Plan Overview

A Data Management Plan created using DMPonline

Title: Exploring The Influence Of Augmented Reality On Retail Sector In Southwest Of The Uk: Customer's Experience, Satisfaction And Purchase Decisions

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Project abstract:

This dissertation investigates the influence of Augmented Reality (AR) on customer experience, satisfaction, and purchase decisions within the retail sector in Southwest UK. With AR technology increasingly integrated into retail environments, the study aims to understand how it enhances customer engagement, influences satisfaction, and drives purchase decisions. The research will explore whether AR improves customer interactions' emotional and cognitive aspects, resulting in higher satisfaction and better purchase outcomes. Additionally, the project examines the mediating roles of customer experience and satisfaction in the relationship between AR technology and purchasing behaviour. Employing Structural Equation Modeling (SEM) for data analysis, the study gathers insights through surveys to quantify AR’s impact on retail consumer behaviour. This research provides valuable contributions to the understanding of AR’s transformative role in modern retail, offering strategies to improve customer engagement and business performance.

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Exploring The Influence Of Augmented Reality On Retail Sector In Southwest Of The Uk: Customer's Experience, Satisfaction And Purchase Decisions

Data Collection

What data will you collect or create?

The primary data for this research will be collected through a structured survey distributed to 300 participants residing in the Southwest region of the United Kingdom. The survey will gather quantitative data on participants' perceptions and experiences related to the research topic. The data will be stored in a standard spreadsheet format (CSV) to ensure compatibility with widely used statistical analysis software such as SPSS and AMOS, facilitating both analysis and long-term access.

The choice of survey data aligns with the research objectives and allows for structured responses suitable for statistical modelling. To ensure secure storage and backup, the data will be saved on encrypted cloud storage with regular backups. No existing or third-party data will be reused, as the research requires original, context-specific data.

This format and approach enable efficient data sharing and accessibility, ensuring compliance with ethical guidelines and long-term preservation standards.

How will the data be collected or created?

The data for this research will be collected using **Google Forms**, a widely used online survey platform that ensures accessibility and ease of use for participants. The survey will be designed with standardized question formats and consistent data capture methods to ensure uniformity and minimize response errors. Validation features in **Google Forms**, such as required fields and response constraints, will be utilized to ensure the completeness and accuracy of the collected data.

Data files will be downloaded in .csv format for compatibility with analytical software. A structured folder system will be used to organize the data, with folders named according to the date of download and the version of the survey ("AR_and_Retail_DDMMYYY_V1"). Version control will be managed by clearly labelling updated files and maintaining an archive of all previous versions for traceability.

Quality assurance processes will include pilot testing to identify and address any potential issues, and routine checks for data integrity, such as identifying missing or inconsistent responses. Documentation will include metadata files detailing the data collection process, variable definitions, and any modifications made during preprocessing.

By adopting these practices, the research ensures consistency, reliability, and proper documentation of the data, making it easier to manage, analyze, and share.

Documentation and Metadata

What documentation and metadata will accompany the data?

The data collected will be accompanied by comprehensive documentation and metadata to ensure it is understandable, interpretable, and reusable in the future. The documentation will include basic descriptive information such as the dataset's title, creator(s), creation date, purpose, scope, and access conditions. Methodological details will outline the data collection process, including survey structure, sampling methods, and response validation techniques, along with any data preprocessing steps and definitions of variables. Information on the data format and structure will cover file types, naming conventions, and organizational practices.

The documentation will also address assumptions and standards, such as units of measurement and any assumptions made during data collection and processing, as well as references to controlled vocabularies where applicable. Metadata will adhere to the Dublin Core Metadata Standard to ensure interoperability and discoverability in research repositories. It will include fields such as title, creator, description, date, type, format, and rights, and will also provide a detailed variable dictionary, data collection context (e.g., geographic location, timeframe, and demographics), and links to related documentation.

The documentation and metadata will be captured in a README file accompanying the dataset and embedded in the dataset headers when feasible. A backup copy of all documentation will be securely stored alongside the data. This approach ensures that the dataset is transparent, discoverable, and reusable for future research, aligning with best practices for data sharing and long-term usability.

Ethics and Legal Compliance

How will you manage any ethical issues?

This research project adheres to ethical standards to protect human participants and comply with regulations, emphasizing four key ethical considerations: informed consent, privacy and confidentiality, avoidance of deceit, and cross-cultural representation.

Participants were provided with an informed consent form detailing the study's purpose, procedures, risks, and benefits, which included consent for the preservation and sharing of anonymized data for future research. Participation was voluntary, with the option to withdraw at any time.

To protect participants' identities, all data were anonymized by replacing identifiers with unique codes and removing identifying details, with access restricted to authorized researchers. Sensitive data were securely stored on encrypted devices and in password-protected cloud storage, with secure transfer methods in place. Data retention adhered to institutional policies, with provisions for destruction after the retention period, and access for future data sharing was managed to ensure only approved researchers could access the anonymized data.

The research was approved by an institutional review board (IRB), and the research team completed GDPR training and obtained a Data Management Plan (DMP) certification to ensure compliance with ethical standards and data protection regulations. The study followed the ethical principles of the University of Plymouth, and supporting documentation, such as approval forms and certifications, is provided for transparency. These measures ensure responsible data handling and enable potential future data reuse in accordance with consent agreements.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

The research data will be carefully managed to balance openness and reuse with ethical, legal, and institutional considerations. By applying appropriate licenses and clearly defining ownership and restrictions, this approach ensures compliance with IPR regulations while promoting the responsible sharing and reuse of research outputs.

Storage and Backup

How will the data be stored and backed up during the research?

The data collected during this research will be securely stored and regularly backed up to ensure its integrity and availability. Data will be encrypted and stored on the researcher's laptop, with daily automated backups created and saved in two secure locations: a primary server and a GDPR-compliant cloud storage system. At least three copies of the data will be maintained at all times to reduce the risk of loss due to hardware failure or other incidents.

The research team, in collaboration with the university's IT department, will oversee the backup process, while IT services will manage system maintenance, scheduled backups, and recovery protocols. In case of an incident, data can be swiftly recovered using the university's IT-managed systems, ensuring minimal downtime and continuity of the research.

How will you manage access and security?

To ensure data security and controlled access, the research will comply with GDPR and ISO 27001 standards. Data will be classified as confidential and stored on secure, encrypted systems with role-based access restricted to authorized team members. Multi-factor authentication will protect access points, and audit logs will track all access activities. Collaborators will securely access data through the university's GDPR-compliant file-sharing platform with temporary, time-limited permissions. Data collected in the field will be transferred to the main system using encrypted devices or a secure VPN, and local copies will be deleted after transfer. These measures safeguard the confidentiality and integrity of the data while enabling secure collaboration.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

The data generated from this study holds significant long-term value due to its potential applications in research, education, and policy formulation. Primarily, the data that should be retained includes quantitative datasets such as survey results that measure the impact of AR on customer experience, satisfaction, and purchasing decisions.

To comply with contractual, legal, and regulatory requirements, anonymized survey responses and ethical compliance documents,

such as consent forms, should also be preserved. These datasets are essential for ensuring the validity of findings and fulfilling obligations under research ethics guidelines.

Retention decisions are guided by the potential for data reuse, particularly in validating current findings, conducting longitudinal analyses, or exploring new research avenues in retail innovation. The data can also support teaching methodologies in marketing and technology-related fields, making it a valuable resource for academic institutions. Economically viable retention will involve prioritizing high-value data while preparing it for ease of sharing and reuse.

Data sharing and preservation plans will include archiving the data in the university of Plymouth archives. Datasets will be retained for at least 10 years to enable future studies and ensure accessibility. Formats such as CSV will be used to maximize compatibility with analytical tools, and proprietary formats will be converted to open, standardized formats. Before sharing, all data will be anonymized, and metadata will be created using standards like Dublin Core to enhance discoverability and reusability.

What is the long-term preservation plan for the dataset?

The preservation of datasets generated from this research involves a structured, long-term strategy to ensure their accessibility and utility. The data will be deposited in the University of Plymouth archives. This repository provides a secure and reliable platform for archiving research data while aligning with international standards for data management and preservation. For additional security, backups will be maintained in institutional cloud storage systems or digital archives.

Data preparation involves anonymizing sensitive information, standardizing file formats (e.g., converting Excel to CSV), and documenting datasets comprehensively. Metadata will be developed following established guidelines to ensure the datasets are findable, accessible, interoperable, and reusable (FAIR principles).

The dataset will be retained for a minimum of 10 years, allowing ample time for its reuse in validating research findings, conducting longitudinal studies, and informing advancements in AR applications in retail. During this period, a version control system will be implemented to track updates or modifications to the data. In cases where additional data curation is required to meet repository standards, resources will be allocated to ensure compliance.

Data Sharing

How will you share the data?

The dataset from this study will be shared via an open-access repository, ensuring broad accessibility and discoverability through the use of metadata and a persistent identifier (e.g., DOI). Potential users, including researchers, educators, policymakers, and industry stakeholders, will be informed through publications, conference presentations, and academic networks. The data will be made available within six months of the study’s conclusion, allowing time for cleaning, anonymization, and documentation.

Access will primarily be granted for non-commercial purposes under a Creative Commons license, while commercial or proprietary use may require a formal agreement. Sensitive information will be anonymized to comply with ethical and legal standards. Users may also request additional context directly from the research team if needed.

To ensure proper attribution, users will be encouraged to cite the dataset using its DOI or repository link. This approach aligns with best practices in data sharing, maximizing the dataset’s utility and impact.

Are any restrictions on data sharing required?

Data sharing from this study will face some restrictions due to confidentiality, intellectual property rights (IPR), and ethical considerations. To address these, all identifiable information will be anonymized, and data will be aggregated to ensure compliance with data protection regulations like GDPR. Participants will provide explicit consent for data sharing, with the scope and terms clearly outlined in consent forms.

A six-month embargo period will allow the research team exclusive use of the data for initial publication and analysis, ensuring that findings are disseminated appropriately before broader access. Afterward, the data will be shared via open-access repositories, with sensitive or restricted data governed by data sharing agreements or non-disclosure agreements as needed.

To facilitate reuse, datasets will be provided in standard formats such as CSV and documented with detailed metadata following established standards like Dublin Core. Persistent identifiers (e.g., DOIs) will be assigned to ensure discoverability and proper citation tracking. These measures will enable secure and ethical data sharing while maximizing accessibility and potential reuse in research, education, and policy development.

Responsibilities and Resources

Who will be responsible for data management?

I will oversee data management, ensuring the Data Management Plan (DMP) is implemented, reviewed, and revised as needed. I will also serve as the primary point of contact for all data-related matters, ensuring compliance with ethical and legal standards.

Specific data management tasks will be delegated to team members based on their expertise. Research assistants will handle data collection, adhering to protocols for accuracy and ethics. A data analyst will manage data cleaning, anonymization, and preparation for sharing, while another team member will document the data and create metadata to enhance usability and discoverability. I will take charge of archiving the dataset in repositories, coordinating access permissions, and ensuring compliance with repository requirements.

For collaborative research involving multiple partner sites, data ownership and responsibilities will be outlined in a consortium agreement. This agreement will specify roles, procedures, and accountability for Research Data Management (RDM) to ensure smooth collaboration. This clear division of responsibilities will ensure secure, ethical, and efficient management of the data throughout its lifecycle.

What resources will you require to deliver your plan?

The project requires additional resources to implement the Data Management Plan effectively. Team members will need training in data anonymization, metadata creation, and repository protocols. Specific software, such as SPSS and AMOS, will be used for data processing, alongside secure, high-capacity storage solutions for managing large datasets. Metadata tools compliant with standards like Dublin Core will also be required. Repository charges for data archiving will be included in the budget. These resources, combined with potential consultations with data management specialists, ensure ethical, efficient, and compliant handling of data throughout the research lifecycle.