

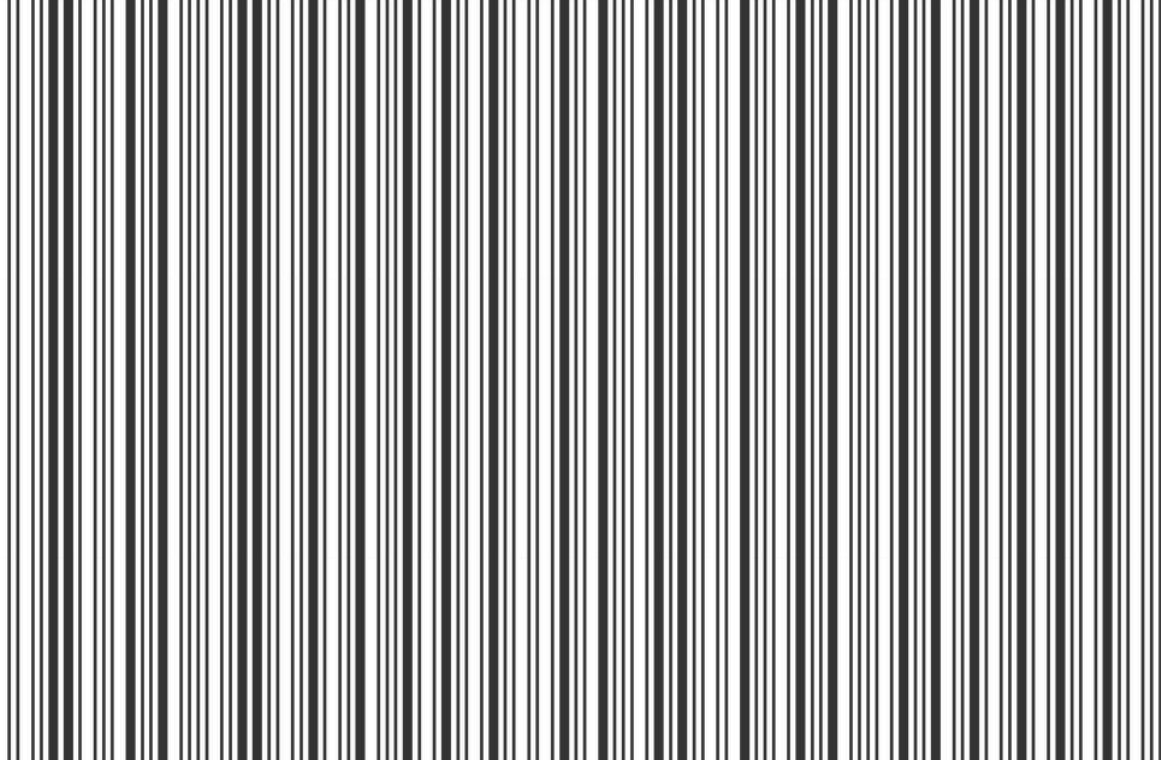
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Beyond the Barcode

A Walk Down the Ethical Aisle of Amazon Web Services' Just Walk Out Technology

By Nicoline Schmidt Hansen (student no. 20182252)

Supervisor Anne Grethe Julius Pedersen

**A Master's Thesis Submitted to
Culture, Communication and Globalization
The Department of Culture and Learning
Aalborg University
October 16, 2024**

The total number of key strokes is 119742= 49,89 pages



Abstract

With Artificial Intelligence technologies becoming a still more internationally present phenomenon within the sphere of retail, this thesis sets out to investigate if, then how, Amazon communicates ethical aspects regarding consumer concerns within the context of the Just Walk Out technology, and additionally, how normative ethical theories can inform guidelines for communication about this kind of technology in relation to consumer concerns. In order to investigate this problem formulation qualitatively, the method of analysis applied in this thesis is a content analysis. The content analysis is guided by questions, that are informed by the normative ethical theories of Utilitarianism in accordance with Jeremy Bentham and John Stuart Mill, Kantian Ethics as formulated by Immanuel Kant, and lastly, Aristotle's Virtue Ethics. The data for the content analysis consists of media texts addressing the Just Walk Out technology publicly available and published by Amazon. Aligning with the qualitative scope of this thesis, the scientific research paradigm subscribed to is Interpretivism. This research paradigm allows for investigation of the problem formulation through interpretation in order to identify meanings.

Prior to the conduction of the content analysis, a literature review on TAM-studies regarding self-checkout technologies shows the key factors for consumers' acceptance of this kind of technology includes level of trust, perceived usefulness, perceived ease of use and its entertainment properties. Moreover, a connection between technology acceptance and consumer concerns is established through an account of the European Parliament's AI Act. In addition, a description of normative ethics in general and the three normative ethical theories serving as the theoretical framework is accounted for to systemically identify which, if any, areas of focus regarding normative ethics, Amazon addresses when communicating about the Just Walk Out technology.

The findings of the analysis are interpreted to be predominantly focused on utilitarian benefits and minimisation of pain points regarding consumers' retail experience. However, the findings of the content analysis also suggests that Amazon does communicate in accordance to address consumer's rights and autonomy and address virtues such as transparency and fairness, respectively aligning with Kantian ethics and Aristotle's Virtue Ethics. By discussing the findings, it is concluded that Amazon's communication can be interpreted as seeking to address ethical aspects of its technology due to the alignment of the factors found to be important for user acceptance and within the AI Act due to the connection between the subjects communicated and the discussion on how companies can address consumer concerns regarding this kind of technology. Additionally, it is found that generally normative ethical theories can be able to inform guidelines on communication about this kind of technology and when their frameworks are combined, they offer a multi-faced and holistic framework guiding communications. Lastly, the limitations of this thesis are accounted for and a suggestion for further research on the subject is proposed.

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Introduction

The usage and influence of technology in the modern person's life is still becoming more prominent (Perri, 2023). Contemporarily, the rapid onset and accessibility of artificial intelligence (AI) technologies have sparked an increased debate and interest in the ethical matters surrounding the subject of technology's influence on the everyday life of modern society, and governmental institutions have called for and made guidelines and restrictions trying to ensure ethical development of these artificial intelligence technologies and tools (European Parliament, 2023).

As Artificial Intelligence (AI) is a broad term used to describe technologies with problem solving capabilities and technologies that resemble human intelligence (Barone and Stagno, 2023; IBM, n.d.), it is important to distinguish between different types of AI. More recently arrived AI technologies, that are commonly used are generative AI technologies, such as ChatGPT and Dall-E by OpenAI, which to generate i.e. textual and visual content (Conte, 2024). Advancements in generative AI and the surrounding innovations are having a significant and transformative impact on productivity, workflow, and the allocation of human resources, ultimately shaping how businesses operate (Perri, 2023). However, AI technologies like biological face ID biometrics to access a phone, customer service chatbots, streaming service and social media algorithms and voice assistants likely Siri by Apple or Alexa by Google i.e. have been an integrated part of even longer (Marr, 2019). Within the sphere of eCommerce some AI technologies can be identified more easily such as i.e. automated chatbots directly available on the waiting for a consumer's message to serve as a prompt (Wang et al., 2023; Marr, 2019). However, other AI technologies operate behind what the user can actually see on the webpage or application interface, like personalisation of advertisements and personal recommendation of products (Wang et al., 2023). These technologies have now made an onset into the seemingly more offline parts of our lives.

For the past decade many offline retail businesses have extended their business models from exclusively being available as physical businesses, to now have established themselves as eCommerce business as well (Wang et al., 2023). However, offline retail businesses have not only developed their businesses by extending to eCommerce, self-checkout and self-scan solutions have become a normal sight for many people globally within the last couple of years (Aguirre Reid et al, 2024; Leung and Matanda, 2013). One of the most recent phenomena within retail businesses is AI-powered systems, which allow customers to enter a store with i.e. a credit card, grab what they want to purchase and then leave without checking out at a till but simply be automatically charged (Barone and Stagno (2023).

A similar grocery store concept will launch in Aarhus, Denmark, in October 2024, though it is unspecified which company collaborated with Salling Group on the Føtex Go concept, other than it being described as a foreign tech company (Salling Group, 2024). Furthermore, Salling Group specifies that it has been inspired by similar concepts applied in Poland, Germany, and the United Kingdom (Salling Group, 2024).

When new technologies are implemented such as AI-powered technologies have gotten a specific spotlight, for example among governmental institutions like the European Parliament (2023) seeking to ensure a safe innovation process due to its rapid onset and accessibility, along with the possibilities and risks it may pose (European Parliament, 2023), how do companies react in order to address these underlying and sometimes explicit concerns, especially ethical (Tredinnick and Laybats, 2023)?

Problem formulation

This thesis aims to investigate if, then how does Amazon Inc. address ethical aspects regarding consumer concerns within the context of the Just Walk Out technology? Additionally, how can normative ethical theories inform guidelines for communicating about this kind of technology in relation to consumer concerns?

To research this problem formulation, this study will encompass a literature review on technology acceptance of consumers and consumer concerns in relation to new AI-powered technologies. This will entail with the three classic theories on normative ethics: Utilitarianism, Kantian Ethics and Aristotle's Virtue Ethics, which will serve to inform the guiding questions for the research method, a content analysis; this will provide a methodological and systematic framework to analyse the communication from Amazon regarding the ethical aspects of the Just Walk Out technology. Furthermore, the literature review and the ethical theories will also provide an informed frame of reference to discuss the findings of the conducted content analysis.

With a bachelor's degree in applied philosophy, my interest in the field of normative ethics and its application to market communication and consumer aspects is not new. During my bachelor's studies I have gained insights into this interdisciplinary field by working with projects such as nudging's application as a marketing tool, the ethics of adult content, and allocation of resources in healthcare systems. I find normative ethics theories to be useful and helpful in critically addressing ethical matters and decision-making pro-

cesses. Extending my prior knowledge and interest in this field, the thesis seeks to investigate how normative ethical theories can be used to guide companies' communication about ethical aspects of emerging technologies. Gross merchandise volume (GMV) is a metric used in eCommerce to indicate the total value of goods, and therefore, in Amazon's case physical GMV refers to tangible products sold through their platform and digital GMV refers to intangible products of digital goods including services, e-books, music downloads and streaming (Hayes, 2024).

Case description: Amazon's Just Walk Out Technology

This case description serves as a foundational stepping stone in order to provide a comprehensive context for this thesis and an understanding of Amazon's Just Walk Out technology, therefore, this section presents a description of Amazon and how the technology works.

Amazon.com, Inc. is an American eCommerce company founded by Jeff Bezos in 1995 and has risen to be one of the world's largest internet-based companies and online ecommerce with a reported \$386 billions of net sales in 2021 and an estimation of \$578 billions in physical and digital gross merchandise volume (Nasdaq, n.d.). Approximately 80 percent of Amazon's revenue is made up of their retail activities, while their subsidiary company, Amazon Web Services (AWS) providing cloud services and other technologies such as Just Walk Out, contributes 10 - 15 percent of their revenue and the remaining revenue is generated through advertisement services (Nasdaq, n.d.) International sales, excluding AWS', account for approximately 25 - 30 percent of Amazon's total revenue with Germany, the United Kingdom and Japan being key markets for them (Nasdaq, n.d.). Onwards, the names Amazon, Amazon Web Services, Inc. and AWS will be used interchangeably.

In this study, the focus lies on a specific AWS' technology, Just Walk Out, and if, then how ethical aspects are being communicated by Amazon. Through AI, deep machine learning and camera technologies, the Just Walk Out technology allows consumers to enter a retail store, grab what they want to purchase, and exit without having to check out at a till, a self-scan service, or a scan as you shop application (Amazon Web Services, n.d.). The payment will simply be drawn from the registered payment method used for entry and a receipt will be e-mailed or show up in an application on the consumer's smartphone. Amazon has built a store concept revolving around this concept called Amazon Go, and through its subsidiary company, Amazon Web Services, Inc. (AWS), it is currently licensing out this technology to other companies (Amazon.com, Inc., 2024a).

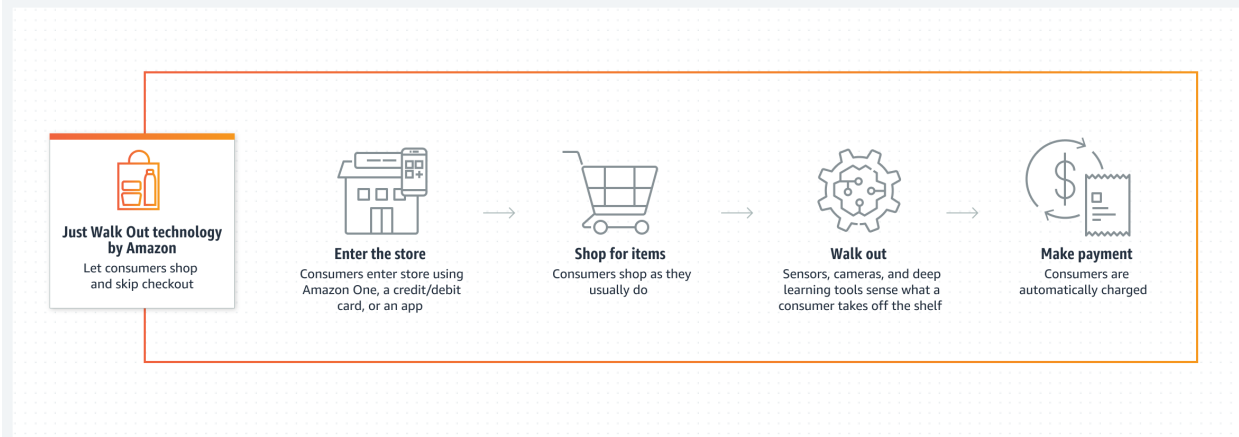


Figure 1 Graphic illustration by Amazon Web Services of how Amazon's Just Walk Out technology work behind the costumers' journey through a store applying the technology as pictured on the Amazon Web Services (AWS) website for businesses (Amazon Web Services, n.d.)

In 2021, Amazon opened its first Just Walk out Stores outside of the United States in London, England; however, just after a little more than two years in operation, Amazon shut down these stores, while expanding still in the United States (BBC News, 2023). Nevertheless, the Just Walk Technology can be found in airports, sports stadiums, educational institutes, entertainment facilities, hospitals centres, convention locations and convenience stores in the United States and the United Kingdom still (Amazon.com, Inc., 2024b).

Methodology

In this section, I will account for the methodological considerations and choices I have made during this study to ensure transparency, scholarly validity and credibility, with the main subsections being philosophy of sciences, research design including data selection and analysis and limitations of this study. As the case investigated in this thesis holds complexity a tangible set of criteria has been set for data selection and analysis for them as stated above to ensure a clear focus throughout the research conducted.

Philosophy of Science

I will outline the philosophy of science which informs my research methodology in the following section. By accounting for the chosen scientific paradigm in general, the ontological (*what exists*), the epistemological, (*how we obtain knowledge about what exists*), and the key ideas within this chosen paradigm, this section sets the foundation for the methodological choices I have made to identify, investigate and analyse if, then how the ethical aspects communicated related to Amazon's Just Walk Out technology.

Interpretivism as a research paradigm

Firstly, I account for Interpretivism, and its application to this thesis as the guiding scientific paradigm, including the ontological and epistemological views, along with why and how it serves as a suitable paradigm, including its strengths, weaknesses and critiques made of it.

As in opposition to the positivistic scientific paradigm, typically used in the natural sciences, Interpretivism does not see reality as a matter which we as humans can objectively discover and uncover, instead reality is seen as something we can seek to understand only available to us through our consciousness, language, meanings, understandings and thereby, our interpretation of it (Myers, 2008). Following Myers (2008), ontologically, Interpretivism does not deny that reality exists regardless of its nature, whether objectively or subjectively, but it does believe that, epistemologically, this reality and knowledge regarding it can only be accessed through the subjective lens of the human consciousness and social constructs. Thus, our understanding of this reality is mediated through human interpretation, which means that we perceive and understand the world through the lens of our subjective experiences (Myers, 2008).

In accordance with the previous paragraph, the ontological question regarding whether or not reality is a given objective waiting to be discovered, or a social construct created collectively is not of particular concern to interpretivism, just that it is observable; however, how we acquire knowledge about it is, the epistemological question, is an important factor as knowledge will be accessed and perceived by individual, subjective lenses (Myers, 2008). Therefore, this paradigm often aligns with qualitative research methods which includes various degrees of interpretation which is done by an individual and their subjective lens, seeking to understand the, according to interpretivism, subjective nature of social phenomena and how individuals construct meaning around technology (Myers, 2008).

As a focal point of this thesis lies the assumption that consumer concerns, technology, in this case Amazon's Just Walk Out Technology, and the relation between these entities are real, observable phenomena. However, following the lines of Interpretivism, this reality is only available to us through our human consciousness, language, meanings and understandings (Myers, 2008).

The aim of this thesis is to identify if, then how Amazon communicates about the ethical aspects concerning the implementation of the Just Walk Out technology and consumer concerns regarding it by analysing various types of communication from Amazon. To achieve this, interpretivism serves as a suitable framework acknowledging the subjective nature of social phenomena, communication and how individuals create meaning around this technology. Furthermore, it allows for a qualitative analysis and interpretation of the

communication and the findings emerging from the analysis, making suitable as a research paradigm for me to explore the complexity of this case.

In summary, this combination of ontological and epistemological framework within the paradigm of interpretivism sets the foundation for the methodological choices I have made and thereby, it guides my exploration and understanding of Amazon's communication related to this technology, and if, then how the normative ethical aspects are being addressed within the communication. Furthermore, it allows me to interpret the findings and discuss them in order to investigate how the selected theoretical framework can help inform guidelines on similar aspects.

In consideration of the characteristics of interpretivism outlined above and its alignment with a qualitative research design often associated with social sciences and humanities, the findings of studies conducted through an interpretivist approach are rarely suitable for generalisation, making it difficult to draw firm conclusions and objective knowledge because of its emphasise and reliance on subjectivity and the access to reality through a lens of subjectivity shaped by individual experiences (Mack, 2010). Others critiques the interpretivist approach of lacking rigor in terms of objectivity in contrast to other scientific paradigms such as positivism, making the findings found in interpretivist studies more difficult to replicate and validate due to the reliance on interpretation and subjectivity (Cohen, Manion and Morrison, K, 2011).

Research design

This section outlines the research designed employed in this study to answer the problem formulation, the overall of qualitative research methodology, detailing the theoretical landscape, outline of the literature review, the methods used for data selection, the approach for the analysis of the selected data and the considerations I have had throughout this research for the thesis. The research design is informed the philosophy of science paradigm selected and accounted for in the section above.

Qualitative research

To deepen the understanding of this study, I will account for the type for research conducted. Aligning with interpretivism, the research paradigm of this thesis, the research conducted in this study is qualitative.

Traditionally, research methods are divided into three categories: qualitative, quantitative and mixed methods, which is a mix if qualitative and quantitative methods, i.e. surveys combined with focus group interviews (Brinkmann & Tanggaard, 2010).

All three types of research methods can be useful and enable the researcher to investigate a field, however, some methods are more suitable for different types of research depending on what is the aim for the research (Brinkmann & Tanggaard, 2010). Quantitative research methods can provide statistical and measurable data, while qualitative research methods can provide insights into meanings, understanding and experiences (Brinkmann & Tanggaard, 2010).

Typically, qualitative research is concerned with how human experience and understand reality and the world, how something is practiced, experienced, understood and it seeks to understand it through deconstruction and/or interpretation of it (Brinkmann & Tanggaard, 2010; Lamont, 2015). Therefore, aligning with interpretivism, qualitative research has been criticised on three main points: subjectivity, lack of rigor and limited generalisation scope. As qualitative research often involves subjective interpretation of data, some critics argue that qualitative research tend to lack objectivity as it is more prone to researcher bias (Denzin & Lincoln, 2011). Moreover, the findings in qualitative studies tend to be context-specific, making it more difficult to generalise the results (Creswell & Poth, 2018) and lately, due to its subjective nature, some argue that qualitative research methods can lack rigor and make replication of the qualitative research difficult, decreasing its credibility and validity (Hammersley, 1992). Following the lines of the critiques and the scope of qualitative research accounted for above, qualitative research offers a possibility to explore complex social phenomena through the lens of people's experiences, meanings and contexts capturing nuanced data (Creswell & Poth, 2018; Denzin & Lincoln, 2011); therefore, to ensure the validity and credibility of qualitative research, a researcher must provide a detailed account of how the study was conducted, situate themselves and reflect on their role and biases in a qualitative study.

In the context of this study, the qualitative research enables me to explore and investigate, if, then how Amazon communicates the ethical aspects of their technology held together within the context-specific frame, allowing for nuance and complexity. A qualitative research design furthermore allows me to carry out this research through an analysis of language and meaning through public communication by Amazon.

Outlining the theoretical landscape

This section outlines the theoretical landscape of this thesis. This serves to underpin the research design and methodological framework and choices I have made to conduct this research. As a framework the theoretical landscape is foundational for the problem formulation, guiding the data selection and informing the analysis along with the discussion. By combining the interpretivist framework with the selected methods, literature and theories, it becomes possible to investigate the problem formulation: if, then how, ethical aspects are addressed by Amazon regarding the Just Walk Out technology in relation to consumer concerns.,

and additionally, through discussion of the analytical findings how normative ethical theories can inform guidelines on this kind of technologies.

To research the problem formulation, I have chosen three normative ethical theories from the academic field of Philosophy as my theoretical landscape. I have chosen to apply these theories to this problem formulation seeking to understand if, then how, Amazon communicates ethical aspects of implementing a new technology, and how consumer concerns may have been addressed in regard to implementation of the Just Walk Out technology. As normative ethics concern how people ought to behave and how to systemise and substantiate actions, the selected theories are used to inform questions guiding the content analyse and as a basis for the following discussion of the findings (Kagan, 2018).

The three theories selected are under three of the umbrella theories of normative ethics: consequentialism, deontology and virtue ethics, they each have their areas of focus deciding whether an action can be considered ethical (Lübcke, 2010). With their individual areas of focus, they allow me to examine various angles concerning if, then how and which ethical aspects are communicated by Amazon in relation to the Just Walk Out technology.

Therefore, these theories are suitable as an academic basis and theoretical landscape for me to tackle the problem formulation from various ethical positions by informing the questions in the content analysis. Additionally, provide me with an educated framework for discussion of the findings through the analysis and communication addressing consumer concerns in application of new technologies.

As an additional component of the foundation for this thesis, the literature review serves to situate, prove the relevancy of my thesis' topic, and provide context for my research within the present field of technology acceptance and consumer concerns regarding AI technologies. Furthermore, it stands to help me synthesize my analysis findings by creating a relevant connection between my problem formulation and the theoretical framework, making it possible for me to include the relevant findings as a part of my discussion of the findings I have made through the analysis.

Data selection

To heighten the transparency and validity for this research, I will address the data selection and the process of selection in this following section. Firstly, I will account for how the data for the analysis was selected accounting for the data selection criteria and the types of data incorporated in this study, followed by why those data were selected, and lastly, the ethical implications of the chosen data set.

Criteria for data selection

To account for the selection of data for the analysis, I will firstly explain how the data was selected and upon which criteria.

As the focal point of this study is if, then how, Amazon communicates about the ethical aspects of the Just Walk Out technology, the first criterion for selection is (1) the data must be communicated directly by Amazon. Furthermore, to avoid that anything gets lost in translation (2) the data must be published in English. As this study revolves around consumer concerns (3) the data selected must also be publicly available to consumers, and lastly, for the data to be relevant (4) it must explicitly or implicitly include normative ethical aspects in accordance with the theoretical landscape of this thesis.

The types of data included in this study are videos and a majority of blog posts by Amazon. By interpreting different types of communication from Amazon it allows for me to analysis both meanings and of ethical aspects of this technology in the communication directly addressed and available to consumers across multiple media types, while allowing me via the chosen framework of content analysis and philosophy of science to conduct an analysis and interpretation of the findings.

The data has been selected partially in accordance the principle of convenience (Jensen, 2012, p. 269 in Jørgensgaard Graakjær & Bredahl Jessen, 2015) stating that the data collection, or selection in this case, takes a starting point from what data is easily accessible and convenient for the researcher to gather. Moreover, the thesis aims to analyse communication which is also accessible to consumers as the focal point of this research takes its departure in consumer concerns and technology acceptance. The data set consequently consists of four blog post and two videos.

Blog posts

The majority of data selected for analysis is blog posts published by Amazon on a subsidiary page to its dedicated website for the Just Walk Out technology: <https://www.aboutamazon.com/news/tag/just-walk-out-technology>. The blog posts concern various topics of the technology and provide an on-going news flow on the technology's development and new store locations. The blog posts are divided into two categories retail and innovation dated on their website and are chronologically listed from November 2021 to September 2024, which approximately matches the timing of the roll-out of the technology in the United Kingdom (BBC News, 2023). A total of 11 blog posts have been published on the website. In accordance with criterion (4) for selection, the blog posts included in the data set must explicitly or implicitly include

normative ethical aspects in accordance with the theoretical landscape of this thesis. Thus, blog posts announcing news such as store openings or expanding to new territory were considered and therefore, they were not included in the data selection process.

Promotional videos

A part of the data set consists of videos explaining and promoting the Just Walk Out technology. Being able to include YouTube videos and social media posts in an analysis makes it possible to access an enormous amount of data which can make the selection of data more complex and thus, gathering a representative amount of data can be difficult (Simonsen, 2015). However, since the data included in this thesis' research steams from one channel on YouTube which is dedicated to this specific technology by a specific sender with a specific set of selection criteria, thus making the amount of representative data is relatively small.

The videos applicable for this data set are produced by Amazon promoting the Just Walk Out technology and have been uploaded to the online user-generated video content platform, YouTube, to the channel Just Walk Out technology by Amazon: <https://www.youtube.com/@justwalkouttechnology>. These videos provide a visual narrated glimpse and explanation of the technology and are widely available on an international scale. At this point in time for this thesis, the channel had 3.910 subscribers, and 35 videos uploaded in total (@justwalkouttechnology, n.d.). On its homepage, in addition to a collection of all its videos, its videos were custom-made divided into two categories *Our Costumers* and *How Just Walk Out technology works* (@justwalkouttechnology, n.d.). As formerly mentioned, Just Walk Out is a franchise technology which can be bought by other companies for installation in their own business, hence why, the videos categorised under the label of Our Customers feature other companies and those consumers commenting on their shopping experiences in the displayed location. Despite these videos are mostly focused on Amazon's business-to-business consumers, in accordance with the selection criteria, they are also a representation of how Amazon chooses to communicate about their technology and thereby, a representation of how they want their technology to be perceived, along with a depiction of the costumers' experience and description of the application of the technology in businesses, hence why, one of these videos are included in the analysis.

The data which has been selected for analysis can be found in the table below:

Table A: The Selected Data						
Title:	Author:	Pub- lishing date:	Type:	Word count / length:	Link:	In-text refer- ence
Amazon's Just Walk Out technology just got even more accurate—here's what's new	Jon Jenkins (Vice President, Just Walk Out technology, AWS Applications)	July 31, 2024	Blog post	1,055 words	Blog post (B1)	(B1)
An update on Amazon's plans for Just Walk Out and checkout-free technology	Dilip Kumar, (Vice President, AWS Applications)	April 17, 2024	Blog post	1,844 words	Blog post (B2)	(B2)
Amazon's Just Walk Out technology rolls out to hospitals, with 'badge pay' for doctors, nurses, and health care staff	Jon Jenkins, (Vice President, Just Walk Out technology, AWS Applications)	January 11, 2024	Blog post	1,124 words	Blog post (B3)	(B3)
Amazon and Whole Foods Market named among top retailers and supermarkets for innovation	Amazon Staff	September 11, 2023	Blog post	495 words	Blog post (B4)	(B4)
TD Garden MRKT stores, powered by Amazon's Just Walk Out Technology	@justwalkouttechnology	June 16, 2022	Video	2 minutes, 48 seconds	Video (V1)	(V1)
Learn how the Just Walk Out technology experience works	@justwalkouttechnology	April 12, 2023	Video	3 minutes, 35 seconds	Video (V2)	(V2)

Ethical considerations of the data set

As a final remark on my data set, I will briefly account of the ethical considerations of the selected data set. As previously mentioned, the data set consists of material which is publicly available and therefore, there has not been ethical considerable factors such as informed consent or anonymity involved while gathering the material for the data set. However, to avoid biases and ensure a balanced and fair representation, the data set involves multiple types of communication from Amazon.

As Amazon is an American company, the legal doctrine of Fair Use in accordance with United States law of copyright has been considered as their website and videos are copyrighted, as it also covers usage of copyrighted material in fragments (U.S. Copyright Office, n.d.). The U.S. Copyright Office describes the legal doctrine on their website as follows “Fair use is a legal doctrine that promotes freedom of expression by permitting the unlicensed use of copyright-protected works in certain circumstances.” (U.S Copyright Office, November 2023). Though the broad scope of the quote is to state that its purpose is to promote

freedom of expression, the text further specifies that research can be an example of which the Fair Use legal doctrine applies (U.S Copyright Office, November 2023). To determine whether the doctrine applies, four factors: (a) the nature of the work in which copyrighted material has been used, (b) the nature of the copyrighted work, (c) the amount and substantiality of the copyrighted work as a whole and (d) effect of the use upon the potential market for and value of the copyright work (U.S Copyright Office, November 2023).

Within the framework of this thesis, the scope of use is for research purposes, which according to factor (a), the courts are more likely find fair and Section 107 of the Copyright Act specifically states that research is not an infringement of copyright (U.S Copyright Office, n.d.). In comparison, the Danish and European law of copyright infringement a legal principle is not as pronounced and overarching as the United States law states and is mostly concerned artistic works and literature (Rosenmeier, 2018).

Furthermore, as the communication is used for analysis within the context of research, I do not claim the material constituting the data set to be of my own creation nor aim to repurpose or reproduce the content. On the contrary, for the research to be valid, creditable and relevant to answer the problem formulation, the data set must consist of communication material by Amazon only. All data is accounted for and cited in accordance with the fair use doctrine following the APA7 citation guidelines. Moreover, this research conducted is for educational and non-commercial purposes.

In conclusion, the approach and method of processing the data set within the context of this thesis aims to respect both the publishers and the public nature of the data and is for research purposes only. The blog posts and videos serve as a valuable data set in conducting research on how Amazon address ethical aspects of their Just Walk Out technology.

Method of Analysis

In this section, I will account of the method of analysis used in this thesis. The approach taken is a content analysis which is a systematic and replicable method for analysing a vast amount of data through a set of coding rules (Krippendorff, 2019). In correspondence with the scientific paradigm of Interpretivism, the content analysis allows of interpretation of the findings, however, as a set of coding rules are followed, the validity and credibility of the analysis is heightened due to the possibility of replicability (Krippendorff, 2019). This method is suitable as the rationale of using this method is its ability to provide me with a framework allowing me to assess patterns of meanings across various types of media texts. Therefore, it allows me to conduct an in-depth examination of the ethical aspects concerning the Just Walk Out technology as addressed by amazon.

By applying this method of analysis, I seek to identify ethical themes and meanings in relation to consumer concerns, technology acceptance and my theoretical framework. This section therefore outlines how the content analysis has been conducted, including the coding and interpretation.

Aligning with my scientific paradigm, the approach of content analysis allows for interpretation and asserts that reality can be understood through social constructs and shared meanings (Krippendorff, 2019). Krippendorff (2019) explains that contents analysis and the form of communication analysis, do not hold an inherent or objective meaning but the meaning is a result from through interaction between the researcher and the type of communication. Therefore, the role of the researcher and their interpretation of the form of communication analysed is an important aspect of the content analysis, hence why, it is also important for a researcher to be aware that the form of communication hold meaning to others and not exclusively to them (Krippendorff, 2019). As Krippendorff (2019) holds that meaning in communication is a result of interaction, it is also critical to understand that the communication may not have a singular meaning and can be interpreted from different perspectives, eliminating the idea that meaning of communication can be objectively discovered. Thus, the context of with meaning of communication forms are analysed, discovered and formed is important. I.e. the forms of communication analysed in this study are analysed through a lens of humanities, specifically market communicative and normative ethical perspective. If someone within the field of psychology or sociology where to analyse the same data set, the findings and interpretations of them may vary vastly (Krippendorff, 2019).

As a core feature of conducting a content analysis a *coding* of the material takes place. Krippendorff, 2019, p. 129) describes coding as follows “*coding* is the term content analysts use when this process is carried out according to observer-independent rules”. Following the lines for the citation, this requires coding to be a process which is conducted in a set manner, aiming to be consistent and adding a degree of objectivity to the analysis dealing with qualitative data and subjectivity by making it systematic, transparent and replicable by others following the same set of coding rules established (Krippendorf, 2019).

This method of analysis therefore allows me to conduct an interpretive content analysis to interpret the communication content chosen to interpret if, then how the ethical aspects are communicated focusing on consumer concerns and technology acceptance, while not assuming there is one singular objective meaning to be discovered. However, to ensure the validity, credibility and replicability of this study, the following section will outline my approach for conducting the content analysis.

Coding approach

In content analysis, the coding process is a systematic approach to break down data and categorise the data into predefined categories or themes through the established criteria (Krippendorff, 2019). The coding in this thesis is based on the theoretical framework and aims to categorise the identified messages and meanings in accordance with how the ethical aspects are addressed, which ethical aspects are addressed, and then the findings are interpreted as to how they relate to the ethical aspects of consumer concerns and technology acceptance.

The categories established in this content analysis are established on the theoretical framework of normative ethical theories to systematically identify if, then when, the content addresses normative aspects of the Just Walk Out technology. As previously mentioned above in the section outlining my theoretical landscape, the three different normative ethical theories provide me with the ability to identify, assess and interpretate the communication differently from their individual point-of-view.

These guiding questions and categorises are formed to assist me systematically to apply the normative ethical framework in my theoretical landscape to analysis, evaluate and discuss Amazon's messaging and how it corresponds with the applied theories and findings of the literature review.

For summarisation, the selected data for the analysis consists of blog posts and videos by Amazon regarding their technology Just Walk Out. The data has been selected accordance the four mentioned criteria previously mentioned in the section Criteria for data selection to analyse how Amazon present the technology and it to consumers in relation to ethical aspects.

The conduction of the analysis was be done by separately analysing each text asking them the guiding questions before assigning codes to segments for text based on the theoretical framework guiding this thesis.

The codes have been analysed in accordance with the normative ethical theories to determine how Amazon presented and addressed ethical aspects of their technology through their communication. The findings were then categories and synthesised to answer the problem formulation. The findings will be presented in the section "Findings" and be addressed and interpreted through synthesising them under their respective category in the same section.

This manner of analysis ensures a systematic and replicable rigor conducting of analysis while allowing for interpretation of the data set, which is consistent with the chosen scientific paradigm and methodology, moreover, it is directed by my theoretical framework and the research objectives for this thesis.

Literature Review

To set the scene for this thesis, this literature review serves as a situating of the contemporary state of the subjects studied within this thesis. The literature review revolves around the subjects of technology acceptance and consumer concerns regarding AI technologies. These two subjects have been selected as they are both essential to my problem formulation and therefore, the thesis in its entirety.

In order to be able to identify if, then how, Amazon addresses consumer concerns regarding the implementation of the Just Walk Out technology through its communication, I reckon it is important to acquire knowledge generally on consumer concerns regarding AI technologies' application and to investigate what concerns may be the most prominent within this subject for consumers. Furthermore, a section of the literature review will also concern The Technology Acceptance Model (TAM) to gain knowledge about how (potential) users may react to the Just Walk Out technology. TAM is relevant for understanding the adaptations of technologies like Just Walk Out as it helps identify what factors heighten or lower user acceptance rates (Davis and Granić, 2024). In addition, for the purpose of situating the second part of my problem formulation on addressing how normative ethical theories can inform guidelines for communicating the future development and potential impact of this kind of technology in relation to consumer concerns, tying the findings from TAM studies and the findings from studies on consumer concerns in relation to AI will serve as a valuable framework for discussion. To further bridge the gap between these two subjects and establish relevancy to an additional societal and contemporary context, the *Artificial Intelligence Act: Deal on Comprehensive Rules for Trustworthy AI* by the European Parliament (2023) is accounted for.

Thus, the literature review establishes the contemporary relevance of the topic of this thesis along with providing insights on consumer concerns and technology acceptance among consumers, situating this thesis in the current academic discussion. By including the European Parliament's Artificial Intelligence Act from 2023, the literature review also provides further societal relevancy and context by connecting the insights from the real-life implications to studies and theoretical models, allowing for an informed analysis and discussion of analysis findings.

Technology Acceptance Model: Artificial Intelligence Commerce and Self-checkout Technologies

Firstly, this section of the literature review will account for the Technology Acceptance Model (TAM), its use and further development to heighten the understanding of the model's application and area of focus.

This preliminary section will be followed by a review of findings from studies using TAM to assess technology acceptance of common self-checkout services and AI-powered checkout services.

Technology Acceptance Model (TAM) was first developed by Fred Davis in 1986 and presented in his PhD dissertation “*A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*” (Davis and Granić, 2024). The urge to develop such model arose from idea, that it would be ideal to have a tool which could hypothetically predict how new technologies would be accepted by users (Davis and Granić, 2024). The first version of TAM identified two overarching factors for the perceived user acceptance: perceived usefulness and perceived ease of use (Davis and Granić, 2024). Davis and Granić (2024) further notes that not only was it effective in studying this theoretically but it also proved its effectivity in deciding between directions of technologies to make them more perceived to be accepted by its target user group. Due to its effectivity, TAM was further researched and developed since, however, these two overarching and determination factors for perceived user acceptance remain as key elements to the theory (Davis and Granić, 2024).

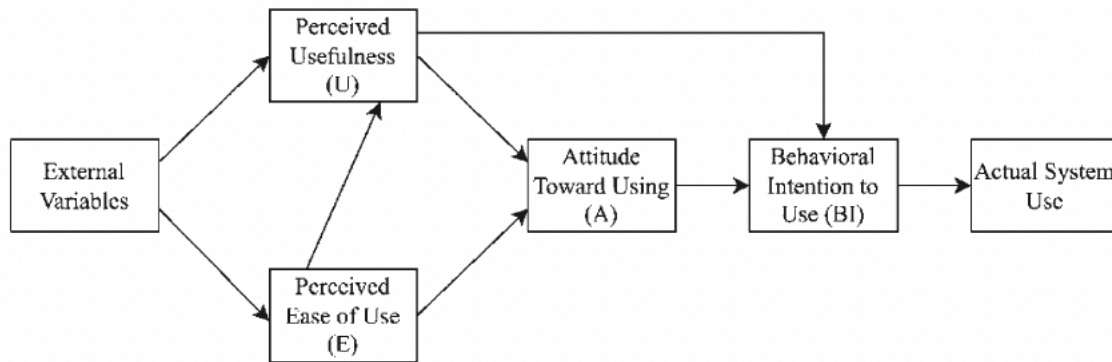


Figure 2 The Technology Acceptance Model as illustrated by Davis e. al., 1989 in Davis and Granić, 2024, p. 3.

The figure of the Technology Acceptance Model as seen above was originally published in 1989 and illustrates TAMs structure and components (Davis and Granić, 2024). As briefly described above, Perceived Ease of Use and Perceived Usefulness are the two factors which the model suggests will influence a user’s Attitude Toward Using the technology, which then affects a user’s Behavioural Intention to Use the technology (Davis and Granić, 2024). Finally, the model then assumes The Behavioural Intention to use the technology leads to the actual use of the technology (Davis and Granić, 2024). The first factor, Perceived Ease of Use, refers to what extent users thinks that the technology requires effort of them to use it: the easier the user thinks the technology it is use, the more likely they are to accept and use the technology (Davis and Granić, 2024). The second factor, Perceived Usefulness, describes the how useful the user it likely to

find the technology, i.e. provide them with benefits, and accordingly, the more useful the user perceives the technology to be, the user will be more positive to accept the technology (Davis and Granić, 2024).

As mentioned earlier, TAM has been further developed with additional factors included in the model to keep it relevant for predicting the likeliness of acceptance of modern technologies (Davis and Granić, 2024). Two of the later versions of TAM are called TAM 2 and TAM 3, which incorporate factors like Social Influence and Cognitive Instrumental Process, which recognises other external factors like social norms, previous experience with technology and support related to the technology are also influencing to what degree a technology can be expected to be accepted by users (Davis and Granić, 2024).

Therefore, TAM is relevant to this thesis scope for understanding how a technology such as Just Walk Out is perceived by users, and ultimately how likely the technology is expected to be accepted by users.

Despite AI technologies being a prominent factor of how the Just Walk Out technology works in order to seamlessly keep track of what costumers pick up inside the store, the predecessor for the Just Walk Out technology is the self-check-out tills at i.e. grocery stores where costumers are required to scan their groceries manually before checking out. Since the common ground between the technologies self-checkout services and AI-powered self-service technologies, such as Just Walk Out, is the absence of what was traditionally social actions, such as making a payment, Barone and Stagno (2023) “*conceptualise AI-powered self-service tools as technologies that are low in both the feelings of social presence they trigger in consumers and low in terms of the extent to which the consumer’s senses are stimulated throughout the shopping journey.*” (p. 5). Additionally, Barone and Stagno (2023) notes that due to the AI-powered self-checkout services being a relatively new technology available, little research has been done on it as for now. Therefore, findings of TAM studies concerning earlier self-checkout services and technology acceptance are also reviewed in this literature review.

In Europe, the United Kingdom and the United States the acceptance of self-checkout technologies at grocery store has been found to be much higher among consumers than in Germany at only 18 percent (Aguirre Reid et al, 2024; Leung and Matanda, 2013). A TAM-study researching which factors are decisive for German consumers’ intention to use self-checkout services has found that fun, trust and perceived usefulness were regard to be crucial factors for both inexperienced and experienced users of the technology (Aguirre Reid et. al., 2024). However, the study also showed that to what extent the factors were considered by the experienced user and inexperienced user oof the technology was different; to the inexperienced user fun was considered to be a crucial factor in whether to accept the technology or not, whereas the experienced user highlighted trust and benefits as deciding factor for trust and acceptance of the technology (Aguirre

Reid et al., 2024). With trust and fun being a decisive factor for the acceptance of the technology for German Consumers, Aguirre et al. (2024) results confirmed the importance of perceived usefulness, but also that intangible as well as tangible benefits in relation to the consumer's shopping experience with self-checkout services are of importance. However, the study also suggests that while experienced users are more focused on usefulness and the utilitarian benefits of the technologies, inexperienced users are not as aware of these benefits and therefore, likely to focus on fun as a decisive factor for intention to use the technology (Aguirre Reid et al, 2024).

Another study of self-service technologies in Korean fashion retail showed that in accordance with TAM, consumers attitude towards using self-service technologies was affected by the factors of perceived usefulness and perceived ease of use (Park, Ha and Jeong, 2021). Additionally, the study suggested that if the technologies seemed stimulating, aesthetic and enjoyable to the consumers they were more likely to be accepted (Park, Ha and Jeong, 2021). The technology was found unlikely to be challenging to use for consumers, due to continuous exposure to similar systems in other retail settings (Park, Ha and Jeong, 2021). In contrast to other studies accounted for in this literature review, Park, Ha and Jeong (2021) did not find trust of the technology to be a factor, however in accordance with Aguirre Reid et al. (2024) the entertainment benefits and enjoyment associated with the technology were found to be important factors.

In conclusion for the literature review of technology acceptance regarding self-checkout services, several overlapping factors have been identified in relation to how likely consumers are likely to accept such technologies. In relation to self-checkout services, it was found that trust, perceived usefulness and perceived ease of use were overlapping identified factors (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021). However, only in regard to retail shopping, the aesthetic and entertainment aspects of the technologies were highlighted along with the continuous exposure to self-checkout technologies, as deciding factors (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021).

Consumer Concerns Regarding Artificial Intelligence

In order to be able to identify, if, then how Amazon addresses consumer concerns in relation to the Just Walk Out technology, this literature review secondly investigates which concerns consumers have regarding this kind of technology (AI) and how the concerns were addressed. Furthermore, to establish a contemporary connection between how consumer concerns are addressed in the contemporary public discuss along with the importance and gravity of the subject according to governing institutions, the Artificial Intelligence Act: Deal on Comprehensive Rules for Trustworthy AI by the European Parliament from 2023 is reviewed, serving as a bridge to further bridge the gap between the subjects occurring in this thesis.

The AI Act is the European Union's legislative effort to regulate the use, development and implementation of AI technologies based on the risk they represent (European Union, 2023). The contextual background for the AI act was to secure that the further development and implementation of AI technologies is respecting democracy and essential rights for citizens while allowing for European companies to further innovate and expand their business whilst protecting environmental sustainability, classifying the AI technologies with the highest risk as those which may pose a significant implication of those factors (European Parliament, 2023). On the basis of this, the European Parliament has put such AI technologies involving high risks under more extensive requirements for documentation of data security, transparency and accountability (European Parliament, 2023). These requirements include i.e. reporting to the Commission on serious incidents, cybersecurity, and their energy efficiency (European Parliament, 2023).

Among AI technologies which have been banned by the European Parliament are the following as they, according to the European Parliament, pose a potential threat to citizens' rights and democracy are i.e. biometric categorisation systems that uses traits such as sexual and political orientation and ethnicity, social scoring systems, systems exploiting vulnerabilities in citizens or limit citizens' free will (European Parliament, 2023). To ensure that Europe still develops AI technologies which are innovative, technologies classified as being high risk are not prohibited, but they are, however, sandbox and real-world-testing for regulatory purposes and additionally, law enforcement exceptionally is allowed to use biometric identification systems within in public space in accordance with a set of safeguards under specific circumstances (European Parliament, 2023).

Linking the AI act to the application of Amazon's Just Walk Out technology, which uses AI systems, machine learning and computer vision (Amazon Web Services, n.d.), this specific technology could be classed as a high-risk AI system under the AI act by the European Parliament (2023). The reason for such potential classification is that the technology collects sensitive data by tracking customer movements and purchasing (Amazon Web Services, n.d.). Therefore, to demonstrate that the technology does not pose a risk to i.e. citizens' rights, the technology may be required to sandbox and real-world-testing, along with the requirements for reporting to the Commission on serious incidents, cybersecurity, energy efficiency, how the technology works, how the data is stored and used, before it is allowed in European Union countries (European Parliament, 2023). Furthermore, citizens have a right to complain about AI systems, which may also entail a further emphasis on heighten the transparency of the technology's application (European Parliament, 2024)

In conclusion, the link between the AI Act, consumer concerns and the Just Walk Out technology primarily lies within the context of data privacy and transparency due to the functionality of the technology (Amazon Web Services, n.d.; European Parliament, 2023). This conclusion further aligns with the previous finds in the section on TAM and self-checkout services, as trust was a factor identified in various of the studies accounted for (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021)

Theoretical Framework

To examine, if, then how the ethical aspects of Amazon's Just Walk Out technology are addressed by Amazon, and to discuss how normative ethical theories can inform guidelines on communicating the future development and potential impact of this kind of technology in relation to consumer concerns, I have chosen three normative ethical theories as a theoretical framework that will guide the content analysis in this study and inform the discussion of the analysis findings. Therefore, in this chapter I will cover three umbrella theories of ethics, more specifically normative ethics: Deontology, Consequentialism and Virtue Ethics – along with a more in-depth account of the specific branches of theory under each umbrella theory I have chosen for this study; moreover, their relevancy and applicability in a study concerning an AI technology, which has been invented decades and centuries after the theories' initial emergence will be discussed. By studying communication by Amazon about the Just Walk Out technology through a theoretical lens of normative ethics, I aim to identify, if, then how and which ethical aspects related to consumer concerns are communicated by Amazon.

In academic literature, some scholars distinguish between the terms ethics and moral, others use the terms interchangeably (Lübecke, 2010); The dissimilarity between the two terms is blurred; however, one description of the contemporary dissimilarities of the terms is that contemporarily, the term ethics tends to describe either reflection of good in general or a more individual perception of what is right and what is wrong, on the other hand, morality tends to be regarded as what is reflected upon and examined in ethical reflections and the more tangible perceptions of right and wrong¹ (Christensen, 2014a, p. 8). In this study, the terms will be used largely interchangeably.

As these theories concern normative ethics: how to systematise and substantiate one's moral assessments, *decision making* is a central term of normative ethics. In general, ethical theories serve as a framework on

¹ Original citation: "I dag synes begrebet etik primært at betegne en af to ting, enten som sagt refleksion over det gode eller en personlig motiveret opfattelse af rigtigt og forkert. Moral betegner derimod det, man undersøger i den etiske refleksion, nemlig moralske normer og konkrete opfattelser af rigtigt og forkert (enten faktisk eksisterende eller ideelle)" (Christensen, 2014a, p. 8).

how people ought to be or how to behave, focusing on human actions, individually and collectively, in other words, how to make decisions and which decisions to make (Lübcke, 2010; Kagan, 2018). The correct or best decision in this sense being the most ethically founded decision; however, depending on which ethical theory that serves as the framework, the chosen decision may be very different.

The theories accounted for in this paper belong to the studies of Philosophy, and specifically, the field of normative ethics. This distinction is important as other academic fields such as politics and education also address moral and decision making (Lübcke, 2010).

Three normative ethical theories have been selected as they each elucidate the moral principles of decision making. However, they put an emphasis to different areas of focus. Moreover, these theories are widely studied and serve as the three foundational pillars of scholarly work concerning normative ethics within the field of philosophy (Lübcke, 2010).

By taking this approach, it becomes possible to systemically identify which, if any, areas of focus regarding normative ethics, Amazon addresses when communicating about the Just Walk Out technology.

What is Ethics?

Firstly, I will elaborate on how ethics is to be understood in this context. The concept of ethics is, as formerly stated, essential to systematise and substantiate one's moral assessments and decision-making process. The term *ethics* is derived from the Greek ethos meaning "*the distinguishing character, sentiment, moral nature, or guiding beliefs of a person, group, or institution*" (Merriam-Webster, n.d.; Lübcke, 2010) and "*Den gren af filosofien, som beskræftiger sig med moralske fænomener*"² (Lübcke, 2010, p. 193). In ancient Greece, a person's ethos was a collection of intrinsic traits making up a person's character, which would as a base for their actions and decisions (Aristotle, 2011), Later on in contemporary times, ethics also concerns a wider range of agents, from individuals to societies, institutions, organisations and companies.

² My own translation: "*it is the branch within the academic field of philosophy which concerns moral phenomena*" (Lübcke, 2010, p. 193)

Normative Ethics

Since *normative* ethics are the focal point of this study, it is essential to note that the term normative focuses on how people *ought* to behave and not how they actually behave. Therefore, these theories provide guidance as to how people should and should not behave, what is a good and bad act and decision, focusing on human actions (Kagan, 2018). Within this definition of normative ethics lies a general discussion in moral philosophy of what is good and what is bad? This discussion will not be generally discussed in this paper, only in context of the case of Amazon's Just Walk Out technology.

Human actions involve at least three components when discussing normative ethics: an agent performing the act, an act itself and the outcome or consequence of the act committed; however, not all acts qualify as moral acts, as some acts, like breathing, does not involve a free, deliberate and conscious choice, and therefore, those acts cannot be considered moral acts (Kagan, 2018). Thus, an act can only qualify to be subject to and analysed using ethical theories if the act is free, deliberate and a conscious choice. Following the lines of Kagan (2018) the lack of action can equally be considered a moral act, if they are a free, deliberate and conscious decision, i.e. if one is aware that a person is in danger and chooses not to act even though they are free to do so, this act qualifies as such. On the contrary, if the person is not conscious that someone needs their help or are not free to make the choice to help, not helping cannot qualify as a moral act (Kagan, 2018).

As a general preliminary overview, each of the three overarching theories of normative ethics covers one of the three components of human actions as its focal point. Virtue Ethics puts an emphasise to the agent, Deontology puts an emphasise to the action itself and Consequentialism focuses on the outcome or consequence of the action (Christensen, 2014a; Kagan, 2018).

In this study, I have chosen to focus on Aristotle's Virtue Ethics within Virtue Ethics, Kantian Ethics within Deontology and Utilitarianism within Consequentialism. By applying these normative theories, it is possible to ask informed questions about ethical aspects, if addressed by Amazon in relation to the Just Walk Out technology.

Aristotle's Virtue Ethics

Firstly, I have selected Aristotle's Virtue Ethics as the virtue ethical theory as it provides me with the ability to interpret how Amazon shows virtuous behaviour in relation to the communication about its Just Walk Out technology. This theory serves as a foundation of not only modern virtue ethics but also as one of the

first theories on normative ethics emerging in Ancient Greece earlier than 300 BC with philosopher's Socrates, Plato and Aristotle, this theory is more than two millennia old (Lübcke, 2010).

Aristotle was born in Stagira, an ancient Greek city on the east coast of Macedonia, where his father served as the personal doctor for the king of Macedonia (Lübcke, 2010). He studied at Plato's academy for approximately 20 years before leaving when Plato appointed his nephew as his successor, whom Aristotle did not share philosophical beliefs with (Lübcke, 2010). Aristotle then travelled to Lesbos and Anatolia, before getting appointed by Philip of Macedonia to be his son, Alexander the Great's, educator (Lübcke, 2011). After the death of Alexander the Great, Aristotle exiled himself to the island Euboea, when Greece began warfare with Macedonia, to avoid being prosecuted as a traitor, like Plato was leading to his execution (Lübcke, 2011). Aristotle died shortly after moving to Euboea at the age of 62 (Lübcke). Aristotle was very productive during his life both in writing his own works and educating others, and his works span widely over subjects such as logic, ethics and metaphysics (Lübcke, 2010).

In contrast to the other two normative ethical theories chosen for the theoretical framework of this thesis, Aristotle's virtue ethics puts an emphasis to the agent and asks what a good life is to be considered to be (Aristotle, 2011), rather than the act itself (Kant, 2011) or the consequences of the act (Bentham, 2003; Mill, 2011a). In his work, *Nicomachean Ethics*, he explains that the *telos*, often translated to goal or purpose (Hursthouse, 1999) for humans is to live according to rationality and achieve *Eudaimonia* which is done by developing a virtuous character (Christensen, 2014b; Hursthouse, 1999; Kraut, 2022; Knoll, 2022). *Eudaimonia* is a term often translated to *flourish*, *well-being* or *happiness* (Hursthouse, 1999)

Aristotle (2011) argues that a virtue is a character trait which is to be found in the balance between two extremes, which he refers to as vices. For example, a virtue found between the vices of stinginess and wastefulness is generosity (Aristotle, 2011). The virtue is thereby identified to be the perfect and balanced middle in between vices, however, the context of how this character trait is displayed is crucial as, i.e. an action that may be considered generous in one situation is to be stingy or wasteful in other contexts (Aristotle, 2011). The embodiment of virtues as character traits are both of benefit to the person who embodies them, in achieving the state of *eudaimonia* and by also the embodiment of the virtues making the person a better person (Hursthouse, 1999). I have chosen to use the wording *embodiment of virtues* to underpin that within Aristotle's virtue ethics, virtues and vices are generally not acquired through one action nor suddenly (Hursthouse, 1999).

A question begging to be answered is then, how does one know what the virtue, the perfect, balanced mean between two vices is in a specific context and how does one embody a virtue? Aristotle (2011) argues that

one must be guided by *phronesis*, often translated to *practical wisdom*, the ability to deliberate how to act virtuously through reasoning (Hursthouse, 1999). According to Aristotle (2011) what differentiates humans from animals is this ability and humans' capability to live accordingly to rationality, and by refining and embodying virtues achieving our telos and eudaimonia (Knoll, 2022).

Building on the example of generosity as a virtue, many considerations need to be done to act generous within a given context rather than stingy, wasteful or displaying other vices. These considerations may include what is the correct amount of something to give to who, when and where? For example, if I spend Christmas with my partner's family and I am aware that they have agreed that only children under the age of 18 gets a present, then for me to also purchase presents for the rest of the family members as well may come off as wasteful and maybe even untrustworthy if I have agreed not to give them presents. However, if there were not such rules, buying everyone presents buying lavish presents may come off as wasteful, while cheap presents may be considered stingy.

Following these lines, Aristotle (2011) argues that virtues therefore are not innate for human beings, but they are acquired and embodied through practice, habits and the use of *phronesis*, just like practicing other skills, such as painting; the more one engages in virtuous behaviour the more virtuous of a character that person will become and achieve eudaimonia.

To sum up, Aristotle's virtue ethics can provide me with a theoretical lens through which I can interpret if, then how, Amazon's corporate character displays virtuous behaviour through its communication of the Just Walk Out technology. Furthermore, the theory can assist me in interpretation if, then how, Amazon encourages virtuous traits by customers through its communication and engagement with them.

Kantian Ethics

Secondly, Kantian Ethics has been chosen to represent a deontological ethics point of view. I have chosen this theory as it provides me with the ability to assess how Amazon addresses and considers their moral duties and obligations in relation to the Just Walk Out technology. In contrast to virtue ethics, Kantian ethics focuses on moral duties instead of character traits, moreover to Kant (2011), moral principles are universally ruling whereas as to Aristotle ethical principles are context-sensitive (Aristotle, 2011).

Immanuel Kant, the German philosopher and founder of Kantian ethics was born during the Enlightenment in 1724 into a family of craftsmen in Königsberg, Germany (Now Kaliningrad). His academic career began early when he started studying philosophy and physics at the University of Königsberg in 1740 (Lübcke,

2010). In 1770, Kant was appointed as a professor at the same university where he remained until his death in 1804 (Lübcke, 2010).

In brief, the theory puts an emphasis on moral duties, rules and the intrinsic worth of actions, and it is centred in the belief that morality is based on reason and the correct action is therefore based on a sense of duty, rather than aspiring to be a virtuous character (Aristotle, 2011) or a calculation of the consequences to maximise utility or happiness (Bentham, 2003; Mill, 2011a).

To understand Kantian Ethics, it is of essence to dwell into Kant's concept of moral duties. Kant (2011) argued that people have obligations which guide them to act ethically just. In contrast to i.e. the normative ethical theory of utilitarianism (Bentham, 2003; Mill, 2011a), Kantian ethics do not assess act on the basis of their outcome nor personal goals, but as a product of the acting agent's ability to reason, their ability to recognise ethical principles and act accordingly simply because the action, which is in accordance with these principles are the right action, and thereby, stems the moral duty (Kant, 2011). Therefore, to Kant (2011) the autonomy of the agent is also highlighted by Kant, as moral duties should not be imposed by external authorities but as a product of the agent's ability to reason and practice rational self-legislation (see The Formula of the Kingdom of Ends, Kant, 2011, p. 893). In summary, the moral duties in Kantian Ethics are not only determined by one's reason but also the overarching principle in Kantian ethics: The Categorical Imperative (Kant, 2011).

The Categorical Imperative

One of the most significant and foundational principles of Kantian Ethics is *The Categorical Imperative* (Lücke, 2010; Kant, 2011). Before dwelling into the aspects of Kant's categorical imperative, an explanation of the wording will be given to heighten the understanding: Firstly, an imperative is an order/command/mandatory, and for something to be categorical, it means that it is absolute and unconditional (Lübcke, 2010). Therefore, The Categorical Imperative can be translated into and understood as a rule which is absolute and unconditional, regardless of other factors (Lübcke, 2010). The Categorical Imperative consists of multiple formulation making up the entirety of it. for the scope of this thesis to limit and guide its focus, the following of them have been selected for further account:

The Formula of Universal Law:

Kant (2011) states that there is one imperative of which all other imperatives can be derived from which he articulates as follows: "*Act only on that maxim through which you can at the same time will that it could become a universal law*" (Kant, 2011, p. 886). Kant's formulation means that a person should only act according to principles that applicable consistently for everyone else to follow as well. In other words, if

everyone conducted the same action, the action must still be considered morally acceptable in every scenario, therefore, if an action can be universally applied without contradiction, it is morally acceptable and vice versa (2011). As an illustration relevant to the area of focus of this thesis: If a person enters a grocery store and exits without paying for an item, which is the rule acquired to be fulfilled to consentingly exiting a store with an item, this action of stealing is only morally just if this can be consistently applied without contradiction, however, it can easily be argued that if this person had a store themselves and others would steal items from the store, this person would not agree that this action is just as it affects his revenue and thereby, his ability to accommodate for himself.

The Formula of The End in Itself

Another of the most famous formulations of Kant is the Formulation of The End in Itself also called The Humanity formula (Johnson & Cureton, 2024). Through this formulation Kant (2011) puts an emphasis on showing respect for humanity by arguing that individuals should never serve or be viewed as instruments by others solely to achieve their will and goals, but instead they should be seen as rational agents being intrinsically valuable as well (Kant, 2011; Johnson & Cureton, 2014). Kant (2011, p. 890-891) articulates the formula as follows: *“Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as means, but always at the same time as an end”*. Despite Kant highlighting that it is not morally just to use people *only* as means to our personal ends, however this does not rule out using people as means if one still recognises their humanity and treat it as an end in itself (Kant, 2011; Johnson & Cureton, 2024).

To provide an example within the context of this thesis’ area of focus: if I go to a grocery store, I can pay for my groceries by a self-scan check-out till or a till served by a store employee. Both the self-scan check-out till and the employee are used for me to achieve my goal of purchasing groceries, however, the difference is that the employee is a rational agent with humanity and autonomy, who must be treated respectfully and morally just, whereas the self-scan check-out machine is merely a tool.

The Formula of The Kingdom of Ends

The last formula I have chosen to dwell into for this thesis is The Formula for the Kingdom of Ends as it describes how one can decide whether something is to be considered a universal law through an envisionment of a society. Since Kant (2011, p. 992) encapsulates *“the concept of every rational being as one who must regard himself as making universal laws by all the maxims of his will and must seek to judge himself and his actions from this point of view”* he puts an emphasis to the individual’s autonomy and their personal ends. To apply moral laws within the context of society, Kant links the concept of every rational being and the Formula of The End in Itself to his concept of The Kingdom of Ends.

Through the formula and argument for it, Kant (2011, p. 893) describes a kingdom according to his understanding as “*a systematic union of different rational beings under common laws*” (Kant, 2011, p. 893) and following the lines of Kant (2011), the law that rational beings must obey to is the categorical imperative, which entails The Formula of The Ends in Itself, hence the name: The Kingdom of Ends. Circling back to the concept of every rational being, Kant (2011) believes in the individual’s autonomy, ability to reason and show self-legislation. Thus, the rational being belongs to The Kingdom of Ends both as the head of it (making the laws) and as a member (an obedient of the laws made). Only by excluding personal impulses, desires and emotions, the rational being can make objective universal laws (Kant, 2011). This exclusion makes it possible to consider others as ends in themselves and thereby stems the practical necessity of duty which relies on the relation to other rational beings (Kant, 2011). In other words, every individual should act as if their actions create a moral law that would not only govern their own actions but also those of others, which will lead to a society where all people are treated as ends, never simply as means (Kant, 2011).

However, despite Kant’s highlight of moral duties, he also recognises that these in practice, are to be considered with a distinction of perfect and imperfect duties (Kant, 2011). Perfect duties are the ones, which must always be acted on without exception, whereas imperfect duties are the ones which not always must be performed (Kant, 2011). An example of a perfect duty is the duty not to lie, as it would lead to mistrust and other moral interactions, like the duty to keep promises, on the other hand the duty to help others in need is an imperfect duty, reflecting the moral importance of kindness and compassion (Kant, 2011), i.e. one is not always duty-bound to give to charity but is allowed to choose which charity and how much one is willing to give, enforcing kindness and compassion, however, not contributing to charity is not a violation of others’ autonomy nor does it violate the respect of others according to Kant (2011).

For the purpose of this thesis, Kantian Ethics provides me with a framework for interpretation, if, then how, Amazon addresses their moral duties, such as treating individuals with respect, fairness and transparency in their communication regarding the Just Walk Out technology.

Utilitarianism

Lastly, the consequential ethics theory I have selected is Utilitarianism. As a consequential ethics theory, Utilitarianism focuses on the consequence or outcome of the action. As Mill (2011a) writes, from his consequentialist utilitarian outlook, that the rules of action must be based on the entire outcome of the action. This means that, in principle all actions can be an ethically justified action, if they serve the right outcome which is providing the most happiness for the most people. How does one decide whether an outcome is

right or not? At the centre of the theory is *The Greatest Happiness Principle/The Principle of Utility*, which states that the correct act is what leads the highest amount of happiness/utility and minimising of suffering and pain (Driver, 2022; Bentham, 2003; Mill, 2011a), however, the formulation The Principle of Utility is at the centre of Bentham's utilitarian philosophy (Bentham, 2003), whereas The Great Happiness Principle is linked to Mill (Mill, 2011a). Essentially, they state the same utilitarian principles, but Bentham (2003) focuses on utility and Mill (2011a) on happiness, which I will elaborate on in the following subsection. This raises a few questions: what is happiness, who can experience this happiness, and how is happiness calculated? These questions will be addressed in the following subsections.

Some of the core concepts, characteristics and terminologies of utilitarian philosophy had been explicated by earlier philosophers engaging with ethics i.e. Hobbes (Driver, 2022). However, Jeremy Bentham is seen as a foundational figure for classical Utilitarianism as he systemised and developed the theory, making it applicable to i.e. legal and social matters, along with John Stuart Mill (Driver, 2022; Crimmins, 2021).

Jeremy Bentham was born in London, England in 1748 and a solicitor by education (Lübcke, 2010). His education within the field of law and legislation served as a focal point for the larger part of writings, and he was highly engaged in social reformation across in the United Kingdom (Lübcke, 2010; Driver, 2022). He died in 1832, and thereby was Kant's contemporary (Lübcke, 2010).

John Stuart Mill was also born in London, England in 1806 and was educated within the fields of philosophy and economics (Lübcke, 2010). Despite his influence on philosophy, Mill was never lecturing or in other ways connected with universities other than through his own education, which was also mostly done by his father, Jeremy Mill (Lübcke, 2010). Instead Mill worked for the British East India Company from 1823 until it was disbanded in 1858 and by that time, he had advanced to a rather prominent position within the company (Lübcke, 2010). In the years of 1865 to 1868 he was also an independent member of the House of Commons and like, Bentham, Mill worked for social reform in the United Kingdom (Lübcke, 2010; Driver, 2022). Alongside his work, Mill wrote and published his own works and early on, he was inspired by the writings of Bentham but further developed his ideas (Lübcke, 2010)

This 200-year-old theory has been well-studied and developed through the past 200 years (Crimmins, 2021). Utilitarianism is considered to be a neutral and impartial theory as it holds agent neutrality as the agent's happiness is regarded as worth equally to others happiness, i.e. in contrast the normative ethical theory of Egoism, another consequential normative ethics theory stating that the ethically just action is the one maximising one's own interests (Driver, 2022; Shaver, 2023).

Utilitarian Happiness

As formerly stated, Bentham and Mill, were focusing on improving mostly legal and social matters (Driver, 2022); moreover, the two terms Principle of Utility and The Greatest Happiness Principle are coined, respectively. Inspired by earlier philosophers, Bentham takes his starting point from a naturalistic perspective addressing Utilitarianism: “*Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do.*” (Bentham, 2003, p. 17). Also, it holds that as a starting point for his Principle of Utility, claiming that human behaviour is motivated by these two sovereigns in attempt to maximise pleasure and minimise pain, and these are the factors determinating the ethical legitimacy of actions (what we shall do) and ethical decision-making (what we ought to do).

Bentham (2003) states that “*The principle of utility is the foundation of the present work [...]. By the principle of utility is meant that principle which approves or disapproves of every action whatsoever [...] to promote or to oppose that happiness. I say of every action whatsoever; and therefore, not only of every action of a private individual, but of every measure of government.*” (p. 18) Bentham thus makes it clear that the *Principle of Utility* applies to everyone who has the ability to influence the well-being of others, not simply individuals but also institutions, companies and governments, which is highlighted in the citation, emphasizing Bentham’s focus on legal and social improvement; furthermore, by utility he states that “*By utility is meant that property in any object, whereby it tends to produce benefit, advantage, pleasure, good, or happiness, (all this in the present case comes to the same thing) or (what comes again to the same thing) to prevent the happening of mischief, pain, evil, or unhappiness to the party whose interest is considered: if that party be the community in general, then the happiness of the community: if a particular individual, then the happiness of that individual*” (Bentham, 2003, p. 18). Through this citation it is clear that for Bentham, that the maximisation of the sovereign of pleasure or the minimising of the other sovereign, pain, is what is to be strived for, for an act to be ethically just, and that it applies to all parties, not only to individuals but to communities and the like as well. Moreover, Bentham does not differentiate between different types pleasures and pains. Thereby, objects which produce utility in the sense of pleasure regarded as equally desirable and to objects which produce pain are regarded as equally undesirable; moreover, Bentham does not differentiate between who is deserving of these objects, people, parties etc. making them equally worthy in this regard and the purpose being maximising pleasure and minimising pain for the greatest amount for people. In summary, Bentham’s approach is leaning towards hedonistic utilitarian perspective with a quantitative aim of maximising all pleasures for the greatest amount for people in general aggregating welfare, even if it means creating an unjust consequence for individuals or minorities.

John Stuart Mill (2011a) further develops Bentham's account for Utilitarianism and is linked with the term The Greatest Happiness Principle. As earlier stated, the principles essentially state the same utilitarian principles. However, whereas Bentham (2003) uses utility as the term covering pleasures, Mill focuses on the term happiness (2011a). Moreover, Mill (2011b) also sought improvement on social matter, while putting an emphasis on individual freedom and liberty, defending that people should be free to pursue their own happiness conditioned by not harming or retaining others from pursuing their happiness; "That the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others" (Mill, 2011b, p. 989).

One of the differences between Bentham and Mill is that Mill (2011a) not only addresses happiness in quantitative but also in qualitative terms: "*It is better to be a human being dissatisfied than a pig dissatisfied; better to be Socrates dissatisfied than a fool satisfied. And if the fool, or the pig, is of a different opinion, it is because they only know their own side of the question. The other party to the comparison knows both sides*" (Mill, 2011a, p. 959). In this citation, Mill (2011a) does not exclude the fool nor the pig's happiness, however, he clarifies that there are certain pleasures, which are inherently more valuable than others; the higher forms of pleasures include those belonging to the spheres of intellect and morality, exemplified in the comparison of a fool and Socrates, and the lower form of pleasures being physical. Thereby, those who are able to experience higher and lower forms of pleasure are in a more favorable position to judge morally in general.

In addition, Bentham (2003) and Mill (2011a; 2011b) promote a moral duty to promote happiness as they do not solely focus on avoiding pain but also on heightening happiness. Therefore, inaction can be counted as failing one's moral obligation if it has the potential to increase the overall happiness vastly (Mill, 2011b).

As a part of the theoretical framework for this thesis, the principles from utilitarian normative ethics theory can assist me in my study to interpret, if, then how, Amazon addresses the potential consequences of its technology in its communication regarding the Just Walk Out technology, whether it be societal or on a level addressing the consequences for individual consumers.

Conclusion of Theoretical Framework

Through this elaboration on the three selected theories, the preliminary overview I made earlier should be clear; the three overarching theories of normative ethics aligns with one of the three parts of human actions as its focal point. Virtue Ethics focuses on the agent performing an action, Deontology concentrates on the action itself and Consequentialism on the outcome or consequence of the action, which corresponds with

the three associated theories. Despite putting an emphasise to various parts on human actions, all the theories have an overarching goal to systematise and substantiate one's moral assessments, and depending on which theory serves as the decision-making framework of an action what the correct moral action is may vary; therefore, in this section, I will compare the theories to identify areas of agreement and dissimilarities and lastly, I will account for how the theories will be applied to the analysis of Amazon's communication and form the questions guiding my content analysis.

The common area of focus for the three normative ethical theories selected, and other normative ethical theories for that matter, is to systematise and substantiate one's moral assessments, however their emphasises and manner of how moral assessments are systemised and substantiated (the process of moral decision-making) are vastly different as I have accounted for above (Bentham, 2003; Mill, 2011a; Kant, 2011; Aristotle, 2011).

Both the utilitarian and the virtue ethical approaches take a context-based approach, when assessing and systemising actions' moral value as Aristotle considers the context and the development of a virtuous character over time and utilitarians judges the morality of actions based on the outcome, which means that an action can be morally just even if it violates moral rules or principles (Bentham, 2003; Mill, 2011a; Aristotle, 2011). In contrast to the Kantian ethics that takes on an approach of duty, insisting on universal laws (*the categorical imperative*) that applies within all contexts, thus, an action can only be morally just if it can be accepted universally (Kant, 2011).

A similarity is there shared is the emphasis on moral agency, autonomy and rationality by the acting agent; according to Aristotle (2011) practical wisdom (*phronesis*), and the ability to deliberately act virtuously through human reasoning is required to act morally just. To Kant (2011) sees human being as rational agents capable of making rational decisions according to the categorical imperative, and in a utilitarian perspective, humans are all assumed to be rational beings, who are capable of calculating the outcome of their actions in order to maximise utility for the greatest amount of people (Bentham, 2003; Mill, 2011a). Moreover, all three theories address how other should be treated. Kantian ethics stresses that other must be treated as ends in themselves – not simply as means (Kant, 2011). The utilitarian perspective puts all who are able to experience happiness or utility into perspective and thereby, a morally just action may be favouring others instead of the agent (Bentham, 2003; Mill, 2011a), and Aristotle's virtue ethics indirectly addresses how others should be treated by encouraging virtue likes kindness, generosity and trustworthiness (Aristotle, 2011). In conclusion, despite their similarities of areas of focus and emphasis on human rationality, their primary focus is vastly different.

In conclusion, because of their differences, the three theories allow me to investigate, interpretate and analysis Amazon's communication regarding the Just Walk Out technology with three different lenses of focus. The differences in their approaches will allow for a nuanced interpretation and analysis of the communication keeping the common focus of normative ethics and moral decision-making as a focal point.

Application of Theories

To briefly sum up, Utilitarianism enables me to analyse whether Amazon sees the technology serves to maximise the overall happiness for the consumers and society and if, then how it is communicated (Bentham, 2003; Mill, 2011a). Kantian ethics allows me to examine, if then, how Amazon addressees and consider its moral duties regardless of the consequences (Kant, 2011, and lastly, Aristoteles' virtue ethics help me assess if, then how the character traits demonstrated by Amazon investigating if it expresses virtuous behaviour in the market (Aristotle, 201).

On the basis of the above, the questions guiding the content analysis and establishment of the categorises for the analysis is as follows:

Focusing on the consequences of the technology, exploring if, then how, the technology is addressed in terms of benefits and risks to consumers and society, the following guiding questions are formed: Does Amazon communicate about the overall outcome of the Just Walk Out technology? If yes, then how? Are any potential benefits, risks and/or consequences addressed, if yes, then how? To examine if and then how Amazon demonstrate a commitment to ethical principles, i.e. respecting consumer autonomy and treating them as if they were ends in themselves, the following guiding questions are asked: Does Amazon show commitment to ethical principles in their communication? If yes, then which principles are addressed and how is the commitment shown in the communication? Lastly, the character traits Amazon projects in their communication will be analysed through the question: Does Amazon's communication reflect virtuous behaviour in the communication regarding the Just Walk Out technology? If yes, then which virtues are displayed and how?

Table B: Categories and Guiding Questions for Content Analysis	
Categories	Guiding questions
Communicated consequences of Just Walk Out technology (Utilitarianism)	Does Amazon communicate about the overall outcome of the Just Walk Out technology?
	Are potential benefits, risks and/or consequences being addressed, if yes, then how?
Ethical principles addressed in relation to Just Walk Out (Kantian Ethics)	Does Amazon show commitment to ethical principles in their communication?
	If yes, then which principles are addressed and how is the commitment shown in the communication?

Virtuous behaviour displayed in relation to Just Walk Out (Aristotle's Virtue Ethics)	Does Amazon's communication reflect virtuous behaviour in the communication regarding the Just Walk Out technology?
	If yes, then which virtues are displayed and how?

As previously mentioned above in the section of method of analysis, like the guiding questions, the categories for the analysis as also been predefined so that each category represents one of the three normative ethical theory. This is to keep the analysis focused and structured in manner that also serves for me to discuss the findings of meanings and the interpretation of them accordingly.

Analysis and Findings

In this section, I will account for how the content analysis was conducted, how the meanings were identified, interpreted and categorised within the pre-defined categories, which each are based on one of the three normative ethical theories constituting the theoretical framework of this thesis. As previously accounted for, the selected data set can be found in Table A: The Selected Data and the pre-defined categories and guiding questions can be found in Table B: Categories and Guiding Questions for Content Analysis. The identified meanings and findings of the analysis will be presented according within the categories from the analysis.

Coding and Identifying Meanings

As previously mentioned, the coding process to identify meaning concerning ethical aspects related to the Just Walk Out technology by Amazon was conducted by analysing the texts through the guiding questions separately. The segments interpreted to encompass ethical aspects were then given a code and assigned to the pre-defined categories according to how they have been interpreted to be ethically just or unjust according to the category's overarching theory (see appendix A for the complete coding of the communication).

For example, the segment "*So it is a very quick, very frictionless and fast experience*" (V1, [0:35 – 0:38]) was assigned to the category *Communicated consequences of Just Walk Out technology (Utilitarianism)* under the code *Utilities highlighted of experience 1* as it states direct consequences and utilities to consumers by using the technology by highlighting the utilities of the technology providing a very quick, very frictionless and fast experience.

The segment "[...], as well as visitors taking care of friends or family members, have a convenient way to purchase the meals, snacks, and drinks they need so they can quickly get back to their loved ones." (B3) was assigned the code *Recognising of individual ends 2* and categorised within *Ethical principles addressed*

in relation to Just Walk Out (Kantian Ethics) as it states that people will be able conveniently purchase necessities such as food as a service while it still recognises that people have other goals of their own, thereby seeing them as an end within themselves, instead of simply as a mean to gain revenue.

Within the last category concerning Aristotle's Virtue Ethics: *Virtuous behaviour displayed in relation to Just Walk Out (Aristotle's Virtue Ethics)*, the segment: "*The erroneous reports that Just Walk Out technology relies on human reviewers watching from afar is untrue. [...] Our associates are responsible for this labeling and annotation step. Associates don't watch live video of shoppers to generate receipts—that's taken care of automatically by the computer vision algorithms.*" (B2) was assigned the code *Addressing rumours – transparency* and serves an example as it indirectly addresses the *erroneousness* of reports as a vice and Amazon chooses to answer to those reports by making a statement on how the technology works overall, heightening their transparency and thereby honesty as a virtuous trait in a situation where they could have chosen to act differently by not addressing the reports or overly explained their technology.

Serving as a brief overview, 14 codes were identified within the category *Communicated consequences of Just Walk Out technology (Utilitarianism)*, 11 codes were identified within the category *Ethical principles addressed in relation to Just Walk Out (Kantian Ethics)*, and lastly, six codes were identified within the category of *Virtuous behaviour displayed in relation to Just Walk Out (Aristotle's Virtue Ethics)*, making it a total of 31 codes in total across the data set.

One code, *Recognising of individual ends 2*, which is cited above, is categorised in both *Communicated consequences of Just Walk Out technology (Utilitarianism)*, and *Ethical principles addressed in relation to Just Walk Out (Kantian Ethics)* acknowledging the interconnectivity of normative ethics, as I have interpreted the segment both to recognise individual ends in accordance with Kant (2011) but also as a consequence of implantation of the technology which can be linked to the Principle of Utility (Bentham, 2003) and the Greatest Happiness Principle (Mill, 2011a).

To synthesise the identified findings, and thereby, the interpreted meanings of the codes, each of the categories will be dissected individually. All codes collected in their respective categories can be found in appendix A.

Communicated Consequences of Just Walk Out Technology

Within the category *Communicated consequences of the Just Walk Out technology* a total of 14 codes were assigned making it the category with the largest sum of codes identified. For a segment of the data set to be assigned to this category the code must directly or indirectly address the outcomes of the Just Walk Out technology. The segment "*While a lot has changed in the 10 years since we started the journey to reimagine*

the physical shopping experience, one thing has remained constant: Shoppers still don't like waiting in lines" (B2), Amazon addresses the one pain consistent to consumer related to shopping experiences: waiting in line and goes on to address how the Just Walk Out technology then minimises that pain and heightens utility within the context of retail shopping by stating *"Customers value Just Walk Out technology because they are usually on a "mission driven" shopping trip, making quick purchases of relatively few items, and can shop just like they would in any other store without standing in line to pay or scanning items at self-checkout."* (B2).

For all the communication included in the data set, it was an overarching theme that Amazon sought to address how the Just Walk Out technology benefits the consumers by lessening the pain of traditional retail shopping by removing obstacles of waiting in lines, scanning items, and adding additional utility through convenience and making the technology accessible to more customers in more locations: *"For shoppers, this means worry-free shopping at even more third-party checkout-free stores worldwide."* (B1) and how it can even enhance other experiences where shopping can be a part of that experience, i.e. *"The market stores enhance the live event experience for our fans because it allows them to miss none of the action, they are able to get exactly what it is that they want exactly when they want and get back to their seats without missing a thing"* (V1, [2:32- 2:44]).

Specifically, for (B3), Amazon presents how they have provided the Just Walk Out technology to health care facilities for hospital staff, patients and visitors. Regarding consequences and utilities for health care professionals Amazon states *"[...] However, many hospital staff do not carry their wallets and phones during working hours, which can make the purchase of food and beverages inconvenient. Additionally, with most hospital cafeterias and stores closed at night, quick and easy access to food becomes a challenge for hospital staff during overnight shifts. Just Walk Out technology with badge pay will provide health care employees 24/7 access to food and beverages, while expanding the functionality of their employee badge beyond identification and building access to payments linked to payroll."* (B3). Thereby, Just Walk Out technology, and additional actions made towards benefiting health care professionals by linking purchases to staffs' employee badge, provide a greater utility to not just the health care staff but also to the patients as it may provide better care with health care staff having easier access to food.

However, in accordance to Mill (2011a) utility, or in his wording, happiness, can be of various qualities, where covering basic needs such as food and sleep are of a lower quality than i.e. the happiness gained in friendships and education (Mill, 2011a). Therefore, it can be interpreted that the improved utility for health care staff by being able to fulfil basic needs of food, may not be as high quality as the one addressed in this segment *"[...], as well as visitors taking care of friends or family members, have a convenient way to*

purchase the meals, snacks, and drinks they need so they can quickly get back to their loved ones.” (B3), as the friends or family member can experience a higher quality pain in spending time with their loved ones (Mill, 2011a).

Ethical Principles Addressed in Relation to the Just Walk Out Technology

11 codes were identified within the category of *Ethical Principles Addressed in Relation to the Just Walk Out Technology (Kantian Ethics)*. For a segment to be categorised within this category, the code must be interpreted to emphasise consumers as ends in themselves and not as simply means to corporate profit (Kant, 2011). Within this category, two main subjects were identified among the codes: the subject of data and privacy and the subject of meeting the consumers’ needs.

The subject of convenience and meeting consumers’ needs is especially present in V1, which focuses on how a store powered by the Just Walk Out technology enhances the overall experience for fans (see appendix A, code Enhancement of the live experience) which states that the Just Walk Out technology puts “*the costumer first*” (V1, [2:16]), as the associates of the stores are able to “*have their eyes up making sure the fans’ needs are being met and their experience is a very positive one*” (V1, [1:50-2:01]) in opposition to “*being very transactional*” (V1, [1:50-2:01]). This can additionally be interpreted to entail heightened feeling of the associates being present and caring for the consumers’ needs, catering for their experiences and thereby, seeing them as ends and not a simply means to corporate profit (Kant, 2011).

The subject of privacy was explicitly addressed in the following segment “*The improvements to our AI system are so seamless that you will continue to enjoy the same contactless checkout-free shopping experience you’ve come to expect at Just Walk Out stores, all while protecting your privacy.*” (B1) which highlights a regard for the consumer’s privacy, by also addressing collected in the same blog post that no biometric data is (See appendix A, code *No biometric information collected*). However, when conducting the content analysis another segment was identified: “*In delivering a frictionless experience Just Walk Out technology also delivers data-driven insights that can help retailers optimise their stores to grow revenue and reduce costs. [...] Just Walk Out Analytics can provide insights that go beyond just sales data, helping retailers to make better acro space decisions, create more productive planograms, improve selection, build a bigger basket, create profitable promotions, and improve labour efficiency. [...] Retailers can drive revenue and reduce costs with new insights on how products are considered, picked up, returned to shelf, and purchased across Just Walk Out stores*” (V2 [2:33 – 3:21]). This segment can be interpreted to mean that consumers and their data can still be regarded as means to corporate profit, even across different Just Walk Out locations and in very specified manners.

Virtuous Behaviour Displayed in Relation to Just Walk Out Technology

The category with least identified coding segment is the category *Virtuous Behaviour Displayed in Relation to Just Walk Out Technology* holding a total of six codes. For code to be assigned to this category, Amazon must address traits or characteristics which can be interpreted to be seen as either vicious or virtuous either by the technology or the company itself (Aristotle, 2011).

The following segment “*As we scale, the system will continue to learn from everyday shopping scenarios and raise the bar for accuracy and convenience, delivering the benefits of AI to retailers and customers around the world*” (B1) can be interpreted as Amazon continuously striving to improve their technology in itself and the convince it offers but also improve the accuracy aligning with the Aristotelian idea that a virtuous character is built over time through application of phronesis, in order to know how one should act within a given context (Aristotle, 2011).

As mentioned above in the section on Coding and Identifying Meanings, the code *Addressing rumours – transparency*, puts an emphasis to how the technology works without relying on human reviewers, to increase transparency, underpinning the reports stating otherwise to be *erroneous* (B2) heightening their transparency. In addition to this segment, Amazon states “*Just Walk Out Analytics that provides retailers with actionable insights while preserving customer privacy. Just Walk Out Analytics provides aggregated and anonymized analytics to retailers, delivering insights on how products are considered, picked up, returned to the shelf, and purchased [...] Customer trust and privacy remain paramount, and Just Walk Out technology does not use or collect any biometric information.*” (B3) which reflects virtues of justice by treating individuals fairly and respectful by providing information on how consumer data is useful to retailers while still highlighting consumer’s trust and privacy to be of importance to Amazon. The additional codes *Aspiration to increase reliability* (B2) and *Privacy* (V2) is interpreted to further underpin that Amazon regards displaying justice and fairness through respecting consumers’ privacy and their trust, committing acting in accordance without using and collecting i.e. consumer data with intrusive technologies such as facial recognition and other biometric technologies.

On the basis on the above, it can be interpreted that Amazon both directly and indirectly addresses ethical aspects related to the Just Walk Out technology through various of subjects both within Kantian, Utilitarian and Aristotle’s Virtue Ethics.

Discussion of Findings

This section discusses the key findings from the content analysis in order to finally address the problem formulation guiding this thesis: *if, then how does Amazon Inc. address ethical aspects regarding consumer concerns within the context of the Just Walk Out technology? Additionally, how can normative ethical theories inform guidelines for communicating about this kind of technology in relation to consumer concerns?*

The analysis found that it can be interpreted through the lens of the normative ethical theories constitution the theoretical framework that Amazon does address ethical aspects related to the Just Walk Out technology related to consumer concerns. The findings from the analysis suggests various recurring ethical centred themes related to consumer concerns: privacy, convenience, transparency and technological advancements and functions. By discussing these themes through the theoretical framework and findings of the literature review, this section provides an evaluation of Amazon's approach to communicating ethical aspects regarding Just Walk Out and how the findings and normative ethical theories can be utilised for communicating about this kind of technology in relation to consumer concerns.

Is Convenience a Virtue?

As a reoccurring theme in the analysis findings, convenience and the benefits of the Just Walk Out are highlighted and interpreted as a utility through findings such as *"Customers value Just Walk Out technology because they are usually on a "mission driven" shopping trip, making quick purchases of relatively few items, and can shop just like they would in any other store without standing in line to pay or scanning items at self-checkout."* (B2), which underpins the minimising of pain by removing points of friction, i.e. waiting in lines (see appendix A, code *Identification of pain*) within a retail experience. However, is it possible to regard convenience in itself as a virtuous trait?

According to Aristotle's Virtue Ethics (2011), a virtue is the positive, balanced trait found in the middle of two vices. Furthermore, Aristotle believed that virtues must contribute to *eudaimonia*. Thus, for convenience to be considered a virtue, it must add on to an individual or society's well-being (Aristotle, 2011).

Amazon often communicates convenience as being related to the efficiency and time saving (see Appendix A, code *Recognising of individual ends 2* and code *Utilities highlighted of experience 2*). From this perspective of freeing up time to enjoy other activities convenience may add on to well-being. However, for something to be considered a virtue by Aristotle (2011), it must be the positive, balanced trait found in the middle of two vices. It can be argued that convenience is a modern-day virtue, with the deficient trait being

inconvenience leading to following the lines of the analysis findings, wasted time and unnecessary friction of i.e. waiting in lines. Conversely, if something becomes overly convenient, it may lead to laziness and reduced resilience, which are also regarded to be vices (Aristotle, 2011). In Aristotle (2011) believes a virtuous life achieved through balance of virtues and long-term gratification striving for eudaimonia instead of short-term pleasures. Following the lines of Aristotle (2011), convenience may be considered a contemporary virtue if it contributes to the human well-being. On the basis of the above, convenience should thereby not be considered isolated from other virtues but in relation to other virtues in order to establish whether it should be considered a virtue in itself.

Is Just Walk Out a High-risk AI Technology?

The other reoccurring themes in the content analysis related to consumer concerns were privacy, transparency and technological advancements and functions which were present in findings i.e. “*Just Walk Out does not collect any biometric information—the system only tracks how you interact with the products and fixtures (such as shelves or fridges), correctly identifying the products and quantities you leave the store with.*” (B1). Which reassures consumers that their biometric information is not collected by the technology, but their data is used for the technology in order to work as intended. However, other findings point out that consumer’s data, not biometric, is collected in order to provide store-optimising analytics to retailers (see Appendix A, code *Consumer data to heighten revenue and reduce costs for retailers*), which may serve as a point of friction in order for consumer to trust the technology and thereby, affect their overall acceptance of the technology (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021). Hence, leading to consumers regarding the technology as a less trustworthy technology. Therefore, in order for it to be accepted by consumers, it needs to outweigh such concerns regarding trust through other factors such as its perceived usefulness and accessibility in terms of user-friendliness and additionally, it needs to be considered entertaining (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021).

In order for a technology to be classified as a high-risk AI technology by the European Parliament (2023) its impact on citizens’ rights, privacy and safety must be considered. Such technologies may be ones using or collecting citizen’s personal information and biometric data and are typically used within the sectors of law enforcement, health care and employment (European Parliament, 2023).

In summary, Amazon’s Just Walk Out technology uses AI through computer vision, machine learning and sensors in order to enable its retail experience (Amazon Web Services, n.d.). As the AI Act by the European Parliament (2023) underpins the needs for transparency, protection of citizens’ rights and accountability, the Just Walk Out technology may face concerns in relation to privacy, due its collection of data on consumers’ retail behaviour, despite not collecting biometric data, if such information is leaked i.e. through a

cyberattack, and thereby, concerns about data security and the storage of the collected may also be faced. Furthermore, as the accountability of AI systems and transparency of the technologies are also factors stressed in the AI act (European Parliament, 2023), Amazon may be required to report on this to ensure that the technology does not pose risks to consumers. Although Amazon's Just Walk Out technology may not currently classify as a high-risk technology according to the AI Act (European Parliament, 2023), some of its components may be interpreted to have alignments with the AI Act's concerns.

How can Companies Communicate About this kind of Technology in order to address consumer concerns?

As identified through the literature review, some of the most influential factors of consumers' decision to accept as technology is the level of trust they have in the technology, its perceived usefulness and perceived ease of use along with its entertainment value (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021).

In order for companies to accommodate for these factors, the Act AI (European Parliament, 2023) can serve as an inspirational guideline for how and what should be communicated regarding this kind of technology in order to address consumer concerns due to its purpose being to ensure citizens' rights while facilitating development of safe AI technologies (European Parliament, 2023). Thus, through actively communicating how a company's AI technology, like Just Walk Out by Amazon, complies and aligns with the focal points of transparency, accountability, privacy and protection of citizen's rights by i.e. elaborating explaining how the technology works, how data is used, stored and protected, companies may be able to heighten the level of trust consumers show this kind of technologies.

In addition to the AI Act by the European Parliament, normative ethical theories may also serve as inspiration for how companies can communicate about this kind in technology in order to directly or indirectly address consumer concerns.

The framework of Aristotle's virtue ethics on character development in order to achieve overall well-being (Aristotle, 2011). According to this framework, companies could actively communicate how they display virtuous behaviour by demonstrating how their technology accomplices with virtues of i.e. responsibility, fairness and justice by addressing how they store and use obtained consumer data (Aristotle, 2011). As the utilitarian perspective puts underpins the maximisation of happiness or utility to be the deciding factor for ethical decision-making (Bentham, 2003; Mill, 2011a), this approach would suggest that companies highlight the beneficial factors of the technology for the individual or society in general. In relation to Amazon's Just Walk Out technology, this could entail details on how it removes pain points and improves on positive factors such as efficiency and convenience providing the costumers with extra time to spend on activities

which are most meaningful to them. Furthermore, companies can also address consumer concerns through the framework of Kantian Ethics by communicating how consumers are regarded as ends in themselves and not simply as means (Kant, 2011). This can i.e. be done by transparently explaining how the technology works, allowing consumers to make informed choices regarding usage of the technology while maintain and respecting consumer's autonomy, dignity and privacy (Kant, 2011).

Conclusion

In this section, I synthesis the findings of the literature review with the findings of the analysis and the discussions above to answer the problem formulation which has guided the conduction of the research for this thesis. In addition to answering the problem formulation, the limitations and final remarks of this thesis will be addressed to critically reflect upon the conduction of the research.

This thesis sought out to investigate if, then how does Amazon Inc. address ethical aspects regarding consumer concerns within the context of the Just Walk Out technology?

Through the conducted content analysis 31 codes were identified across the selected data set interpreted to address ethical aspects either directly or indirectly. The codes were categorised within three pre-defined categories aligning with the three selected normative ethical theories serving as the theoretical framework for this thesis. The category, *Communicated consequences of the Just Walk Out technology (Utilitarianism)*, was the largest consisting of 14 codes. As identified through a literature review of TAM-studies on self-checkout technologies prominent factors of consumers' acceptance included the level of trust consumers have in the technology, its perceived usefulness and perceived ease of use along with its entertainment value (Aguirre Reid et al, 2024 and Park, Ha and Jeong, 2021). Through the presentation of the analysis findings and the following discussion, it can be concluded that Amazon's communication in relation to the Just Walk Out technology, can be interpreted to address ethical aspects by presenting the benefits of the technology that increasing utility, and by addressing how the technology works in order to account for collection, usage and storage of consumer data. Furthermore, Amazon's communication can be interpreted to address and account for consumer's rights and privacy, through transparency and honesty regarding the consumers to be ends in themselves and not simply as means to corporate profits, aligning with Kantian ethics (Kant, 2011) and Aristotle's Virtue Ethics (Aristotle, 2011). In accordance with the discussion conducted above, it can be argued that Amazon can be interpreted as seeking to address ethical aspects of its technology due to the alignment of the factors found to be important for user acceptance due to the connection between the subjects communicated and the discussion on how companies can address consumer concerns regarding this kind of technology.

In addition to investigate if, then how Amazon addresses ethical aspects concerning its Just Walk Out technology, this thesis also sought out to investigate *how can normative ethical theories inform guidelines for communicating about this kind of technology in relation to consumer concerns*. The application of normative ethical theories as an informative framework for communicating about this kind of technology in relation to consumer concerns was discussed indirectly within the discussion of whether convenience could be regard as a virtue in itself and directly how companies can address consumer concerns regarding this kind of technology. The discussion on convenience as a virtue concluded that in order to consider convenience as a virtue it must be considered in context with other virtues such as fairness and transparency, making it difficult to argue that convenience in itself, can serve as virtue without directly addressing the framework of Aristotle's Virtue Ethics (Aristotle, 2011). However, in general, it was found that normative ethical theories can be able to inform guidelines on communication about this technology and when combined, they offer a multi-faced and holistic framework guiding communications about pain points and benefits for society and individuals (Bentham, 2003; Mill, 2011a), respect for consumer's rights and autonomy (Kant, 2011) and demonstrating how the company can display commitment to virtuous behaviour (Aristotle, 2011) i.e. by balancing ethical innovation and consumer's rights and privacy in compliance with the AI act by the European Parliament (2023).

As the research on this subject is still insufficient due to the infant state of this kind of technology (Barone and Stagno, 2023), there is still numerous aspects which call for further research to draw more firm conclusions regarding communication about ethical aspects in relation to consumer concerns.

Limitations and final remarks of this thesis

While this thesis offers an analysis on Amazon's communication regarding the Just Walk Out technology using normative ethical theories, various limitations must be acknowledged. In accordance with the scope of this thesis, the generalisation of the conclusion and findings of this thesis is limited to Amazon's communication regarding the Just Walk Out technology, and other related technologies such as Amazon One or Amazon Dash Cart are excluded from this thesis to keep the focal point to Just Walk Out. Additionally, within the theoretical framework, while serving as a valuable framework for this thesis, it does not account for other ethical theories which may provide different or additional insights in the ones interpreted through this thesis. Moreover, the methodological framework and the scientific paradigm which I subscribe to, also rely on interpretation which may lead others studying the same subject to uncover different insights. As the ethical theories are suggesting ideals, they may not be capable of capturing the complexity in its entirety despite their ability to inform guidelines on communicating regarding this kind of technology. Furthermore, it is essential to acknowledge that this thesis sought to investigate Amazon's communication including data,

which is publicly available and published by Amazon itself and may not provide full insights into Amazon's actual implementation of ethical guidelines. Consumer perspectives are not directly included which means that the ethical concerns addressed within this thesis are the ones expressed by researchers and legislators through the literature review and therefore, may differ.

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