

RESEARCH ARTICLE

How do fashion retail customers search on the Internet?: Exploring the use of data mining tools to enhance CRM

Corinna Budnarowska

School of Services Management, Bournemouth University, Bournemouth, UK

Dr. Ruth Marciniak

LondonMet Business School, London Metropolitan University, London, UK

Abstract:

This paper seeks to determine the usefulness of data mining tools to SMEs in developing customer relationship management (CRM) in the fashion retail sector. Kalakota & Robinson's (1999, p.114) model of 'The Three Phases of CRM' acts as a basis to explore the use of data mining software. This paper reviews the nature and type of data that is available for collection and its relevance to CRM; providing an advisory framework for practitioners for them to examine the scope and limitations of using data analysis to improve CRM. The data mining tool examined was Google Analytics (GA); an online freeware tool that enables businesses to understand how people find their site, how they navigate through it, and, ultimately, how they do or don't become customers of it (Google Analytics, 2009). Establishing these relationships should lead to retailer development of enhanced web site aesthetics and functionality to coincide with consumer expectations. The paper finds that the competitive nature and homogeneity of the fashion retail sector requires retailers to improve the 'reach, richness and affiliation' (Hackney *et al*) of their sites by using technology to explore CRM.

Keywords: e-commerce, Google, analytics, retail, fashion, website

Corinna Budnarowska. Email: cbud@bournemouth.ac.uk

Dr. Ruth Marciniak. Email: r.marciniak@londonmet.ac.uk

Introduction

The aim of this research is to determine the usefulness of data mining tools, such as Google Analytics (GA), in assisting online fashion retail SMEs with customer relationship management (CRM). The fashion sector has been slow to adopt online retailing but has experienced a sharp increase in online activity over the past five years. This was undoubtedly fuelled by the success of UK pureplay retailers such as ASOS (As Seen On Screen), but also by experienced multi-channel retailers in the UK, such as Next. Despite cynicism about consumer acceptance of fashion retailing online, due to the sensory and emotive nature of the purchase, all of the major UK High Street, Designer and Independent brands have been forced to accept the need for an online presence but also, ideally, a transactional website that throws them firmly into the realm of a multi-channel environment. Independent brands and retailers dominated the Internet pre-2004 with largely unique offerings for the somewhat limited customer base that used the Internet. Now that this consumer group has significantly grown, and have an expectation for multi-channel purchasing, the fashion market is flooded. Fashion retailers hoping to compete online; in particular the SMEs, need to sophisticate their online businesses in order to compete. In using data mining, it can be argued that fashion retail SMEs can develop a richer understanding of the search journey that consumers take when deciding whether to purchase fashion on the Internet. Hackney *et al* (2006) postulate that Tesco's success in the UK grocery market online came from their ability to leverage "reach", "richness" and "affiliation". Fashion retailers need to emanate this success, using technology as a way of understanding the new multi-channel consumer. It can then also be argued that in understanding this behaviour, companies can enhance the way that they attract and interact with potential consumers.

The authors will use Kalakota & Robinson's (1999, p.114) model of 'The Three Phases of CRM' as a basis to explain and explore the pros and cons of using data mining software. It is the belief of the authors that an examination of a leading data mining tool is needed in order to determine 'best practice' for online fashion retail SMEs. This paper seeks to quantify the nature and type of data that is available for collection, deem its relevance to CRM, and ultimately provide an advisory framework for practitioners that are considering employing the use of a data mining tool to their website. It is the intention of the authors that this framework will allow practitioners to examine the scope and limitations of using data analysis to improve CRM. The data explored to create the framework guide is based upon quantitative existing data collected for a given fashion retail SME, using GA. GA is a leading online freeware tool that enables businesses to understand how people find their site, how they navigate through it, and, ultimately, how they do or don't become customers of it (Google Analytics, 2009). The fashion SME in question (see Table 1 for their profile) is part owned by one of the authors and has been capturing GA data for over two years, since March 2006, so analysis of trends and patterns across annual cycles of trade have been established and have also been experienced first hand. Establishing these patterns and relationships should ideally lead to retailer development of enhanced web site aesthetics and functionality to coincide with what the consumer wants and expects from web sites.

It is the intent of the authors to use their experience to offer practitioner advice, alongside enhancing academic knowledge of the fashion online retail sector. As such, this advice could be deemed to be somewhat subjective and can only be considered in the context of what it is, one SMEs experience.

Insert Table 1

The complexity of online trading and marketing

There is research to suggest that traditional marketing models do work for Internet marketing (Tucker & Massad, 2005), but this is largely overridden by the majority thinking that the Internet affords a very different type of retail experience for the consumer (Mathwick *et al*, 2001; Swinyard and Smith, 2003). It could however be argued that traditional marketing methods may be useful at the launch stage of a website, to bridge the gap between the consumer's existing perception of fashion on the High Street with that of transcending to purchase fashion on the Internet (i.e. educating the consumer to shop in a multi-channel environment). Equally, it could be argued that this is no longer such a necessity in 2009, as consumers are much more educated in and receptive to multi-channel shopping. It does, however, provide a new challenge to retailers to understand the shopping motivations of the new multi-channel consumer (McGoldrick and Collins, 2007). The need to develop sophisticated marketing activities online is evident

(Quelch and Klein, 1996; Hart *et al*, 2000), with still too *“many organisations ...attempt(ing) to do old marketing with new marketing channels”* (Page, 2008). The obvious way to target this marketing activity is to understand the consumers' journey around the web (Sen, 2005) through data mining (i.e. using analytics as a tracking service). The potential problem with this is that data mining can easily lead to information overload, and should not be seen as a 'silver bullet', because the depth and quantity of information available to users of such techniques is endless. There is a real danger that fashion retail SMEs may be too inexperienced in this area to differentiate between what information is useful and what is potentially meaningless. Within this paper, the authors hope to clearly define a logical, staged approach to understanding and utilising customer data more effectively.

Google Analytics (GA)

In order to quantify the relevance and status of GA in a highly populated technological sector, it was felt prudent to set the context for what came before GA. Before the launch of GA, websites operated with one of three strategies. The first was to pay for some form of tracking and data mining through a web service provider (an option that larger companies would most likely adopt as part of their support package). The second was to independently buy into either the very expensive products that were on the market or seek out inferior, free options that existed; neither of which was deemed to be very good. The third was to do nothing, which is what a lot of companies did, and probably still do, if they are lacking a technological or marketing background. As stated in the introduction, companies that are really seeing a success in online trading are those that have engaged their consumers beyond products alone; enhancing the 'reach, richness and affiliation' (Hackney *et al*, 2006). The companies that have so far 'done nothing' more than trade online are merely mastering the basics of online trading, or could be argued to have ignorance to what is really needed to gain competitive advantage. It is not enough to try to copy the format of successes such as ASOS, like the High Street retailers are attempting to do, as the real advantage is in being the innovator. This is not only seen in the fashion sector, but in grocery, with Tesco, and books, with Amazon. So much so, that Amazon now act as consultants to companies hoping to develop a web presence. Whatever strategy companies chose to do, it was viewed by the technology industry that there was a gap in the market for a really effective and reliable data mining tool.

GA was originally launched to all businesses, large and small, in November 2005, but was overwhelmed with subscribers, as it was hailed at the time to be the only free service providing that level of tracking, and it quickly had to revert to limiting the sign-up rate (Rogers, 2005). Not only had Google launched seemingly a 'premium ticket' product onto the market; they had sent the industry into chaos by offering it for free. There was some initial scepticism as to the motives of Google and it was felt that they wanted to gain access 'confidential' information. This said, GA has gone from strength to strength, eventually launching a second, improved version of the software in May 2007, which is the version used to date. 'Version 2' of GA was seen to be *“so radically different and provides such a compelling value proposition to users of web analytics”* (Kaushik, 2007). Since that time, GA has also launched innovative add-ons to the software, such as a 'benchmarking' tool that allows you to submit your analysis anonymously and see this against other similar companies to establish how you are performing in your sector (Newcomb, 2008).

So why is GA so good then? Google can boast to having what is seen as the best data mining software on the market to date, and to operating the leading search engine in 2008; it is believed that *“user behaviour is now very entrenched with Google”* (Mintel, 2008). Google encourages users to adopt a strategy of using the software to *“attract clicks and drive traffic...retain traffic...(achieve) conversion”* (Google Analytics, 2009). GA (2009) boasts to be able to do this through a tool that they call the 'web optimiser'. It uses two different testing sources; namely 'A/B Testing' and 'Multivariate Testing', that both allow the user to create variations of the same marketing message through different page combinations. Google Analytics (2009) claim that, *“the only way to figure out what content will work best on your site is to test different content”*, encouraging the user to experiment with varied marketing campaigns and tracking their success.

As with any data mining though, the software is only as good as the user. It is the authors' experience that fashion retail SMEs often lack the technical knowledge of the online trading environment, and that initial success online is more often down to experimentation than organised planning (Budnarowska & Marciniak, 2008). It is well documented that online retail adoption processes tend to become more sophisticated over time, as experience is gained, resulting in the re-design and re-focusing of web sites and their CRM in a staged approach (Dosi, 1988; Frank *et al*, 1988; Daniel & Grimshaw, 2002; Constanzo, 2004; Ashworth *et al*, 2006). Having a transactional website is now commonplace for all sizes and types of retailers, and it is fair to say that most retailers have now begun to master the 'basics' of online trading, in terms of having a web presence for information purposes, and also probably a basic, functional transactional web site. Although customer accessibility and technical capabilities of the Internet have increased steadily throughout the last decade, so have the number of transactional sites and levels of competition in most sectors, especially the fashion sector; meaning that there are more sites serving these consumers (Intel, 2008). Fashion retail has also seen a dramatic change in the last few years, with almost all of the UK High Street fashion retailers now accepting the value of a multi-channel strategy and adopting a transactional presence online. It is argued that the offering on the Internet is now too homogenous (Scott & Miller, 2002). As said in the introduction, it is all too often the SMEs that lose out in this climate when established brands enter the market and take market share. It is the experience of the case study company that their early presence enabled the Independent brands that they stocked to 'test' the validity of an online strategy through third-party sales via the case study site.

The implications of all of these factors for fashion retail SMEs are that they need to work harder to attract and retain customers online. It appears to be the SMEs in particular that are now turning to data mining software like GA in order to gain competitive advantage. The fact that the software is free may be part of the attraction to SMEs, where larger companies are more inclined to be in receipt of a technological infrastructure that supports its' own data mining activities (e.g. companies with store cards and customer accounts are more likely to be used to the processes of customer data collection). It could also be the fact that SMEs recognise the need to work harder, as they cannot rely on their brand strength alone to levy market share.

The importance of information to online businesses

As far back as the 1980s, Porter (1985) recognised the importance of the role of information to businesses operating on the Internet. This view is reinforced by Kalakota & Robinson (1999), who claim that, "*knowledge of (the) customer is a powerful weapon*". It was felt at the early part of the 00s that marketers lacked any suitable methodology for analysing this navigation information (Bucklin & Sismeiro, 2003), but it could be argued that this is no longer the case in today's marketplace. The belief that businesses have no optimal way to access, process, and act upon information was also stated by Weltevreden *et al* (2005) and they felt that web development offered too much uncertainty to businesses. It could be argued that this view is now somewhat outdated, due to the number of retailers adopting an online presence, taking away some of the 'risk' and uncertainty, but also that data mining tools such as GA take away this uncertainty by offering tangible measures of success from their statistics.

In any retail business, a number of key performance indicators (KPIs) would be put in place to quantitatively measure the success of the business and identify the potential for improvement. Data mining offers a solution to acquiring KPIs, but the extent of measurable areas could lead SMEs to have no clear, directional meaning to their data collection or ultimate goals. For example, one of the first measures to be readily used and cited as a positive indicator of success for websites was the measurement of visitor numbers. As useful as this may be when first establishing a web presence, it has since been recognised that a high volume of visitors does not necessarily equate to a high volume of sales, or a successful business model, just like customers through the doors of stores do not always put money in the till (Carlson, 2006; DeSoto, 2008). It is now thought more useful to look at the quality of those visitors (i.e. measuring variables such as the time that potential customers spend on the website, their journey through it, or the conversion rate of visitors to actual customers). It is the recommendation of the authors that an online fashion retail SME should experiment with the measures that are available to some extent, employing a 'trial and error' approach (Weltevreden *et al*, 2005), or as Constanzo (2004) would term it, a "*process of continuous learning by mistakes*". This incremental learning (McBride, 1997) is not untypical of retailers and, in particular, SMEs, as the general pace of retailing often forces retailers to act

spontaneously, rather than planning long-term strategies (Rosenblom, 1980; Gable and Topol, 1987; Danneels, 1996). It is felt that only by experimenting with these measures can meaningful KPIs be developed. When considering the KPIs, it is the recommendation of the authors that a maximum of three KPIs are selected, as it is felt that this presents the optimum number of manageable data sources at any one time. More than this could lead to a lack of focus and create the effect of 'using a sledgehammer to crack a nut'. This view is reinforced by many authors, such as Edmonds and Morris (2000), in their discussion of the problems for businesses of 'information overload'. The other main area to consider when setting up KPIs is the timeliness of analysis of their data. It is tempting to over-analyse the data by looking at it too frequently (i.e. GA could be treated like a new 'toy' and looked at daily, but patterns would rarely be able to develop day to day). The authors, from their own experience, recommend that users analyse the data most frequently on a weekly cycle, but more productively on a monthly cycle. GA allows you to set the frequency of the reporting to suit these cycles, and the authors would recommend that only the KPIs be reported. Looking at data in a timely fashion allows patterns to be established, without the tendency to make micro-observations. For example, it is useful to establish patterns each day, but these can only be considered credible if comparisons are established week-to-week, to avoid sales 'blips' being taken to be the 'norm'.

The authors have outlined the main indicators that GA measures, and critiqued their usefulness (seen in Table 2). It is important to note that this is not an exhaustive list of GA measurements, but merely a 'starting point' for fashion SMEs that are considering using data mining for CRM. The list is a culmination of the authors' experience of analysing the usefulness of the data available, alongside looking at the data in the context of academic usefulness. It should also be noted that there will always be businesses that will be the exception to these guidelines, but the table is felt to be a true reflection of the usefulness of data mining to the majority of retail businesses.

Insert Table 2

Success is more than just a good product

To date, research into online consumer behaviour and the use of data mining has tended to concentrate upon the product search only; with the result being that understanding this can assist retailers in selecting and displaying the right products in an attractive way to the consumer (Kudyba & Lawrence, 2008). As valuable as this research is, it is the authors' views that this merely skims the surface of the capabilities of data mining, in terms of the increased understanding and knowledge it can provide and the improvements that could stem from this understanding. This view is backed up by Sheeham & Doherty (2001), who postulate that *"a single website can do much more than facilitate a purchase"*. There is much more to online retailing, especially the retailing of fashion, than just the products that you sell and the aesthetics of the website. The navigational process behind the product search can inform a business of much more about the customer profile than just their product preferences. It would be prudent at this point to introduce Kalakota & Robinson's (1999) model of 'The Three Phases of CRM'. This model assists in contextualising the data that GA collects and exploring the ways in which fashion retail SMEs can benefit from tracking this data.

Insert Figure 1

In order to explain the stages of this model, the authors would like to draw upon the pureplay retailer ASOS as an example of a company that has successfully employed all three stages in CRM, making comparisons to that of the case study company, who could also argue to have successfully employed all of the stages. The three stages of the model are 'Acquire', to acquire the initial customer base; 'Enhanced', to enhance the relationship with this customer and promote repeat purchases, and to enhance the web site to attract new customers; and 'Retain', to retain these customers through CRM.

At stage one, 'Acquire', the retailer employed a combination of offline and online marketing activities, as briefly described at the beginning of this paper. ASOS made use of a large marketing budget for offline activities to create initial 'hype' and awareness for the retailer. This offline mass marketing was carefully

balanced against a more concentrated online marketing campaign that employed the use of affiliate marketing at its' core. This said, once the site was established, and ASOS had moved from purely new customers to a combination of new and existing customers; stage two, 'Enhanced', and stage three, 'Retain', CRM was adopted. This led to them infamously dropping their loyal affiliates in favour of a further concentrated in-house online marketing strategy (Affiliates4U, 2005). ASOS then reverted to directly marketing to their existing customers via email campaigns featuring trend alerts. Interestingly, they have recently adopted an offline strategy again, through the use of a directly marketed hard copy fashion magazine to existing customers, and also made it available free to new customers through major fashion magazines. This demonstrates the cycle of considering both new and existing customers within your CRM. It also bears the question that traditional marketing methods may not be as outdated as some technology experts profess them to be.

In direct contrast to this, the case study company did not adopt a large marketing budget, choosing to grow the online business more organically. The budget available was spent on search engine optimisation (SEO) via website enhancement and online 'pay per click' and affiliate marketing (in much the same way as ASOS, but on a much smaller scale), achieving stage one, 'Acquire'. Although the success of the case study SME was not as wide-scale as ASOS, it can be said that the company was able to establish both an existing and a new customer base on an ongoing basis, which highlighted the need to improve and 'sophisticate' the front and back end web processes, and 'grow' the business. This can be seen as the company moving to stages two, 'Enhance', and three, 'Retain'. The retention came from the case study company recognising the need to move beyond merely presenting products, to also building a 'community feel' to the site, offering newsletters, blogs, product reviews, and more detailed descriptions and advice for products. Both ASOS and the case study company were able to achieve stage three because they recognised the need for CRM, and both used technology as a key tool to achieve continuous improvement in this area.

It is interesting to note that the websites that established an early web presence (pre-2004) have had to work relatively hard to travel through these three stages, whether it be in terms of large budgets and the employment of expensive web companies and data mining tools, as in the case of ASOS, or by incremental learning and technological improvement through freeware tools, as in the case of the case study company. Newcomers to the fashion online market are now often seeing overnight success mainly due to the strength of their offline brand image (e.g. Topshop and New Look). This gives way to an even more definite need for SMEs to understand their consumers through data mining, in order to be able to differentiate on service through CRM; adopting a 'service strategy' (Wetlevreden *et al*, 2005).

Emerging issues in CRM via the web

Cunningham *et al* (2007), discuss the notion that an online environment affords no "*one-to-one physical contact*" between the customer and the business, using this as a basis to claim that you are unable to then completely understand "*the unique personality of the customer visiting a site*", and how to appeal to them specifically, unless employing personality testing techniques. As much as this could be argued to be factually true, it ignores the fact that the same could be said of most self-service physical retail environments. This also overlooks the fact that data mining tools such as GA allow you to have a deeper and richer understanding of consumer shopping behaviour on the Internet, albeit creating a very different relationship than that of a physical store customer interaction (Hackney *et al*, 2006). Research indicates that understanding these information cycles and using them to provide 'customisation' (Abraham & Telford, 1998) and 'personalisation' (Howell, 2008) for consumers is the key to successful marketing in the 00s. This view is supported by Bellman *et al* (2006), who recognised that the online retail environment is very different to the physical world, and that it enables you to tailor the environment to suit individual customers. This notion is not new, and is employed by successful websites such as Amazon, with their recommendations based on past purchases. This has varying degrees of success, as we are yet to see software that can distinguish between personal purchases and gift ones. Fashion websites have begun to use this type of selling technique through the use of outfit suggestions and trend alerts, to name but two examples.

Alongside considering the increase in usage, there is a need to consider how Internet usage is

changing. There is a marked increase in the 'expressive' usage that takes place on the Internet (i.e. the growth of social networking sites (SNS)) and Zeynep (2008) and Page (2008) both argue that, so far, there is no proven link to increased instrumental usage (i.e. information seeking, knowledge gathering and commercial transactions) because of this. The authors would argue that the increase in expressive usage does have the potential to be manipulated, in terms of the right marketing, to stimulate an increase in the instrumental usage of that segment of customers. There are obvious links between the profile of the expressive Internet user and that of a fashion retail SME customer (i.e. young, female, experimental). Understanding where your customers come from and what they are influenced by (i.e. asking questions like did they get to your site via an affiliate site or SNS, and what products, brands or image attracted them to you?) gives businesses the potential to 'tap in to' that resource. The potential of marketing via SNS is fairly unexplored in academic and commercial research so far, but the success of affiliate marketing is well proven, in terms of the financial gain it offers (Hoffman & Novak, 2000; Duffy, 2004, 2005). This underpins the recommendations of the authors that fashion retail SMEs need to become more sophisticated in the way they look at attracting, enhancing and retaining customers (Kalakota & Robinson, 1999), and potentially offers a further stage to consider in the model presented in this paper, through considering the enhancement of a 'service strategy' (Weltevreden *et al*, 2005). The authors believe this to be an area to consider for further research in the future.

Conclusion

The authors would argue that the use of data mining tools such as GA to enhance CRM is a positive and enlightening progression for fashion retail SMEs that now have a transactional web presence. The evidence clearly points to this as a welcome addition to the competitive environment of fashion e-tail, but the authors' advice would be to proceed with caution. A logical, staged approach to CRM using data mining offers fashion retail SMEs a more manageable option, which is summarised in the advice framework (see Table 3). It is important for fashion retail SMEs to understand what measures are useful, and when to apply these measures as your KPIs.

Insert Table 3

References:

- Abraham, F. Telford, G. 1998. Competitive advantage through information 1. In *Web-weaving intranets, extranets and strategic alliances*. Lloyd, P. and Boyle, P. Oxford: Butterworth-Heinemann.
- Affiliates 4 U, 2005. Blog entry. <http://www.affiliates4u.com/forums/affiliate-marketing-lounge/31204-how-long-before-asos-affiliate-scheme-closes.html>
- Ashworth C.J. Schmidt R.A. Pioch E.A. Hallsworth A. 2006. An approach to sustainable 'fashion' e-tail: A five stage evolutionary strategy for 'clicks-and-mortar' and 'pure-play' enterprises. *Journal of Retailing and Consumer Services*. 13(4):289-299.
- Bellman, S. Johnson, E.J. Lohse, G.L. Mandel, N. 2006. Designing marketplaces of the artificial with consumers in mind: Four approaches to understanding consumer behaviour in electronic environments. *Journal of Interactive Marketing*. 20(1): 21-33.
- Bucklin, R.E. Sismeiro, C. 2003. A model of website browsing behaviour estimated on clickstream data. *Journal of Marketing Research*. 40(3): 249-267.
- Budnarowska, C. Marciniak, R. 2008. An autoethnographic approach to examining electronic retail development. In press.
- Carlson, J. 2006. *Better website ROI the right way*. Bitwise Logic.
<http://www.bitwiselogic.com/blog/Joel+Carlson/10/Better+Website+ROI+the+Right+Way.html>
- Costanzo L.A. 2004. Strategic foresight in a high-speed environment. *Futures*. 36(2):219-235.
- Cunningham, D. Thatch, L. Thompson, K. 2007. Innovative e-commerce site design: A conceptual model to match consumer MBTI dimensions to website design. *Journal of Internet Commerce*. 6(3): 1-27.
- Daniel E.M. Grimshaw D.J. 2002. An exploratory comparison of electronic commerce adoption in large and small enterprises. *Journal of Information Technology*. 17(3):133-147.
- Danneels, E. 1996. Market segmentation: normative model versus business reality: An exploratory study of apparel retailing in Belgium. *European Journal of Marketing*. 30(6):36-51.
- DeSoto, A. 2008. *Design your website for increased ROI*. Google Conversion University.
<http://www.google.com/support/conversionuniversity/bin/answer.py?answer=77128&ctx=sibling>
- Dosi G. 1988. *The nature of the innovative process*. In: G. Dosi, C. Freeman, R. Nelson, G. Silverberg and L. Soete, Editors. *Technical Change and Economic Theory*. 221-238. London: Sage.
- Duffy, D.L. 2004. Multi-channel marketing in the retail environment. *Journal of Consumer Marketing*. 21(5): 356-359.
- Duffy, D.L. 2005. Affiliate marketing and its impact on e-commerce. *Journal of Consumer Marketing*. 22(3): 161-163.
- Edmunds, A. Morris, A. 2000. The problem of information overload in business organisations: a review of the literature. *International Journal of Information Management*. 20(1): 17-28.
- Frank H. Drenth P. Koopman P. Rus V. 1988. *Decisions in Organizations*. London: Sage.
- Gable, M. Topol, M.T. 1987. Planning practices of small-scale retailers. *American Journal of Small*

Business 12(Fall):19-32.

Google Analytics, 2008. available at <http://www.google.com/analytics/>

Hackney, R. Grant, K. Birtwistle, G. 2006. The UK grocery business: towards a sustainable model for virtual markets. *International Journal of Retail & Distribution Management*. 34(4/5): 354-368.

Hart, C.A. Doherty, N.F. Ellis-Chadwick, F.E. 2000. Retailer adoption of the Internet: Implications for retail marketing. *European Journal of Marketing*, 34(8): 954-974.

Hoffman, D.L. Novak, T.P. 2000. How to acquire customers on the web. *Harvard Business Review*. 78(3): 179-188.

Kalakota, R. Robinson, M. 1999. *e-business: Roadmap for success*. Massachusetts: Addison Wesley Longman, Inc.

Kaushik, A. 2007, *Google Analytics is Re-launched: Do these five things first in V2*. Kaushik.net. <http://www.kaushik.net/avinash/2007/05/google-analytics-is-re-launched-do-these-five-things-first-in-v2.html>

Kudyba, S. Lawrence, K. 2008. Enhancing information management through data mining analytics to increase product sales in an e-commerce platform. *International Journal of Electronic Marketing and Retailing*. 2(2): 97-104.

Mathwick, C. Malhotra, N. Rigdon, E. 2001. Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment. *Journal of Retailing*. 63(1): 39-56.

McBride, N. 1997. Business use of the Internet: Strategic decision or just another bandwagon". *European Management Journal*. 15(1): 55-67.

McGoldrick, P.J. Collins, N. 2007. Multichannel retailing: profiling the multichannel shopper. *International Review of Retail, Distribution and Consumer Research*. 17(2): 139-158.

Mintel. 2008. *Keeping consumers connected – UK*.

Newcomb, K. 2008. *Google Analytics adds Industry benchmarking*. Search Engine Watch. <http://searchenginewatch.com/3628681>

Howell, N. 2008. Truly Rewarding. *New Media Age*. 26/11/08.

Page, K. 2008. Facebook: a new chapter in social connectivity. In *Marketing 1e*. Baines, Fill & Page. Oxford University Press.

Porter, M.E. 1985. *Competitive Advantage: Creating and sustaining superior performance*. Free Press.

Quelch, J.A. Klein, L.R. 1996. The Internet and International marketing. *Sloan Management Review*. 37(3): 60-75.

Rogers, G. 2005, *Google Analytics stops at 234,725 accounts*. ZD Net.com. <http://blogs.zdnet.com/Google/?p=36>

Rosenbloom, B. 1980. Strategic planning in retailing: prospects and problems. *Journal of Retailing*. 56(1):107-120.

Scott, J.L. Miller, R. 2002. Electronic commerce encourages differentiation. *Journal of Internet Commerce*. 1(4): 1-21.

Sheeham, K.B. Doherty, C. 2001. Re-weaving the web: integrating print and online communications. *Journal of Interactive Marketing*. 15(2): 47-59.

Sen, R. 2005. Optimal search engine marketing strategy. *International Journal of Electronic Commerce*. 10(1): 9-25.

Tucker, J.M. Massad, V.J. 2005. The hierarchy of Internet communication effects: A new paradigm for understanding Internet promotion. *Journal of Internet Commerce*. 4(4): 165-180.

Swinyard, W.R. Smith, S.M. 2003. Why people (don't) shop online: a lifestyle study of the Internet consumer. *Psychology & Marketing*. 20(7): 567-597.

Weltevreden. J.W.J. Atzema, O.A.L.C. Boschma, R.A. 2005. The adoption of the Internet by retailers: A new typology of strategies. *Journal of Urban Technology*. 12(3): 59-87.

Zeynep, T. 2008. Grooming, gossip, Facebook and MySpace. *Information, communication and Society*. 11(4):544-564.

Figure 1: Using GA's data mining to explore 'The Three Phases of CRM' (adapted from Kalakota & Robinson, 1999, p.114)

Table 1: Profile of Case Study Company

Company Type	Pure play retailer
Year established as a high street independent	2000
Year established as a pure-play retailer	2005
Retail Experience	Previous offline experience, operated as a High Street retailer.
Product type	Men and women's fashion
Firm size	4 employees
Market	Global

Table 2: Data mining measures – a critique of the main indicators available using GA

Poor Indicators	Reasons Why
Hits	Traditionally many website traffic analysis tools and their users focused on hits. This is the number of files that are requested from the web server which many people incorrectly assume means the number of page views. However a typical web page is normally made up of many files (the main HTML page or similar, plus many image files), therefore the numbers of "hits" is normally an order of magnitude larger than the actual number of page views. Also, if a website is updated, e.g. adding a few more images to a page, the number of hits will increase for the same number of page views giving the false impression that traffic has increased. Fortunately, Google Analytics has chosen to not show the number of hits as it is fairly meaningless.
Geo-location	Knowing where in the world your visitors are may be interesting, and many site owners think that it will lead to creating versions of their website specific to specific countries/languages etc. However in reality the cost of doing this is normally prohibitive, and therefore this information acts more as a distraction from the important things.
Time of visit	The day of the week when people visit your website, or even the time of day, is interesting, however it normally has no impact on your marketing strategy as you can't normally alter your advertising based on time.
Browser capabilities	Knowing what browser software your visitors use, what resolution their monitor is or what version of Flash they have is only of interest to the technical people – this is important information for when you are building a website, however it makes almost no difference on a day to day basis when thinking about your marketing strategy.
Good Indicators	Reasons Why
Visits	Gives the number of visitors to the website – equivalent to the number of people walking into traditional bricks 'n' mortar store. Gives a good indication of how well general marketing is working, but doesn't tell you whether or not the visitors are suitable for the website – are they the 'right' visitors?
Page views	Gives the number of actual pages viewed, which combined with the number of visits tells you on average how many pages a visitor views (pages/visits). If this number is close to 1, it suggests that many visitors leave after seeing just one page – not good. However, the design of the site needs to be taken into account when looking at this indicator – some websites are designed to only have a few pages, whereas other have thousands.
Traffic sources	This tells you how your visitors are finding your website – whether through search engines, from links on other sites, or from typing the URL directly into their browser. Initially this is interesting, but becomes very useful once you start actively marketing, as it tells you if your activities are working – however it only gives you an overview.
Keywords	This tells you what search terms visitors have used to find your website. This becomes vital when your marketing strategy is focused on improving your search engine results for specific products.
Revenue	Probably the most important indicator is actually how much money

	the website makes - without being able to accurately measure this, you have no idea whether it is worth having or not. However, to get the most out of this, you need to consider other factors such as the marketing costs, profit margins, etc.
Conversion rate	This tells you how many visitors have turned into customers, and is key to making the best use of your website. If you can double your conversion rate you are doubling your revenue without increasing your traffic, which often translates into more profit without an increase in marketing costs.
Revenue sources	This is the holy grail of analytics information and is what differentiates website marketing from traditional bricks 'n 'mortar marketing. By being able to track exactly which pieces of advertising turn into actual sales it is possible to see exactly how much each sale has cost in terms of marketing and also how much profit (or loss) each element in your marketing strategy has generated. Using this information the retailer can fine tune their marketing like never before, and avoids the scenario of not knowing which marketing works and which doesn't.

Table 3: Summary of findings for a staged approach to CRM using data mining

Action required	Objective	GA measurement available?	Acquire	Enhance	Retain
Offline marketing	To reach new customers - used primarily at business start with some injections later if required	Harder to track, but still mechanisms available	High Priority		
Affiliate Marketing	To attract new customers/customers from different sources To track profitability of each affiliate	Site traffic reports	High Priority		
Pay per click (e.g. Google Adwords)	To pay for positive results only	Site traffic reports	High Priority		
Search engine optimisation (SEO)	To enhance the functionality of the site To explore the use of key words and long tail marketing	Site traffic reports Key word reports	High Priority	High Priority	
Standard online advertising (e.g. banner ad)	To reach new customers	Site traffic reports	High Priority		
Paid for links (to/from other sites)	To reach new customers	Site traffic reports	High Priority		
Product offers (e.g. bundling)	Increasing average basket	Navigational reports		High Priority	High Priority
Product Suggestions	Increasing average basket	Navigational reports		High Priority	High Priority
Direct marketing (e.g. email campaigns)	To turn first time customers into repeat customers	Split sales data between new & existing customers			High Priority
Customer service (e.g. communication, delivery, packaging)	To turn first time customers into repeat customers To increase purchase frequencies	Sales & navigational reports	High Priority	High Priority	High Priority
		Visits	(-	(
		Page views	((-
		Traffic sources	(-	(
		Keywords	(-	(
		Revenue	(((
		Conversion rate	(((
		Revenue source	-	((

ACQUIRE

ENHANCE

RETAIN

New customers

Traffic tracking

New/Existing customers

Navigational tracking

Repeat customers

Service tracking