

**SEM2220 Assignment Two**  
Report

**Assignment Four - The effect of smartphones for shoppers**

*Submitted in partial fulfillment of  
the requirements for the award of the degree of*

**MEng  
in  
Software Engineering**

Submitted by

---

crh13 Craig Heptinstall

---

Department of Computer Science  
ABERYSTWYTH UNIVERSITY

25th May 2016

# Chapter 1

## 1.1 Introduction

The statement "Smartphones have revolutionized the way we shop" is one that I believe to be true. To look into further depth behind my reasons for this, this report gives an insight into how much smartphones have developed in terms of shopping support, and how they have become a more prominent force in quicker purchases, advertising and ease of use for shoppers. Social, ethical and legal issues have also been considered in my decision, looking at what restrictions shopping through a smartphone may occur compared to contemporary face to face shopping.

As with any argument, an opposing opinion has also been considered, in order to back up my own personal choice by comparing the two.

## 1.2 Key technologies in the shopping market

Technical- security, privacy, and payment means

Apps such as apple pay, android pay, wallets- These can make us impulse buy. Other apps such as deal apps, and online vouchers

One click buy on amazon, the ability to buy quickly, security implications

QR codes

Uses of location for unique discounts when entering shops

Mobile web sites with means of purchase, even if they are small and do not have an app

Browsing Internet at any time to be able to purchase on the fly- 4g

Deals, gambling and prices can be updates instantly in real time. Gets offers to users as soon as possible

Social media effects

Support from staff of companies to help customers

## 1.3 Legal, social and ethical implications of key technologies

Privacy of users, location and shopping habits Data protection act, Privacy acts etc.

Passwords on phones, being watched by others, or people see banking details

Security of QR codes?

## 1.4 Arguments against revolutionary shopping through smart-phones

Entire population effected? Age and ability of user? Can it be better?

## 1.5 Conclusion

## References

- [1] Apple, *Human interface guidelines*, <https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/MobileHIG/Navigation.html>, 2016.
- [2] Apple, *Tab bar controllers*, <https://developer.apple.com/library/ios/documentation/WindowsViews/Conceptual/ViewControllerCatalog/Chapters/TabBarController.html>, 2016.
- [3] P. Rea, *Getting Started with Core Data Tutorial*, <https://www.raywenderlich.com/115695/getting-started-with-core-data-tutorial>, 2015.
- [4] Apple, *Creating CoreData objects*, <https://developer.apple.com/library/mac/documentation/Cocoa/Conceptual/CoreData/CreatingObjects.html>, 2016.
- [5] Stackoverflow- R. Roe, *Shuffle an array in swift using GameplayKit*, <http://stackoverflow.com/questions/24026510/how-do-i-shuffle-an-array-in-swift>, 2015.