existing threads, or they can create new ones. Currently, messages can be tweeted or shared via Google Plus. Users also can follow new threads and updates through the RSS feature, and contribute to polls with votes and participation.

Another feature that eBay has consistently offered since 1999 is the "FeedBack Forum", a space for reputation building where trading partners are rated and reviewed. Different from products or services ratings and reviews, this service focuses on developing member profiles and helping prospective trading partners be involved in buy and sell transactions with greater confidence.

In 1999, these four features were aligned with Hajli's (2012) and Marsden's (2010) perspectives on the two-way value-creating capabilities of social commerce. The importance of building virtual communities was a salient driver of the introduction of the features we have described. They empowered social interactions

among consumers and created valuable user-generated content to support the companies that launched them. Schubert and Ginsburg (2000) recognized three major forces associated with e-commerce community building: (1) to strengthen trust in trading activities and establish a more warm and social environment for consumers; (2) to provide mutual support and the means for the identification of individual user needs based on shared community knowledge; and (3) to increase consumer buying power while collecting potential ideas for group-tailored products and services, in order to extend existing product bases.

As we previously noted, between 2000 and 2001 there were no new social features that were introduced in the five websites. This coincides with the time when numerous online retailers were victims of the burst of the dotcom bubble (Cassidy 2002). Thus, one possible explanation for this apparent lack of interest is effect of the crisis period for online businesses. Some retailers probably preferred to continue their operations and not take additional risks by releasing new social features on their platforms.

5.2.2. The resurgence of social features

From 2002 to 2006, however, new features that support social shopping and interactions among customers surged to greater attention. The inclusion of recommendation agents in websites became widespread, in order to elicit the interests and shape the preferences of consumers. Websites started implementing reviews and ratings, C2C recommendation functions, spaces for customers to create and share shopping guides, and tools to allow customers to check and search for related products. All of these are based on other customers shopping activities and experiences.

In 2002, Wal-Mart launched "Connect and Share", where consumers could interact in a Q&A forum, organized by topics, through posting their stories and shopping experiences. The questions could be answered by other shoppers or Wal-Mart representatives. When we conducted this analysis in early 2013, this feature remained active in Wal-Mart's website. In the same year of 2002, "Friends and Favorites" was released by Amazon. This feature allowed users to get product information from people with whom they were friends. They were able to build their personal social networks with favorite people and follow their opinions and recommendations. Two other features have similar purposes of showing consumers alternatives of products that are associated to the products they are searching and visualizing: "Customers Who Bought This Also Bought" was first introduced by Amazon and Target in 2004, and "Customers Who Viewed This Also Viewed" was launched in 2006 by Overstock. These features tool into account previous customers' activities and had the goal of stimulating shoppers to buy more by exposing them to a set of additional products most relevant to their purchase intentions. These two features used filtering systems in a collaborative and social way by gathering information from users' behaviors in a more implicit fashion (Kangas 2002). Different from situations where consumers explicitly created and shared contents with others in writing reviews or ratings, these social features gauged more implicit behaviors captured through actions of consumers during the use of different features of the websites.

Surprisingly, our timeline, as shown in Fig. 4, reveals just one new social feature in 2005, "Guides from eBay". It was implemented to enable eBay members to share their expertise on any topic or category. The motto, "Write and Share, Read and Learn", was used by eBay as a way to emphasize how others' experiences can support more informed shopping decisions.

5.2.3. The year 2007: the apogee of social commerce

Although the term *social commerce* was coined in 2005, our data show that the peak year for the emergence of new social features was two years later in 2007. eBay alone launched seven social features to support customer collaboration and socialization. This

matches the findings from another study, which suggested that social commerce began to grow more rapidly in that year (Wang and Zhang 2012). In addition, to support content creation, eBay launched wiki spaces and blogs so that members could create articles, share contents and swap pictures. Members of eBay were able to build personalized spaces and develop personal profiles to connect and share information with other members through its “eBay My World” service. They also can create social voting polls with eBay matchups, participate in mentoring groups and receive help from eBay members on the platform for better shopping and selling experiences.

Additionally, eBay incorporated word clouds based on user-generated content through tagging activities, and released “Neighborhoods”. According to Steiner (2007) and Sacco (2007), Neighborhoods aimed to create micro-communities built around common interests. This feature drew content from blogs, reviews and guides, and allowed neighborhood-specific message boards and member-uploaded photos. It offered social mapping tools to visualize the interconnections among people and their common interests.

In October 2011, eBay announced its plan to remove “Neighborhoods”. By April 30, 2012, the feature disappeared and its functions were incorporated into the “Groups” feature. Also in 2007, Overstock released “OMUSE”, a wiki-based collaborative and open environment through which customers with similar interests could find each other and team up in group activities and projects. Overstock’s intention was to create constantly evolving guides with practical and applied knowledge to support its customers. However, this feature is no longer active in the company’s website. After “OMUSE” was discontinued, Overstock’s emphasis on building a sense of community among customers re-emerged in 2008 with the release of its “Community” feature. This was a portal in which registered users could explore different social tools, such as discussion boards, groups and forums. Overstock’s announcement of this feature made its purpose clear: “[P]eople like you

can interact, entertain and educate . . . When we’re finished, you’ll be able to keep up on current events, speak your mind on your free blog, chat with folks like you in our forums, and work with others to write the book on the activities that most inspire you. Big changes are coming fast, so please check back soon.” In 2010, this feature was redesigned and social networks services were incorporated into it for integrating users and maximizing word-of-mouth.

In 2006 Amazon launched “Amazon Plog”. The basic idea of “Plog” was to customize a blog for customers based on their past purchases and click behavior. In order to promote more social interactions among customers and keep them updated with new products and services offers, in 2007 Amazon released another revamped blogging platform called “Amazon Daily”. It provided customers with information on trendy products and services, as a way for customers to comment on the highlights for the blog. Amazon Daily drew its contents from different Amazon editorial blogs and amassed them into a single repository from which Amazon shoppers could get their news. The Internet-based newsletter, *Digital Trends*, reported that “Amazon Daily” offered “a degree of personalization which allows users to select which topics are displayed, quick links to other Amazon blogs, easier navigation of ‘Amazon Daily’ archives, and commenting and voting on posts” (*Digital Trends Staff 2007*).

5.2.4. The plateau stage

Between 2009 and the first half of 2011, there was a clear decline in the launch of new social features at the websites we tracked. Among the few that occurred, in 2009 Overstock launched “O.biz” for businesses and customers to trade merchandise in bulk. This was announced as a feature that was designed to give small businesses and customers the opportunity to buy large quantities of merchandise at deep discounts. Later, “O.biz” was redefined as a parallel B2B website, and it remains active today.

In 2010, Amazon introduced “Connecting with Facebook”. This alliance was motivated by the possibility of bringing in potential

Table 4
Social features’ categorization.

Category	Description	Some examples
Promote and Attract Others	Focuses on bringing awareness and attention about deals, brands, and or new products. The integration with third-party SNSs is an option to expand the word-of-mouth to a broader scope	<ul style="list-style-type: none"> • Connecting to Facebook – Amazon (2010) • E-mail to a friend – Overstock (2002); Target (2003) • Friends and Favorites – Amazon (2002) • Tweets about Overstock – Overstock (2010)
Create Self-Identity and Sense of Community	Allows users to create their identities in an internal community by personalizing a profile in the website platforms. Users can socialize and interact with others by exchanging ideas and opinions with community members.	<ul style="list-style-type: none"> • Community – Overstock (2008) • Connect and Share – Wal-Mart (2002) • eBay Blogs – eBay (2007) • eBay Café – eBay (1999) • eBay my World – eBay (2007) • FeedBack forum – eBay (1999) • Guides – eBay (2005) • Listmania – Amazon (1999) • Mentoring Center – eBay (2007) • Neighborhoods – eBay (2007) • OMUSE – Overstock (2007) • Purchase Circles – Amazon (1999)
Generate Content	Targets the creation of user-generated content (UGC) to support other consumers in their shopping decisions and, meanwhile, provide e-commerce websites with strategic information for projecting and anticipating trends. It can be directly generated by customers in an active way, where customers directly rate, tag or write reviews, or in a passive way by consumers’ behaviors.	<p><i>Active</i></p> <ul style="list-style-type: none"> • Reviews’ evaluation – Overstock (2010) • Review feedback – eBay (2003) • Reviews – Overstock (2002); Target (2003) • Ratings – Target (2003); Wal-Mart (2008); • Word Clouds – eBay (2007) • Video Reviews – Amazon (2007) <p><i>Passive</i></p> <ul style="list-style-type: none"> • Customers’ favorites – Overstock (2004) • Customers who bought this book also bought – Amazon (2004) • Customers who viewed this also viewed – Overstock (2006)
Act Collectively	Focuses on supporting effective collective actions, where shoppers can get involved in activities designed for group participation.	<ul style="list-style-type: none"> • eBay Matchups – eBay (2007) • Group Gift – eBay (2011) • Polls – Overstock (2004)

new shoppers that are part of its customers' networks. The main idea is to allow consumers to tap into their Facebook friends and get recommendations to discover what their friends' favorites and likes are.

In 2011, eBay launched "Group Gifts", a collective buying function to support friends who would like to give gifts together. Members are able to set up a group gift using Facebook or email, chip into pay, and track payments from members and collectively purchase gifts.

5.2.5. Social features: a functional categorization

A closer analysis of the 42 social features found in the top five e-commerce websites allows us to categorize these different features by associating their common purposes based on the business strategy they support. In general, all social features have the main goal of promoting interactions and social exchanges among consumers to improve their shopping experience. We also can infer that there are similarities in the purposes of the different features that have been introduced by different websites across the years.

Our analysis identified four main categories that are primarily dedicated to: (1) attracting others and promoting branding; (2) building users' identities while strengthening member ties to the community; (3) producing user-generated content for further use; and (4) promoting collective action. Table 4 summarizes these four categories and offers some examples.

The proposed categories summarize and integrate the common purposes of different social features that we identified. They consider the features underlying the functions and strategies that characterize the evolution to a more social-oriented type of commerce. Because it is critical for any social commerce website to offer a minimum of social features, this compilation can serve as a guideline for the identification of the implementation of new capabilities and new features.

6. Conclusion

This study answered two questions related to the evolution of the top five e-commerce websites and their transitions to a more social commerce orientation. We examined the websites' individual and collective evolution over twelve and a half years, and traced the introduction of different technical features across the years. 174 newly-introduced features were identified and classified based on their support for various transactional, relational and social businesses strategy emphases. In addition, we provided a deeper examination of the social features to shed light on the transformation from e-commerce to social commerce. We outlined a framework to summarize the purposes and functionalities of the social features.

As a longitudinal and retrospective investigation, this study was limited by the availability and quality of WayBack Machine data, and faced some constraints for webpage navigation. Because of these things, and despite our effort to thoroughly analyze the websites, it still is possible that some features were not captured properly in our data collection process. Also, the descriptive and qualitative approaches that we used in this study, along with the small number of cases that we investigated, restrict us from offering more generalizable results that are applicable to the wider e-commerce sphere. Our classification of the websites' social features was drawn up solely based on a meta-analysis of our empirical data.

In spite of the limitations, we discovered some interesting facts and trends. Although the term social commerce emerged in 2005, our study shows that Amazon and eBay introduced some social commerce-related features as early as late 1990s. They did this to empower C2C interactions and social shopping activities. They also sought to adapt their business strategies to the Internet economy and the increasing importance of online word-of-mouth. E-commerce has been evolving gradually and the three strategic emphases coexist, as evidenced by the supporting technical features that we reported on. There may be different degrees of social commerce, depending on the nature and extent of the supporting social features that are implemented at different e-commerce websites. And, since five websites that we studied represent companies with different business models, it will be interesting to assess and compare how their website features changed over the years as their e-commerce strategies evolved.

This study offers two major contributions. At the conceptual level, we proposed a framework to understand the three strategic emphases in e-commerce, and the interactions among the three major actors – merchants, consumers, and customers. We also provided a categorization of social features to highlight the social commerce orientation of the top five e-commerce websites. At the methodology level, we demonstrated a qualitative longitudinal analysis that captures and analyzes historical evidence about the introduction of different transactional, relational and social features by top e-commerce websites.

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Appendix A. List of features

Feature	Website (Date)	Description	Final Code
Access to last-minute bargains	eBay (2003)	Exclusive to registered users. Not possible to retrieve specifications.	T
Advantage Program	Amazon (2008)	A self-service consignment program that enables people to promote and sell media products directly on Amazon.com. Advantage is designed specifically for publishers, music labels, studios, authors, and other content owners who would like to source their products to Amazon.com, the world's leading on-line retailer. It gives you the opportunity to market products to millions of customers. The program offers a proven means of distribution and order fulfillment for media product (such as books, videos, and music). The Advantage program is	T

(continued)

Feature	Website (Date)	Description	Final Code
		not intended for individuals selling used copies, or resellers of books (such as bookstores). For these options they should use Selling on Amazon or Fulfillment by Amazon.	
Advertise with us	Amazon (2007)	External sellers' advertisement and selling through Amazon platform.	R
Affiliated Program	Overstock (2000)	Overstock affiliated program allows members to place links to our products on your web site. By placing these links, visitors to the website have the opportunity to buy products. If a product is purchased through the website, a commission, for each sale, is paid. See: (web.archive.org/web/20000229120514/http://www.overstock.com/alliance.html)	R
Affiliated Program	Target (2002)	The direct Affiliate Program is a B2B partnership. Join today and start earning commissions on all sales that you refer. Take advantage of the millions of products offered on our combined site by joining one or both of our affiliate programs. See: (web.archive.org/web/20030210065618/http://www.target.com/gp/browse.html?node=3008941)	R
Alerts Today's Deals	Amazon (2002)	Indicates the special deals of the day.	R
Amazon Anywhere	Amazon (2001)	Wireless access support. Development of new features for wireless users.	T
Amazon aStore	Amazon (2006)	E-commerce platform/solution. Available to Amazon Associates. It offers the possibility for associates to create a professional online store in minutes and without the need for programming skills. It can be embedded within or linked to from merchants' websites.	T
Amazon Best Sellers	Amazon (2007)	The most popular items based on sales on Amazon.com. Updated hourly.	T
Amazon Connect	Amazon (2006)	Support to independent authors (promotion and revenues). Authors can create their own blogs to promote their publication through Amazon.	R
Amazon Credit Account	Amazon (2001)	Credit card/payment financing.	T
Amazon Currency Converter	Amazon (2008)	Currency converter tool for international transactions.	T
Amazon Daily	Amazon (2007)	Blog. Purpose: more direct interaction with and among consumers.	S
Amazon Everywhere	Amazon (2002)	Web service. See: (http://www.pcmag.com/article2/0,2817,1230757,00.asp)	T
Amazon FishBowl	Amazon (2006)	Podcasts/short promotional live videos in related to new products.	R
Amazon Fulfillment	Amazon (2008)	Supply and Distribution Chain Management. Web-to-warehouse high speed picking and sorting system to complete shipping carrier integration.	T
Amazon Podcast	Amazon (2006)	Large media library of podcasts with personalities/ celebrities.	R
Amazon Prime	Amazon (2005)	Membership benefit system.	R
Amazon Window Shop	Amazon (2008)	Alternative interface for a more interactive and user friendly shopping experience. Drag and drop products option. iPad version	R
Amazon.com Alerts	Amazon (2000)	E-mail notification.	R
Answer Center	eBay (2005)	FAQs section. Organized by topic and with search option. See: (web.archive.org/web/20050308082606/http://pages.eBay.com/community/answercenter/index.html?ssPageName=comm:f:f)	R
App for mobile shopping	Wal-Mart (2010)	iPhone App.	T
Apps Center	eBay (2010)	Enhanced version of eBay Download "Manage and grow your business effortlessly" Apps offered (Customer support, Finance & accounting, Inventory, Listing, Marketing & merchandising, research & reporting, shipping, payments and sourcing)	R

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Feature	Website (Date)	Description	Final Code
Auctions	Overstock (2004)	Customers can bid on products. See: (web.archive.org/web/20041012075322/http://auctions.overstock.com/)	T
Auctions' Management Tools	Overstock (2005)	Different apps for users are provided to optimize auction. See: (web.archive.org/web/20051208100818/http://auctions.overstock.com/cgi-bin/auctions.cgi?PAGE=STATIC&PAGENUM=102&caller=m)	T
Authentication & Grading	eBay (1999)	Resources to get an expert opinion on a particular item.	R
Bids & Auctions	Amazon (1999)	Bids and Auctions.	T
Browsing History	Amazon (2006)	History of past searches and viewed items.	R
Buyer Protection Program	eBay (2003)	Exclusive to registered users. Not possible to retrieve specifications.	R
Buying Guides	Overstock (2011)	Help users to make more informed decisions about your next product purchase. Guides offer detailed research about computers, duvet covers, plasma TVs, luggage, handbags, digital cameras and many other popular products.	R
Club O	Overstock (2004)	Membership program (reward and discounts)	R
Community	eBay (1999)	A webpage through which users can access eBay news, press releases, discussions and help boards.	R
Community	Overstock (2008)	Community Message board, groups, forum. Description on the website: "people like you can interact, entertain and educate...When we're finished, you'll be able to keep up on current events, speak your mind on your free blog, chat with folks like you in our forums, and work with others to write the book on the activities that most inspire you. Big changes are coming fast, so please check back soon." (Forums/Blog/Guides). In 2010 was reformulated and blended social networks services, for integrating users and spread the word of mouth.	S
Connect and Share	Wal-Mart (2002)	Beta version. Services provided: classifieds, customer reviews, Q&A and space for "Your Stories".	S
Connecting to Facebook	Amazon (2010)	Connect to Friends from your Facebook. "Transport their Facebook friends to Amazon – and get recommendations from those friends on what to buy". Tap into your Facebook network to improve your Amazon shopping experience: Discover Amazon recommendations for movies, music, and more based on your Facebook Favorites and Likes. See upcoming birthdays and find Amazon Wish Lists for your friends on Facebook more easily. Get great gift suggestions for your friends based on their Facebook favorites and likes. Explore your friends' Favorites and see who has similar interests.	S
Customers' favorites	Overstock (2004)	Items that are best rated in their product category.	S
Customers who bought this book also bought	Amazon (2004)	Suggestion/product filtering. Purpose: offer options for combined sale.	S
Customers who viewed this also viewed	Overstock (2006)	Associated product visualization. Purpose: offer options for combined sale.	S
Daily Deals	eBay (2009)	Best deals of the day are displayed.	T
Daily Deals	Target (2009)	Recommendation B2C of the deals of the day.	T
Early Adopters	Amazon (2003)	Monthly email alerts about new releases in technology world.	R
eBay Affiliates	eBay (2000)	Reward program for website owners (pay per click). See: (web.archive.org/web/20000621103949/http://www.pages.eBay.com/affiliate/index.html)	R
eBay Anything Points	eBay (2003)	Reward system. For users to earn points from sellers, partners, and special offers. Points can be used to pay for items on eBay which accepts PayPal.	R
eBay Blogs	eBay (2007)	Users can create their own blogs and share contents and pictures.	S

(continued)

Feature	Website (Date)	Description	Final Code
eBay Café	eBay (1999)	Discussion board to chat with members of the eBay community. In 2007, renamed to chat. General chat rooms and categories-specific. Announced as “talk with others in a casual setting. See: (web.archive.org/web/20070903022936/http://pages.eBay.com/community/chat/index.html)	S
eBay Community Values	eBay (2006)	Policy and guidelines to participate in eBay community. See: (web.archive.org/web/20060618021752/http://pages.eBay.com/help/newtoeBay/community_overview.html?ssPageName=comm:f:f:US)	R
eBay Download	eBay (2004)	Software/apps to help sellers to organize they products/ bids (i.e. toolbars and turbo lists)	T
eBay Express	eBay (2006)	A new specialty site where customers can buy new, fixed-price goods in a more conventional e-commerce experience. Sellers have more exposure to top buyers and convenience-oriented buyers at no additional cost. Buyers can shop eBay vast inventory of brand new, brand name, and hard-to-find products. See: (developer.eBay.com/products/roadmap/2006-q2/express/). This service is not available anymore. See: (pages.eBay.com/express/)	T
eBay Life	eBay (1999)	Monthly Newsletter. Announcement: “our new online newsletter for the eBay community! In this newsletter, you’ll have a great time reading about your collecting passions, as well as those of other eBay friends. You’ll also find out what we are doing to make your eBay experience a better one.” See: (web.archive.org/web/19990420062220/http://pages.eBay.com/aw/life-pageA1.html)	R
eBay Matchups	eBay (2007)	Polling social activity, where people create comparison between two products and other members vote. Organizes polls by most popular and recent ones. See: (web.archive.org/web/20070818131133/http://eBaymatchups.com/)	S
eBay Mobile	eBay (2008)	eBay.com designed just for small screens. Stay connected to eBay from your mobile phone browser.	T
eBay my World	eBay (2007)	A space for users to: Customize - Pick your favorite features so your My World page looks like you. Personalize - Tell the world about you: what you sell on eBay, your interests... anything! and Share - Add search tags so you can connect with people in the community. See: (web.archive.org/web/20070824023109/http://myworld.eBay.com/)	S
eBay per country	eBay (2000)	Section in the homepage that directs user to eBays of different countries (Canada, UK, Germany, Japan and Australia). Years after the number of countries substantially increased.	T
eBay Pulse	eBay (2004)	A daily snapshot of The World’s Online Marketplace®. Popular Searches, Largest Stores, Most watched items. See: (web.archive.org/web/20050428081404/http://pulse.eBay.com/)	R
eBay Safe Harbor	eBay (1999)	Full service customer support and educational resource to ensure safe online trading at eBay and elsewhere on the Internet. Safe Harbor consists of several elements designed to keep the eBay community safe.	T
eBay Tools	eBay (2002)	Tools for eBay buyers which keep track of the items they’ve bid on and those they’re watching. It alerts before those auctions end so people can place a bid if they’d like. It could mean the difference between forgetting to bid and winning the auction.	R
eBay Wiki	eBay (2007)	Beta version for developers use. They are able to create articles and contribute to others’ articles. See:	S

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Feature	Website (Date)	Description	Final Code
eBuyer Protection	eBay (2011)	(www.zdnet.com/blog/micro-markets/new-eBay-wiki-aims-to-harvest-collective-knowledge-of-the-193-million-eBay-community/117 .) (web.archive.org/web/20061027123344/http://www.eBaywiki.com/eBayCommunity?topic=eBayCommunityTopic113) Coverage/protection program. eBay Buyer Protection covers items purchased on eBay with eligible payment methods that are not received or not as described in the listing. Some purchases aren't covered, such as items listed or that should be listed in the Motors (except for Parts and Accessories) and Real Estate categories, and most prohibited or restricted items. Most Business and Industrial categories are covered by eBay Buyer Protection. See: (web.archive.org/web/20110726001110/http://pages.eBay.com/coverage/index.html)	R
Email notification	Wal-Mart (2004)	New products deals are submitted to consumers after registration.	R
Email to a friend	Target (2003)	Recommendation of a particular product to a friend that might be interested in that particular product.	S
E-mail to a friend	Overstock (2002)	Share an interesting product info/description with a friend that might be interested in that product.	S
Escrow	eBay (1999)	Third party that can ensure a safe transfer of money. Used to prevent fraudulent transactions and protect buyers and sellers.	T
Evaluation of reviews	Target (2003)	Judgment of reviews (how helpful a review provided by other customers was)	S
Express Checkout	Amazon (2008)	Simplified ordering, checkout and purchase process.	T
Facebook	Overstock (2009)	Add the company to your friends' list/connections.	R
Facebook	Target (2010)	Follow Target on Facebook.	R
Facebook	Wal-Mart (2010)	Follow Wal-Mart on Twitter.	R
Favorite saved searches	eBay (2003)	Exclusive to registered users. Not possible to retrieve specifications.	R
Featured Items	eBay (2000)	Lists of the last items added to the website.	R
Featured items	Wal-Mart (1999)	New products available.	R
FeedBack Forum	eBay (1999)	eBay's system for users to learn more about your trading partner. Every eBay user has a Feedback Profile made up of comments from other traders—an official "reputation." See: (web.archive.org/web/19991012065814/http://pages.eBay.com/services/forum/feedback.html)	S
Friends & Favorites	Amazon (2002)	With Friends & Favorites, users get product information from people they respect. Customers can build their personal network of Favorite People and follow their opinions and recommendations.	S
Gift Alerts	eBay (1999)	Registered users, receive gift alerts, according o preference settings.	R
Gift Central	Amazon (2007)	Gift organizer.	R
Gift Options	Wal-Mart (2001)	Gift options/suggestions in some categories are displayed (recommendation B2C)	R
Gift Registry	Wal-Mart (2002)	Search and recommendations of gifts by category, occasion, person, age, price, etc.	R
Gift Reminder	Target (2001)	Provides a reminder based on dates provided by the customers (anniversary, birthdates, etc.)	R
Gift/Wedding and Baby Registry	Target (2000)	Customers can add products and create their lists.	R
Go local, Go global	eBay (2000)	Users can refine products trading according to local preferences.	R
Group Gift	eBay (2011)	Collective buying functionality. A group gift is composed, friends chip into the PayPal account and the gift is bought with the funds collected. See: (http://liveweb.archive.org/http://groupgifts.eBay.com/?_trksid=p5197.m622)	S
Guest Services	Target (1999)	Includes contact with Target, order tracking/status, store	R

(continued)

Feature	Website (Date)	Description	Final Code
Guests who bought this also bought Guides	Target (2004)	locations, information about the projects Target supports. See: (web.archive.org/web/20000229153119/http://target.com/guest_services/index.asp)	S
	eBay (2005)	Product filtering by associated buying/purchasing of other customers. Purpose: offer options for combined purchase. Enables eBay members to share their expertise on any topic or category. Whatever their interest or expertise, users can write a guide on it, for example, All About Podcasts & Podcasting.	S
Honor System	Amazon (2001)	Charitable giving system supported by new technologies. Collective donation and assistance to disaster relief agencies (non-profit organizations (e.g. Red Cross)	R
Hot Picks!	eBay (2000)	Recommendation B2C of potential products of interest.	R
International Direct	Amazon (2008)	Overseas shipping service.	T
International Websites	Amazon (2001)	Different Amazon website version for other countries.	T
iPhone Shopping App	Target (2010)	App exclusively for iPhone users to shop on Target.	T
Learning Center	eBay (2008)	Tutorials, guides to provide advice on how increasing sales. See: (web.archive.org/web/20071011013931/http://pages.eBay.com/education/index.html)	R
Listmania	Amazon (1999)	This list includes products customers found interesting, but that they have not, necessarily, purchased from the website.	S
Live assistance	Overstock (2004)	Live support (chat with a representative)	R
Live Auctions	eBay (2003)	Platform for auction houses to incorporate Internet bidding with their real-life auctions (similar to phone bidding, but only conducted via Internet). The service was closed in 2009. See: (blog.auctionbytes.com/cgi-bin/blog/blog.pl?pl/2009/1/1230832809.html)	T
Map Search	Target (2000)	Search for weekly ads by location (U.S territory only)	R
May we suggest	Overstock (2005)	Pop-up feature based on B2C recommendation, which indicates potential interesting products when a particular product is selected.	R
Mentoring Center	eBay (2007)	Join a Mentoring Group and receive help from another eBay member on how to use eBay. Meet other new members and learn together. See: (web.archive.org/web/20071009122525/http://groups.eBay.com/index.jspa?categoryID=100000486&start=0)	S
Mobile Access	Amazon (2002)	Mobile access to the website.	T
Mobile O	Overstock (2010)	Website version for smartphones and apps for shopping experience.	T
Mobile Text Alert	Target (2010)	Receive text messages from Target in your mobile.	R
Mobile version for all smartphones	Wal-Mart (2011)	Mobile website version.	T
Mobile Website	Target (2010)	Mobile website version.	T
More Recommendations	Wal-Mart (2001)	Link to additional recommendations (B2C).	R
Most frequently searched	eBay (2002)	Rank of the top ten items searched by other users.	S
Most-wanted-item notifications	eBay (2003)	Exclusive to registered users. Not possible to retrieve specifications.	R
Moves and Shakers	Amazon (2001)	Sales ranks of items organized by categories are hourly updated. Kind of “stock market” dynamic and display.	R
My eBay	eBay (2000)	Members profiles according to preference settings. See: (web.archive.org/web/20000302064732/http://pages.eBay.com/services/myeBay/myeBay.html)	R
My Info	Target (1999)	In the same year replaced by “My Target”, where customers are able to manage their transactions and profile information.	R
Neighborhoods	eBay (2007)	Announced as: places for people like you who want to connect via their shared passions for products and topics. You can jump right in, or just come by and watch - it’s up to you. People Profiles and activities available. Sort of internal social network. See: (web.archive.org/web/)	S

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Feature	Website (Date)	Description	Final Code
		20071010065156/http://neighborhoods.eBay.com/). The service was discontinued as of April 30 2012, see: (neighborhoods.eBay.com/)	
O mail	Overstock (2002)	Email notification. Sign up for receiving deals	R
Obiz	Overstock (2009)	A website where businesses and customers can buy bulk merchandise. O.BIZ is designed to give small businesses and customers the opportunity to buy large quantities at deep discounts. See: (web.archive.org/web/20091226041251/http://www.o.biz/?)	S
O-minders	Overstock (2006)	Free reminder of special dates service.	R
OMUSE	Overstock (2007)	Omuse is a place for people with similar interests to find each other and team up to “write the book” on the activities they love. We expect the result of that collaboration to be a vast collection of constantly evolving “guides” intended to teach, edify and, most of all, inspire others. See: (web.archive.org/web/20070716173130/http://omuse.overstock.com/wiki/Main_Page)	S
O-text	Overstock (2009)	Mobile Service to get messages about new products and deals.	R
Personalized recommendation	Target (2002)	B2C recommendation. Some products are suggested accordingly to customer profile (not sure how the data is collected - previous shopping activities, clicks, etc.)	R
Personalized shopping	eBay (2003)	Exclusive to registered users. Not possible to retrieve specifications.	R
Polls	Overstock (2004)	To evaluate if descriptions and information provided about an item were helpful.	S
Price Comparison	Overstock (2004)	Compares prices of products with other retailers (e.g., Amazon)	R
Products' videos	Overstock (2011)	Videos related to the products, showing use, but not generated by consumers. Purpose: enhance product visualization.	R
Purchase Circles	Amazon (1999)	Helps shoppers discover thousands of favorite products by customer communities. Unique Best Sellers List (relatives, organizations, location etc.). Purpose: assist with personal buying decisions (more informed purchases); and to help select gift items for others based on the Purchase Circles to which they belong to.	S
Rating	Wal-Mart (2008)	Stars rating mechanism for products.	S
Rating	Target (2003)	Customers can rate products.	S
Real Opinions, Smart Shopping	Wal-Mart (2008)	Announcement (we are listening, Add your voice now) Real opinions/Smart Shopping! - instructions of how to rate and review products.	S
Recent Searches	Target (2002)	Different products previously searched on the website are organized by categories.	R
Recent viewed items	Wal-Mart (2010)	Tracks the history of items searched and viewed on the website.	R
Recent visited items	Overstock (2006)	Track navigation history of items searched and viewed on the website.	R
Related Items	Wal-Mart (1999)	Products related to the search are displayed (recommendation B2C)	R
Remind me List	Wal-Mart (2011)	Reminder of special dates (anniversary, birthday, Xmas, etc.)	R
Review feedback	eBay (2003)	Feedback ratings are based on user's past transactions and help them to learn about sellers' reputation.	S
Reviews	Overstock (2002)	Read/Write reviews, no rating included.	S
Reviews	Target (2003)	Customers provide their opinion about the product.	S
Reviews & Ratings	eBay (2005)	Comments and ratings for books, movies, CDs, golf clubs, and other specific products – all written by eBay's members only.	S
Reviews' evaluation	Overstock (2010)	Judgment of reviews (helpful or not helpful)	S
RSS feeds	Overstock (2008)	Website updates' tracking without demanding visits to	R

(continued)

Feature	Website (Date)	Description	Final Code
RSS feeds	Wal-Mart (2007)	the website. Website updates' tracking without demanding visits to the website.	R
Sales Meters	Amazon (2008)	Polling combined with website statistics.	T
Saved searches	eBay (2009)	Users can track past searches, bids they won, etc. Integrated to My eBay.	R
Search within actions/ users/bids by region	eBay (1999)	Earlier version of Smart Search released in 2000, where users could filter auctions and biddings activities.	T
Sell your Stuff	Amazon (2002)	Space for people or small business to sell their own products through Amazon platform.	T
Seller Tools	eBay (2003)	Whether you list ten, a hundred, a thousand or more items, Seller Tools will help make you much more efficient at listing and managing your sales. Turbo Lister, Selling Manager and Selling Manager Pro have been designed to fit your needs and maximize your sales. See: (web.archive.org/web/20031203033943/http://pages.eBay.com/sell/tools.html). Currently named: Seller Tools & eBay Stores	T
Share this auction with a friend	eBay (1999)	Way to spread the word to potential buyers and people interest in a specific product.	S
Shop the O on the go, daily deals	Overstock (2004)	Overstock deals are sent directly to the cell phone (restricted models) - See: (web.archive.org/web/20041013074052/http://www.overstock.com/cgi-bin/d2.cgi?SEC_IID=4520&PAGE=STATICPAGE&PAGE_ID=1007)	R
Smart Search	eBay (2000)	Reformulated version of previous search with additional keywords, price range, geographical settings, etc.	T
Special Occasions Reminders	Amazon (1999)	Special dates reminder system.	R
Suggestion Box	eBay (1999)	C2B communication channel for comments, complaints and suggestions.	R
Top items of the year	Target (2003)	Most sold items in a particular year are displayed (B2C)	R
Top rated items	Wal-Mart (2008)	Indication of top rated items in each category.	S
Top Searches	Overstock (2006)	Most searched items (general) - other customers.	R
Top sellers	Amazon (2000)	Rank of top sales in a specific category.	R
Top Sellers	Overstock (1999)	Top seller products according to the website (B2C)	R
Top Selling items	Overstock (2010)	Displays top seller products.	R
Top Sells	Wal-Mart (2004)	Most sold items in a particular category are displayed (B2C)	R
Tweets about overstock	Overstock (2010)	Tweets about Overstock are displayed at the webpage.	S
Twitter	Overstock (2009)	Follow Overstock on Twitter.	R
Twitter	Target (2010)	Follow Target on Twitter.	R
Twitter	Wal-Mart (2010)	Follow Wal-Mart on Twitter.	R
Universal Currency Converter	eBay (2003)	A version of the XE.com Universal Currency Converter [®] Users can perform interactive foreign exchange rate calculations, using live, up-to-the-minute currency rates.	T
Value of the day	Wal-Mart (2011)	Special deals.	R
Verified eBay User	eBay (1999)	Indication that a user's personal information has been verified.	R
Verified eBay User	eBay (2011)	Updated daily. List of items. Not sure if items displayed are based on searches or purchases. See: (web.archive.org/web/20110401181255/http://www.eBay.com/)	R
Video Reviews	Amazon (2007)	Visual comments and opinions about products sold on the website.	S
Wal-Mart News	Wal-Mart (2002)	Press releases, news about store openings, etc.	R
Wal-Mart Wire Email	Wal-Mart (2005)	Email of sales, clearances, and roll-back items opportunities.	R
Website personalization	Amazon (2002)	Customization of the website layout.	R
What Other Customers Are Looking At Right Now	Amazon (2007)	Recommendation System based on other customers' product views.	S

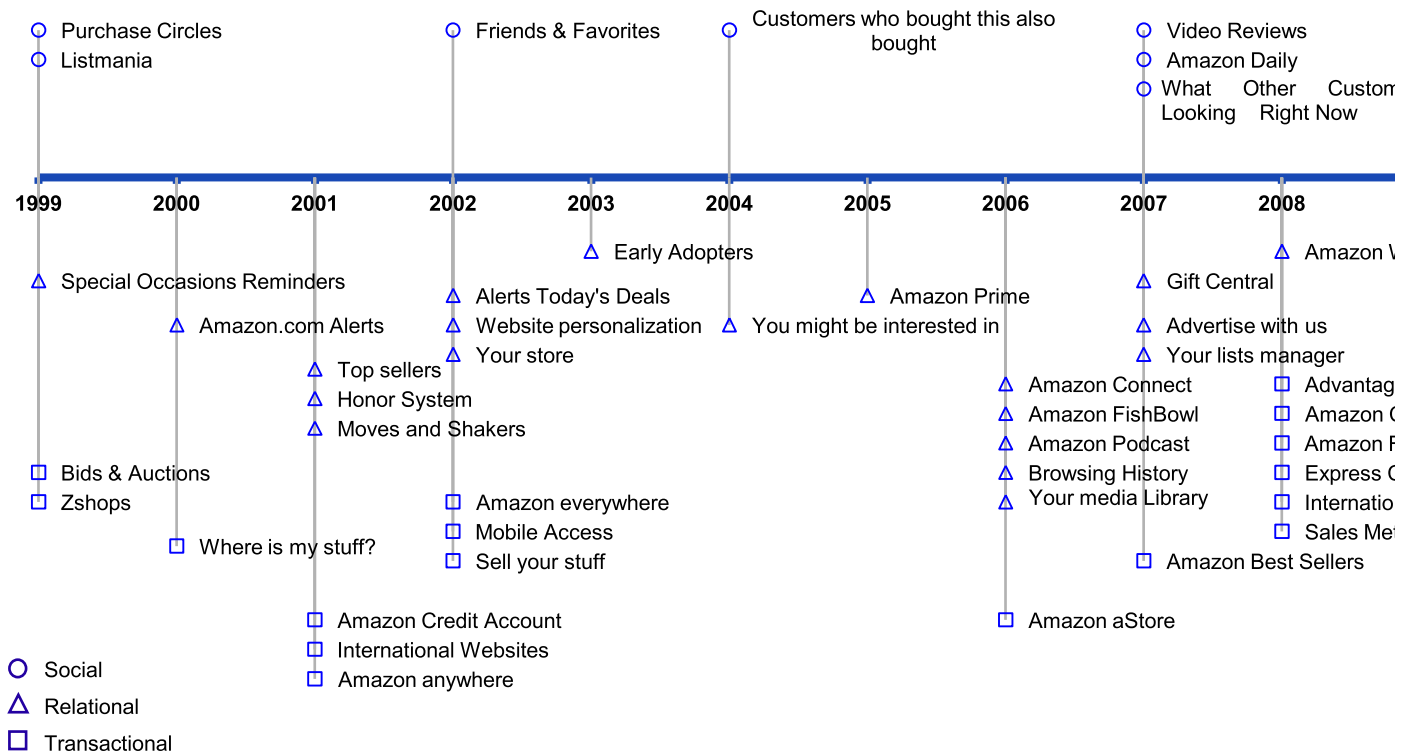
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Feature	Website (Date)	Description	Final Code
Where is my stuff?	Amazon (2000)	Order tracking.	T
Wish Lists	Target (2001)	Customers can add products they plan or want to purchase in the future.	R
Wish Lists	Wal-Mart (2005)	Customers can add products they plan or want to purchase in the future.	R
Word Clouds	eBay (2007)	In eBay My World, word based on the tags extracted from the content of the website (not sure from which part) is displayed. See: (web.archive.org/web/20070824023109/http://myworld.eBay.com/). One year later in the homepage to indicated "what is in demand?". See: web.archive.org/web/20090705135753/http://www.eBay.com/)	S
You might be interested in	Amazon (2004)	Recommendation system.	R
Your lists manager	Amazon (2007)	Lists' organizer.	R
Your media Library	Amazon (2006)	Media Organizer.	R
Your store	Amazon (2002)	Account and personal information manager.	R
YouTube	Overstock (2010)	Related videos. Watch videos produced by Overstock on YouTube. See: (www.youtube.com/user/OverstockOnline)	R
YouTube	Target (2010)	Related videos. Watch videos produced by Target on YouTube.	R
Zshops	Amazon (1999)	Merchants or individuals can make use Amazon platform and have access to Amazon's customer's platform for business transactions.	T

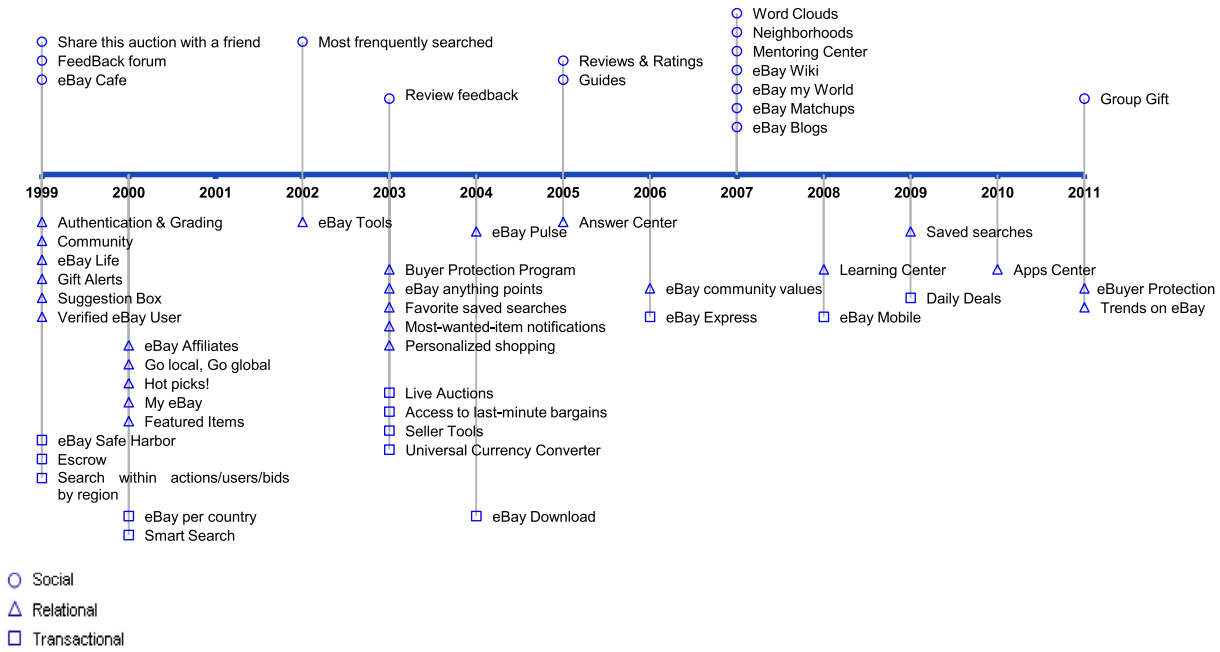
Appendix B. Amazon timeline

Amazon's Technical Features



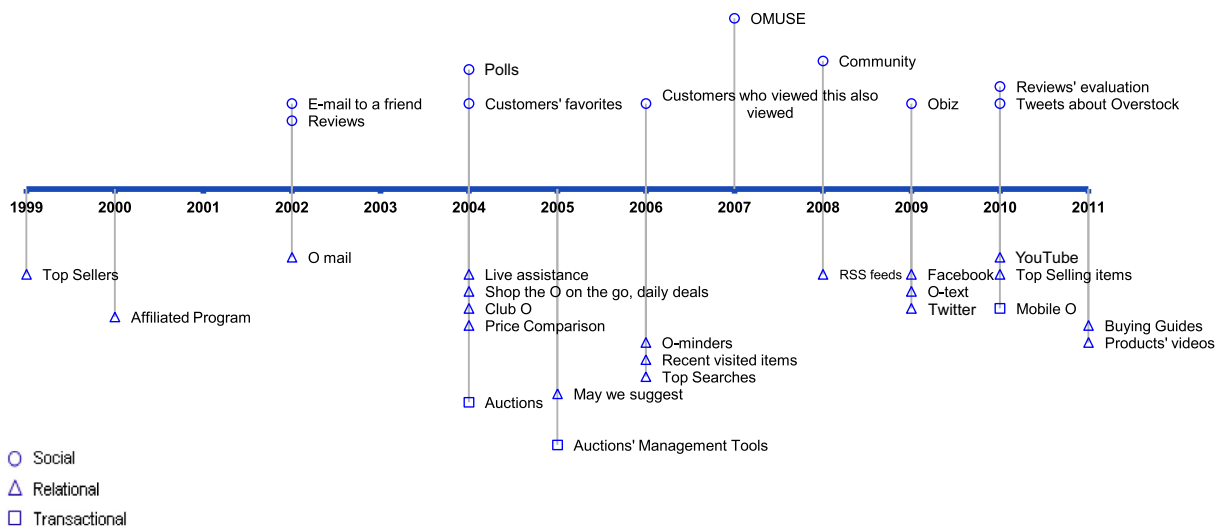
Appendix C. eBay timeline

eBay's Technical Features



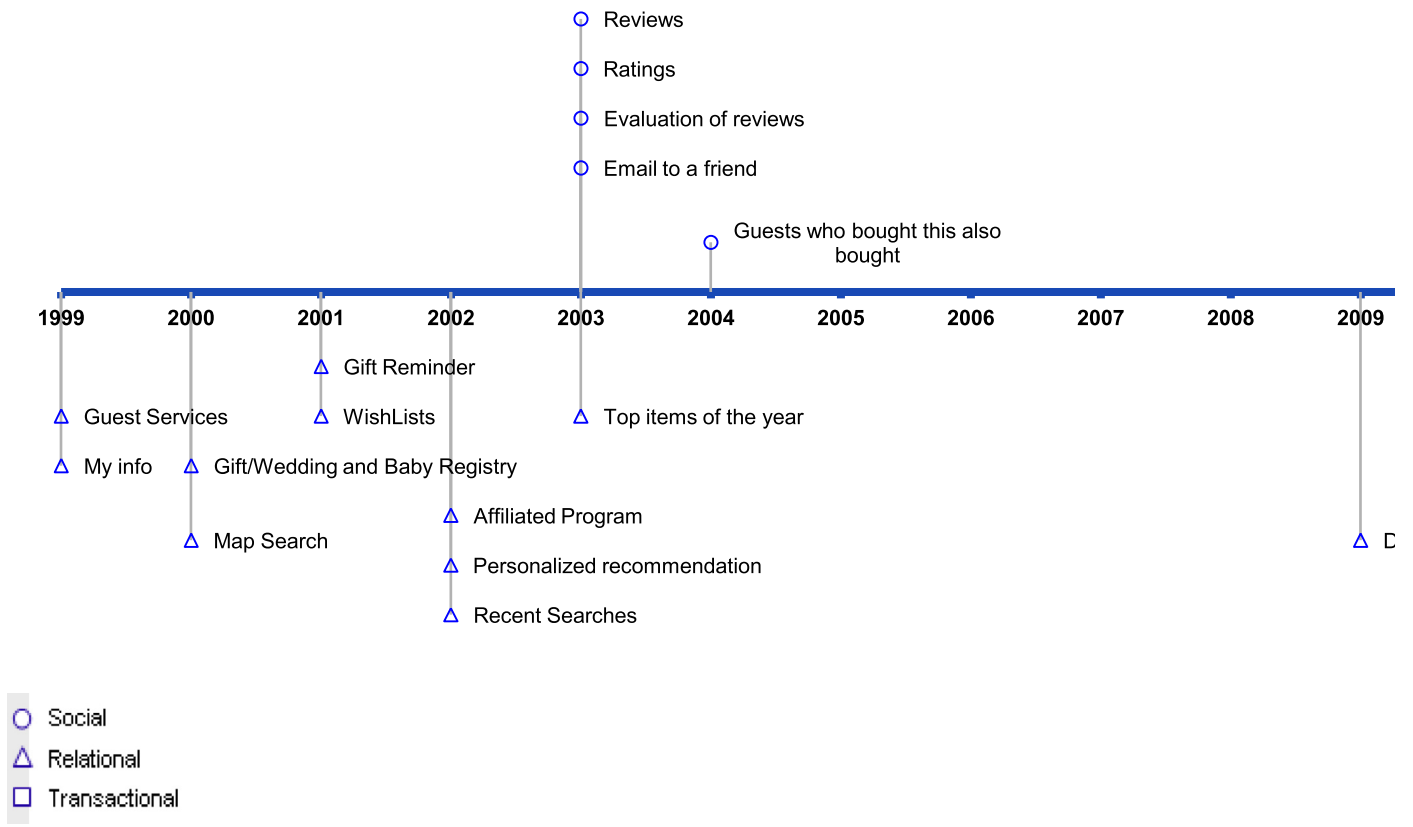
Appendix D. Overstock timeline

Overstock's Technical Features



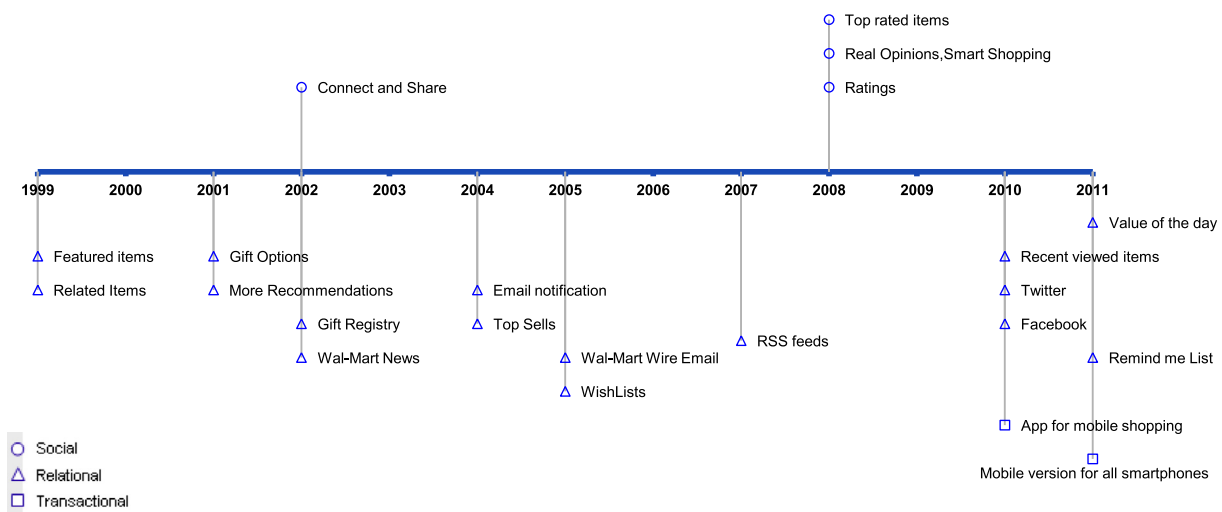
Appendix E. Target timeline

Target's Technical Features



Appendix F. Wal-Mart timeline

Wal-Mart 's Technical Features



References

- Amblee, N., and Bui, T. Harnessing the influence of social proof in online shopping: the effect of electronic word of mouth on sales of digital microproducts. *International Journal of Electronic Commerce*, 16, 2, 2011, 91–114.
- Auruškevičienė, V., Kuvykaitė, R., and Škudienė, V. Relationship and transactional marketing integration aspects. *Inžinerine Ekonomika—Engineering Economics*, 4, 54, 2007, 78–86.
- Cassidy, J. *Dot.con: The greatest story ever sold*. Harper Collins Publishers, New York, 2002.
- Cleverly, M. A. Amazon's purchase circles: MIA? Cleverly Blogged. January 20, 2007. Available at blog.cleverly.com/permalinks/279.html.
- Curty, R. G., and Zhang, P. Social commerce: looking back and forward. *Proceedings of the American Society for Information Science and Technology*, 48, 2011, 1–10.
- Digital Trends Staff. Amazon launches one blog to rule them all. Digital Trends, Portland, OR. April 19, 2007. Available at www.digitaltrends.com/lifestyle/amazon-launches-one-blog-to-rule-them-all.
- Evans, D., and McKee, J. *Social Media Marketing: the next generation of business engagement*. Wiley Publishing, Indianapolis, IN, 2010.
- Free Online Dictionary of Computing. Feature. D. Howe (Ed.). 2010. Available at foldoc.org.
- Gillin, P. *Secrets of Social Media Marketing*. Quill Driver Books, Fresno, CA, 2008.
- Grange, C., and Benbasat, I. Online social shopping: the functions and symbols of design artifacts. In R. Sprague (ed.), *Proceedings of the 43rd Hawaii International Conference on Systems Science, January 2010*, IEEE Computer Society Press, Washington, DC, 2010.
- Hafner, K. Navigating the Amazon Circle. Books, The New York Times on the Web. May 21, 2000. Available at www.nytimes.com/books/00/05/21/bookend/bookend.html.
- Hajli, M. Social commerce adoption model. In *Proceedings of the 17th UK Academy of Information Systems Conference*, Association for Information Systems, Atlanta, GA, 2012.
- Hastings, G. Relational paradigms in social marketing. *Journal of Macromarketing*, 23, 1, 2003, 6–15.
- Holland, J., Thomson, R., and Henderson, S. *Qualitative longitudinal research: a discussion paper*. Families and Social Capital Research Group, Economics and Social Research Council, London South Bank University, London, UK, 2006.
- Huang, C. Y. Excess loyalty in online retailing. *International Journal of Electronic Commerce*, 16, 2, 2011, 115–134.
- Huang, Z., and Benyoucef, M. From e-commerce to social commerce: a close look at design features. *Electronic Commerce Research and Applications*, 12, 2, 2013.
- Ickler, H., Schülke, S., Wilfling, S., and Baumöl, U. New challenges in e-commerce: how social commerce influences the customer process. Presented at the 4th National Conference on Computing and Information Technology, Songkhla, Thailand, 2009.
- Jascanu, N., Jascanu, V., and Nicolau, F. A new approach to e-commerce multi-agent systems. The Annals of "Dunarea De Jos" University of Galati, Fascicle III: Electrotechnics, Electronics, Automatic Control and Informatics, 8–11, 2007.
- Kangas, S. Collaborative Filtering and Recommendation Systems, version 1.0. Research Report TTE4-2001-35. VTT Information Technology, Finland, January 1, 2002.
- Kim, Y., and Srivastava, J. Impact of social influence in e-commerce decision-making. In R. J. Kauffman and M. Gini (eds.), *Proceedings of the Ninth International Conference on Electronic Commerce, Minneapolis, MN, August 2007*, ACM Press, New York, NY, 2007.
- Leitner, P., Grechenig, T., Krishnamurthy, S., and Isaias, P. Community driven commerce: design of an integrated framework for social shopping. In S. Krishnamurthy and P. Isaias (eds.), *Proceedings of the IADIS International Conference E-Commerce 2007*, International Association for the Development of the Information Society Press, 2007.
- Li, F., and Nicholls, J. A. F. Transactional or relationship marketing: determinants of strategic choices. *Journal of Marketing Management*, 16, 5, 2000, 449–464.
- Liang, T. P., and Turban, E. Introduction to the special issue – social commerce: a research framework for social commerce. *International Journal of Electronic Commerce*, 16, 2, 2011, 5–14.
- Liang, T. P., Ho, Y. T., Li, Y. W., and Turban, E. What drives social commerce: the role of social support and relationship quality. *International Journal of Electronic Commerce*, 16, 2, 2011, 69–90.
- Machado, A. Drivers of shopping online: a literature review. In *Proceedings of the IADIS International Conference E-Commerce*, International Association for the Development of the Information Society Press, 2005.
- Marsden, P. *Social Commerce: Monetizing Social Media*. GRIN Verlag, Norderstedt, Germany, 2010.
- Murphy, J., Hashim, N. H., and O'Connor, P. Take me back: validating the Wayback Machine. *Journal of Computer Mediated Communication*, 13, 1, 2007, 60–75.
- National Retail Federation. 2011 favorite 50. 2011. Available at www.stores.org/2011/Favorite-50-List?order=field_rank_value&sort=asc#.UWlQYyt4aFc.
- Olbrich, R., and Holsing, C. Modeling consumer purchasing behavior in social shopping communities with clickstream data. *International Journal of Electronic Commerce*, 16, 2, 2011, 15–40.
- Pagani, M., and Mirabello, A. The influence of personal and social-interactive engagement in social TV web sites. *International Journal of Electronic Commerce*, 16, 2, 2011, 41–68.
- Parise, S., and Guinan, P. J. Marketing using Web 2.0. In R. Sprague (ed.), *Proceedings of the 41st Hawaii International Conference on System Sciences, Waikoloa, Hawaii, HI, January 2008*, IEEE Computer Society Press, Washington, DC, 2008.
- Qualman, E. *Socialnomics: How Social Media Transforms the Way We Live and Do Business*. John Wiley & Sons, Hoboken, NJ, 2010.
- Rad, A. A., and Benyoucef, M. A model for understanding social commerce. *Journal of Information Systems Applied Research*, 4, 2, 2011, 63–73.
- Rao, S., and Perry, C. Thinking about relationship marketing: where are we now? *Journal of Business and Industrial Marketing*, 17, 7, 2002, 598–614.
- Rouse, M. What is transactional marketing? Search CRM, Newton, MA. April 2009. Available at searchcrm.techtarget.com/definition/transactional-marketing.
- Ruspini, E. Longitudinal research and the analysis of social change. *Quality and Quantity*, 33, 3, 1999, 219–227.
- Sacco, N. Introducing eBay Neighborhoods. October 9, 2007. Available at www2.ebay.com/aw/core/200710091605092.html.
- Schubert, P., and Ginsburg, M. Virtual communities of transaction: the role of personalization in electronic commerce. *Electronic Markets*, 10, 1, 2000, 45–55.
- Shen, J., and Eder, L. B. An examination of factors associated with user acceptance of social shopping websites. *International Journal of Technology and Human Interaction*, 7, 1, 2011, 19–36.
- Steiner, I. eBay launches social networking with Neighborhoods. eCommerceBytes, Natick, MA. October 10, 2007. Available at www.ecommercebytes.com/cab/abn/y07/m10/i10/s03.
- Wang, C., and Zhang, P. The evolution of social commerce: the people, management, technology and information dimensions. *Communications of the Association for Information Systems*, 32, 2012, 1–23.
- Weber, L. *Marketing to the Social Web: How Digital Customer Communities Build Your Business*. John Wiley & Sons, New York, NY, 2007.
- Wigand, R. T., Benjamin, R. I., and Birkland, J. L. H. Web 2.0 and beyond: implications for electronic commerce. In *Proceedings of the 10th International Conference on Electronic Commerce, Innsbruck, Austria, August 2008*, ACM Press, New York, NY, 2008.
- Yahoo! Social commerce via the Shoposphere and pick lists. 2005. Available at www.ysearchblog.com/2005/11/14/social.commerce.via.the.shoposphere.pick.lists.
- Zhou, L., Zhang, P., and Zimmermann, H. D. Social commerce: an integrated view. *Electronic Commerce Research and Applications*, 12, 2, 2013, 61–68.
- Zineldin, M., and Philipson, S. Kotler and Borden are not dead: myth of relationship marketing and truth of the 4Ps. *Journal of Consumer Marketing*, 24, 4, 2007, 229–241.