



An in-depth Analysis on the Use of AI in Market Dynamics to Reduce Asymmetric Information: Case Study of Amazon and Swiggy

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Abstract

Information asymmetry within consumer markets relies on the mechanism of knowledge being manifest in only one party, with a cost to the other to attain that same information. The economic theories and observations apparent in markets have been modelled to a great extent by different economists to not only cover the causation but also the predicted outcome if such imbalance exists, to varying degrees. When adding the capabilities of AI to the use for consumers, we see a dramatic increase in the information a day-to-day person can attain, seeing as traditional factors that once barrier information no longer hold, such as complexity, variety, time etc. Through active exploration of two different platforms, ecommerce Amazon and Indian food delivery platform Swiggy, different AI features and their uses are examined to determine whether they are beneficial in reducing information asymmetry. The capability of AI, as seen on these platforms, actively combats information asymmetry for both consumers and sellers, but at a much faster rate for consumers than sellers. This is because consumer-facing AI features substantially reduce the barriers that traditionally prevented buyers from acquiring and processing information, allowing them to access, compare and interpret information that they previously could not realistically obtain. In contrast, seller-facing AI primarily increases efficiency through the automation and enhancement of existing informational processes, as sellers already possess extensive information regarding their customers, purchases and other aspects of their business. Therefore, AI does not simply eliminate information asymmetry, but instead shifts the balance of informational advantage, with the current effect appearing to favour consumers more substantially than sellers. This creates a further dimension to the understanding of information asymmetry, as the issue is no longer simply whether information is available, but who is able to access, interpret and use it effectively.

Keywords: Information Asymmetry; Artificial Intelligence; Consumer Markets; Information Acquisition; E-commerce; Consumer Decision-making

1. Introduction

According to George Akerlof's 1970 paper *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, information asymmetry is a defining characteristic of modern markets, arising from the unequal distribution of information between buyers and sellers [1]. For consumers, this asymmetry lies at the centre of almost every economic decision, requiring them to evaluate whether a purchase represents the optimal choice despite possessing less information than the seller. This imbalance systematically favours producers, who possess greater certainty regarding the quality of their products and, consequently, the extent to which their prices are justified.

Yet this knowledge gap is not merely a market imperfection; it is, paradoxically, one of the mechanisms through which markets function. *Information asymmetry creates opportunities for profit, shapes the incentives for both buyers and sellers*, and allows products of varying quality to coexist within the same market. The very imbalance consumers seek to eliminate is, in many ways, the same imbalance that gives markets their dynamism. Complete informational symmetry may appear desirable from a consumer's perspective, but if every market participant possessed identical knowledge to the extent that adverse selection is eliminated, many of the incentives that drive market activity would inevitably diminish [1].

The question, therefore, has never been whether consumers wanted complete information; it was whether complete information was ever economically attainable. Traditionally, there has always been a practical ceiling on the amount of information a buyer could realistically acquire before making a purchase. Searching and interpreting information all demanded time, effort and expertise, ensuring that consumers eventually stopped - the contribution of the next piece of information in the reduction of uncertainty simply was no longer worth the cost of obtaining it [2]. Information asymmetry therefore persisted because *complete information carried a cost that was rarely justified by its marginal benefit, not due to the irrationality of the buyer.*

The emergence of generative artificial intelligence introduces something markets have arguably never encountered before: an analytical agent that is simultaneously accessible to millions of consumers. Rather than merely retrieving information, these systems are capable of synthesising fragmented sources, explaining technical concepts, comparing competing alternatives and condensing thousands of opinions into coherent, accessible insights. If information asymmetry has traditionally persisted because access to knowledge was constrained by resource (whether it be time or expertise), then generative AI appears to challenge each of these constraints simultaneously. For perhaps the first time, consumers are acquiring information that was previously impractical to obtain or inaccessible without specialist expertise, closing the very gap that produces such economic advantages. However, these capabilities are by no means exclusive to consumers. Producers can equally deploy generative AI to better understand consumer preferences, personalise marketing, optimise product positioning and anticipate demand, potentially creating entirely new informational advantages of their own [3].

The adoption of generative AI therefore raises a broader question than whether information can simply be obtained more efficiently. If both buyers and sellers now possess access to increasingly advanced information-processing capabilities, has the informational imbalance that has defined markets for decades genuinely begun to level, or has it merely changed form? It is this question that this paper seeks to investigate by examining the extent to which generative AI reshapes information asymmetry within consumer markets and the implications this may have for consumer welfare, producer behaviour and overall market efficiency.

2. Literature Review

2.1. Theoretical Foundations

The theoretical study of information asymmetry begins from a simple observation: in most real markets, one side of a transaction knows something important that the other does not. Among the first to formalize this idea was Akerlof's seminal 1970 paper, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, as aforementioned. It describes a market populated by both good-quality goods and "lemons", low-quality goods that remain in the market. Akerlof argues that the presence of these lemons causes buyers to lower their expectations of the average quality available and, consequently, the price they are willing to pay for the average good they expect to purchase. As the average market price falls, sellers of high-quality goods gain little from selling their products and begin to exit the market. Thus, simply because buyers are unable to accurately ascertain quality before purchase (not due to any fault of their own, but rather the structure of the market itself) Akerlof argues, through the example of the used car market, that information asymmetry can lead to the extreme outcome of market collapse: "the presence of people in the market who are willing to offer inferior goods tends to drive the market out of existence" [1]. To a different end, Sanford Grossman & Joseph Stiglitz's joint paper *On the Impossibility of Informationally Efficient Markets*, published in 1980, outlines this asymmetry as imperative to the functioning of modern markets. Through the example of an uninformed and informed trader, the latter actively investing money to gather information, they propose the idea that for a stable equilibrium to arise there needs to be the presence of both parties. When looking at either extreme, for the sake of clarity looking at if everyone had the full information, no one would gain from spending more to attain more knowledge as it would have a null impact. When brought to an example in reality, when informed traders make actions, the market would reflect such action and an uninformed party could partially decipher the knowledge upon which the informed party is acting on. A stress on what is keeping this system up (as in incentivising the informed party to further invest in acquiring inside knowledge) is other noise in the market through which the uninformed would not be able to identify whether it is representative of intentional trading. Along that line the same mechanism applies to information, if the price ever fully reflected the information, no one would gain from the cost of acquiring knowledge to justify that purchase, therefore no one would, therefore someone would again start to find knowledge, which is why the market settles instead at a point of partial information. On the flip side "But if all traders are uninformed, each trader can eliminate the risk of his portfolio by the purchase of information, so each trader desires to be informed." [4]. Market equilibrium, according to Grossman and Stiglitz, relies on the mechanism of partial information as it systematically rewards those who are more informed.

2.2. Information Acquisition

The existence of such asymmetry in our markets persists due to the efficient route the "economic man" would take. As postulated in George Stigler's 1961 article *The Economics of Information*, price differences over the same identical goods exist due to the rational evolution of the outcome of a longer search [2]. In the paper, Stigler presented this phenomena as a probability table of hypothetical minimum prices by number of bids canvassed: a buyer who has canvassed 1 seller will have a fifty fifty chance of either choosing the higher or lower price, but one who has canvassed three has a higher 87.5% chance of choosing the lower priced good as now they are equipped with more comprehensive knowledge of the market. Another observation from the table concludes that as the number of sellers canvassed increases, the probability of a buyer choosing the cheaper good is logarithmic, eventually leveling off at infinity with an absolute certainty of 1 for choosing the cheaper good. This shows us that after a certain point the increase in probability of going with the cheaper option becomes marginal as by that point the buyer will have already acquired a rational choice towards the cheaper option, one more seller won't skew the decision made by all the previous attempts at understanding. Furthermore, Stigler outlines the parameters that make the cost of information acquisition justifiable: higher expenditure on the commodity, repetitive buyers or sellers, and geographical size. While Stigler's model is theoretical, McDonald and Cranor demonstrate how this optimisation problem manifests in for the average internet user through privacy policies - in technicality, a regulation to remedy such information asymmetry, where the company is aware of what they would do with your data but you wouldn't. The premise of this disclosure was to give the user the right to understand the use of their data, and whether or not to comply, on their own discretion. But as the paper landmarked in detail, the average American (a geographical limitation, but could be applied more broadly) would take 244 hours a year to read every privacy policy they encountered [5], hence emulating a similar phenomena *outlined by Stigler where beyond a certain point, the addition of further information is not worth the cost (in the sense of time, cognitive ability etc.) of processing it*. Herbert A. Simon contributes to a triangulation of this theme, adding a duly underrated perspective worth noting in his paper *A Behavioural Model Of Rational Choice*. Unlike others outlining the cost of time as the key determinant of whether or not a buyer would continue their canvass, Simon outlines the limitation of processing skills in information that is available to the buyer. Taking the example of a chess player, instead of mapping the entire game sequence in their head, they are much likelier to find the easiest "certain win" branch [6]. Similarly when a person wants to buy something, they look for the most efficient amount of searching to do rather than a mapping of the entire market. Simon describes this human weighing system as self correcting, if more optimal choices are encountered than expected, the aspiration rises and vice versa, ensuring that there is a definite option at the end irrespective of prior expectations. When applied to McDonald and Cranor's example of privacy policies, the average reader is not skimming and clicking accept because they are apathetic to their digital privacy, more so they don't have the expenditure nor the processing capabilities for its jargon alongside time for that information to be a valuable contribution to their action - at the end of the day they just want to access the webpage like the chess player is willing to choose the most efficient option to a checkmate (obviously, in the internet users scenario they are not achieving such a total win).

2.3. Impact of asymmetric information on customers

Spence's paper [7] that details the phenomena of signalling as a consequence of information asymmetry can be applicable to both the behavioural change in customers and firms and furthermore with AI in the picture makes it a quickly outdated technique. In this section however, Spence's paper will be analysed in relation to the impact on those coming into the transaction with less information, buyers. "Signalling" is a term that describes the attributes aside from the product itself that reflect its quality - the less informed party often relies upon the signaling of information to dictate the worth of their investment. Spencer outlines that certain qualities that can be changed or strategically manipulated are *signals*, whereas instinct properties are detailed as *indices*. Through the example of the job market, we are able to see how the information imbalances lead to such techniques that are equipped on an individual scale to tip the scale more so in their favour. For any type of job, the corporation will hire employees with an expectation that their productivity will contribute to the business, and since this information is uncertain at the time of the interview, the employer is making an investment based on a probability. Indices include the sex, race, age etc. of the applicant, essentially what can not be controlled. Signals include the past experience, level and institute of education etc. On these provisions, the employer must deliberate if the price (salary) of the good (potential employee) can be justified enough by the signals available to them in order to see a return on their investment (salary). A signal only works if its costly enough that low quality players won't be able to imitate it easily, in the consumer market it would be through the form of warranties, premium branding, guarantees, certifications etc. Furthermore, the underlying principles outlined by Spence express further into the consumer market as put forth by Rothschild and Stiglitz through the example of the insurance market. Like an employer, an

insurance company is not aware of the specific risk a potential term-plan buyer has and equips the process of screening, verifying the customer background and medical history, adjusting the term plan accordingly etc. Consumers similarly engage in screening by comparing competing products, consulting independent information sources, evaluating guarantees, and assessing third-party certifications before making purchasing decisions [8]. Within the literature we are able to see a central theme arise in the behavior of customers to combat the defects of information asymmetry through thorough research and reputation identifiers, but as the consumer market has shifted online - there is a loss of many obvious signs that traditional and as previously discussed, consumers take in account for and furthers the information divide experienced. However, Resnick et al.'s study covers the power of a feedback system, taking the example of eBay. Strangers on the internet are able to ascertain the value of a product solely based on the reviews to rather the cumulative reputation a seller has built. "Through a controlled experiment on eBay, Resnick et al. isolate reputation from other auction characteristics and show that seller reputation generates a measurable 7.6% price premium [9], demonstrating that reputation partially mitigates information asymmetry by increasing buyer trust, strategic signaling reduces adverse selections by deepening trust through proof of quality. Further showing the impact of a theoretically unfavorable environment for the consumer market is shown through Luca hnm, whose study had outlined a one star increase in a restaurant's yield rating led to an approximately 5-9% increase in revenue for independent restaurants [10]. Furthermore, Pavlou and Dimoka's. Paper show the more than stars or ratings, customers feel more tied together through written reviews as there is a human-to-human connection experiences through detailing, and a higher trust is built through the written medium stating, "Because text comments explain a larger degree of seller heterogeneity than crude numerical ratings, they represent an imperative aspect of the value of feedback mechanisms to facilitate effective online marketplaces by building buyers' trust and shaping price premiums for trustworthy sellers." [11]

2.4. Impact of asymmetric information on sellers

Asymmetric information can often be beneficial to sellers, as profits can simply be made from deception, as described in George A. Akerlof & Robert J. Shiller's book *Phishing for Phools: The Economics of Manipulation and Deception* [12]. Rather than reducing information asymmetry, some firms strategically respond to it by exploiting consumers' informational disadvantages. It is argued that the market itself can reward such exploitation (distinguished by the authors into psychological and informational) under weak regulation. Furthermore, for firms competing for profits, if reducing asymmetry costs time or effort that is not exclusively required to persuade customers, firms may earn greater profits by maintaining such an imbalance. This directly challenges Akerlof's 1970 paper, in which information asymmetry is described as a natural phenomenon arising due to obvious informational advantages. However, the 2015 work, incorporating behavioural economics, produces a more nuanced perspective that this imbalance can be a strategic tool, allowing firms to sell an intentional mystique through misleading advertisements that exaggerate emotional appeal, complex pricing structures that exploit limited attention, and, more recently, sponsored recommendations. However, as aforementioned in the information acquisition section, the fact that buyers eventually come to a stop and are unable to identify all possible vendors makes this a valuable opportunity for firms to position themselves. Firstly, knowing a customer is less likely to encounter cheaper alternatives, many firms are comfortable increasing their prices without losing a major customer base. Secondly, through the use of advertising, firms can strategically place themselves as some of the first options potential customers encounter, therefore showing that the price can also be justified by convenience in purchasing the goods. Here we see two perspectives on how a seller can equip advertisements in the context of benefiting from information asymmetry: as Stigler postulated, to position themselves and reduce consumers' search costs, or, as Akerlof and Shiller later described, to instead exacerbate the informational divide. Furthermore, when a firm wants to do all in its power to position itself as the best source of information for customers, it begins to invest in signals. As we know the risk that "lemons" have on the market, high-quality sellers will want to differentiate themselves as much as possible in order to remain in the market and prevent customers from including their product during the averaging process. They only work if they are observable and low-quality firms cannot imitate them: "Signaling requires economic agents to take observable and costly measures to convince other agents of... the value or quality of their products." [13]

2.5. Artificial Intelligence & Further Impacts

Artificial intelligence has increasingly been recognised as a technological shift capable of fundamentally altering the role of information within markets. Extending Stigler's theory that consumers rationally cease searching once the marginal benefit of acquiring additional information no longer exceeds its cost [2], Brynjolfsson and McAfee argue that AI substantially changes this equilibrium by reducing the cost of processing and interpreting information itself [14]. Rather than simply making information more accessible, AI allows consumers

to analyse quantities of information that would previously have been prohibitively costly in terms of both time and cognitive effort, thereby weakening the informational advantage traditionally held by sellers. Agrawal et al. [15] develop this argument further by proposing that artificial intelligence should not primarily be viewed as an automation technology, but as a prediction technology. Since prediction is fundamentally the process of generating missing information from existing data, reducing its cost enables consumers to infer otherwise unknown product quality, seller reliability and future outcomes, suggesting that AI addresses information asymmetry by creating economically valuable information rather than merely retrieving it. This mechanism is supported by the previously mentioned empirical findings of Pavlou et al. [11], whose study demonstrated that consumers place significantly greater reliance on written feedback than numerical ratings because textual reviews convey richer and more nuanced information regarding product quality and seller behaviour. Whilst manually processing hundreds or even thousands of written reviews would itself constitute a substantial search cost, generative AI largely eliminates this constraint by synthesising recurring themes, identifying consensus and presenting qualitative information in an accessible form. The capabilities enabling this transformation are illustrated within the GPT-4 Technical Report [16], which demonstrates that large language models are capable of reasoning across, summarising and synthesising information from multiple sources rather than functioning solely as retrieval systems, allowing consumers to evaluate market information with considerably greater efficiency. However, despite the prevailing literature suggesting that artificial intelligence substantially reduces information acquisition costs and improves market transparency, Acemoglu and Johnson argue that technological progress should not be assumed to benefit all market participants equally [17]. They contend that ownership of proprietary models, exclusive datasets and recommendation algorithms may simply transfer informational advantages from individual sellers to technology firms themselves. Consequently, whilst artificial intelligence appears capable of significantly reducing traditional forms of information asymmetry, the literature remains divided over whether it ultimately eliminates informational imbalances or merely redistributes them to those controlling the technology. Empirical evidence supporting these theoretical propositions is provided by Dell'Acqua et al. [18], who conducted a large-scale field experiment involving 758 Boston Consulting Group consultants to examine the impact of GPT-4 on knowledge-intensive tasks. Their findings demonstrated that participants using generative AI completed 12.2% more tasks, worked 25.1% faster, and produced work of over 40% higher quality when operating within the model's capabilities. These findings provide practical support for Brynjolfsson and McAfee's argument that AI substantially reduces information-processing costs, whilst also reinforcing Agrawal et al.'s proposition that AI's economic value lies in its ability to generate missing information through prediction. However, Dell'Acqua et al. also introduce the concept of a "jagged technological frontier," arguing that AI's performance is highly task-dependent, with models excelling in some areas whilst performing poorly in others. This suggests that although generative AI has considerable potential to reduce information asymmetry by improving the speed and quality of information processing, consumers cannot assume its outputs are universally reliable, implying that the extent to which AI reduces information asymmetry ultimately depends upon the nature of the information being evaluated.

3. Research Gap and Methodology

While existing literature has established how information asymmetry arises, how markets mitigate it, and how generative AI improves information processing, there is a lack of synthesis of these theories to collectively evaluate whether generative AI genuinely reduces information asymmetry in consumer markets, or merely redistributes informational advantages. More specifically, there is an absence in literature of an application of the knowledge of AI processing abilities directly affecting established theories on information asymmetry. This paper would analyze the use of AI technology in reduction of asymmetric information for consumers when they purchase a product and/or a service. Would this information impact the pricing of the product and how would the producers react to this step?

4. Effectiveness of the use of AI technology in reduction of asymmetric information for both buyers and sellers through the cases of Amazon and Swiggy

4.1 AI and Information Acquisition

How does AI enable market participants to obtain new information?

Amazon Rufus, which as of July 2026 has now been integrated into Alexa for Shopping, is Amazon's most direct consumer-facing AI feature. Built into the Amazon app, it is a form of agentic AI acting as a personalized shopping assistant powered by large language models (LLMs), with Rufus contributing more functionally and Alexa bringing the personalization aspect. Instead of relying on keyword searches, users can ask questions naturally, with Rufus understanding the context behind a query, pulling information from product listings, reviews,

specifications and previous shopping behaviour to generate recommendations that are personalised to each user. While some users have questioned whether tools like this are actually necessary, the data suggests otherwise. Although Amazon has not verified its exact total global users in recent corporate disclosures, industry consensus continues to peg its global reach at over 300 million active customer accounts worldwide [19]. Of that in the US, a Harris Poll found that 51% of consumers, rising to 62% among Gen Z and Millennials, would rather use AI-powered shopping tools to reduce the risk of making a bad purchase [20]. Two in three shoppers also use AI to spot pricing inconsistencies, while three in five say it helps them stay within budget and narrow down choices faster, making them 2.74 times more likely to complete a purchase [20]. Looking specifically at Rufus, it reduces the amount of effort needed to make an informed decision. Users can compare products far more easily, view historical pricing data, set price-drop alerts and receive recommendations that take into account previous purchases and brand preferences. This puts consumers in a much stronger informational position, directly linking to Stigler's argument that reducing search costs improves market efficiency. At the same time, because Rufus can process and synthesise much larger amounts of information than a consumer realistically could, it reflects Brynjolfsson's argument that AI improves decision-making. Instead of making decisions with incomplete information, consumers are able to evaluate products with much greater certainty, reducing the likelihood of adverse selection.

Amazon Live Lens is another example of the integration of AI within Amazon's existing technological infrastructure, but unlike Rufus, it does not require the consumer to directly interact with an AI assistant. Powered by AWS-managed Amazon OpenSearch and Amazon SageMaker, it uses a lightweight on-device object detection model alongside a deep-learning visual embedding model to match scanned objects against billions of Amazon products [21]. AWS has also created a major advantage for Amazon itself beyond its benefits to consumers, as the integration of AI into its services has generated a substantial new revenue stream while coinciding with significant growth in AWS's profitability. By Q2 2026, AWS's AI-related businesses had surpassed a \$25 billion annual revenue run rate, demonstrating the growing financial value of AI to Amazon itself [22]. This shift is reflected in the broader financial performance of AWS, as shown in the comparison below:

Table 1: Quantitative Impact of AI Integration on Amazon Web Services (AWS), 2022–2026

AWS metric	2022 (pre-AI boom)	Q2 2026	Change
Revenue	\$80.1B (<i>full year</i>)	\$42.2B	Q2 2026 alone = 52.7% of 2022's entire annual revenue
Annualised revenue	\$80.1B	~\$168.8B	+110.7%
Operating income (profit)	\$22.8B (<i>full year</i>)	\$16.6B (<i>one quarter</i>)	Q2 2026 alone = 72.8% of 2022's entire annual profit
Annualised operating income	\$22.8B	~\$66.4B	+191%
Operating margin	28.5%	39.4%	+10.9 percentage points
AI-specific AWS revenue		>\$25B annual revenue run-rate	>14.8% of total revenue

Source: Amazon Investor Relations [22]

Similarly, Amazon Interests allows consumers to enter a prompt describing what they are looking for, after which the AI continuously searches Amazon's inventory and identifies relevant products, while Gen AI Shopping Guides automatically compiles information across products into a single guide. Therefore, rather than simply providing another way for consumers to ask questions, these features change the way information is presented to them by doing much of the filtering and organisation in the background. This is particularly important when considering Stigler's theory of the cost of search, as the reduction in search costs comes not only from finding information faster, but from reducing the amount of irrelevant information the consumer has to process. Amazon's advantage is that these tools are embedded directly within the shopping journey, meaning consumers do not have to consciously seek out AI or use an external chatbot before returning to Amazon. The technology operates almost invisibly, increasing the consumer's capacity to process and encounter relevant information without requiring additional effort. This provides a more direct benefit to consumers, as the informational advantage comes from AI restructuring the information environment around them rather than simply giving them another tool to search through it.

Swiggy Neural Search is another development of AI aimed at simplifying the consumer experience, in this case within a food delivery app. Swiggy's system operates through an LLM and a two-stage retrieval process, where the first stage interprets the consumer's conversational query and maps it to relevant attributes, while the second retrieves and ranks restaurants and dishes based on these attributes. This allows the system to understand the intent behind a search rather than simply matching the specific words entered by the consumer, meaning that a query such as "something light but filling" can be connected to relevant characteristics of available dishes. Through conversational intent mapping, the options presented to consumers are therefore shaped around what they are actually trying to find, rather than what they explicitly type [23]. This is particularly relevant to information acquisition because the system changes the mechanism through which information is retrieved: instead of the consumer having to know exactly what to search for, the AI interprets the underlying need and translates it into searchable attributes - eliminating the impact of decision fatigue. Furthermore, these systems are informed by account memory, meaning that past orders and changes in behaviour can actively shape future results, creating a dynamic profile rather than relying on a single generalised recommendation. Neural Search represents a shift from consumers adapting their searches to the structure of the platform towards the platform adapting its information retrieval to the consumer

Table 2: Impact of Swiggy Neural Search on profit for the year 2025 and two quarters of 2026

Year	Swiggy Neural Search (in terms of advanced AI referral and conversational intent layers)	Projected impact of SNS on Swiggy's operating margins
2025	20%	200 crores
2026	42%	320-400 crores

Source: Swiggy Press Release [24]

Table 3: Quantified Impact of AI tools on Swiggy

AI Feature	Metric	Quantitative impact
Neural Search	Query-to-conversion rate for complex, long-tail searches	~1% lift
Neural Search	Search relevance (NDCG)	+0.23%

Source: EnterpriseAI from the Economics Times [25]

4.2 AI and Information Interpretation

How AI alters the quality, credibility and usability of market information?

The implication of AI lies in the interpretation and processing of information, particularly seen through Amazon's AI Product Summaries. Rather than requiring consumers to go through lengthy product descriptions filled with technical specifications, AI compiles the key characteristics of a product into a concise summary, allowing consumers to retrieve the information most relevant to their decision. A similar function can be seen through Amazon's AI Review Highlights, which processes the large number of reviews attached to a product and summarises the main points raised across them. This links to Pavlou et al. [11], who find that feedback text comments provide important information for building trust and differentiating sellers, meaning that the qualitative information contained within reviews can be more informative than simply relying on a numerical rating. By condensing hundreds of reviews while retaining both positive and negative perspectives, AI allows consumers to access this information without having to manually process it themselves. Here, AI is increasing the amount of information available to consumers, but more impactfully improving how existing information is presented and understood, reducing another barrier to making an informed decision.

The quality of information can also be altered from the seller's side through Swiggy AI Photoshoot. Unlike the previous features, which process information that already exists on the platform, *AI Photoshoot changes the information that sellers are able to provide to consumers. By using AI to generate or enhance images of dishes, restaurants can present their food in a more professional and appealing way without needing the same resources or expertise required for traditional food photography.* This is particularly relevant for smaller restaurants, where the cost of producing high-quality visual content could otherwise create a disadvantage compared to larger restaurants. In this sense, AI lowers the cost of signalling product quality and allows more sellers to communicate information about their products to consumers. Rather than information asymmetry being reduced solely through

consumers becoming better informed, AI can therefore also reduce the gap in the ability of different sellers to communicate information in the first place.

Table 4: Quantified Impact of Swiggy's Photoshoot Feature

AI Feature	Metric	Quantified Impact
AI-powered Photoshoot	Increase in orders associated with high-quality food images	<5×
AI-powered Photoshoot	Restaurant adoption within 1 month of launch	~10,000 restaurants

Source: Swiggy Diaries [26]

4.3 AI and Information Utilisation

How AI enables market participants to convert information into economic advantage?

The economic advantage of AI comes from its ability to turn information into action. Amazon's AI-Powered Forecasting Model uses historical sales, market trends and operational data to predict future demand, allowing firms to adjust inventory before changes in demand occur; Amazon states that its forecasting systems can process thousands of variables to improve these predictions [27]. This reduces the information gap between what consumers are likely to demand and what firms are able to anticipate, allowing resources to be allocated more efficiently. Amazon's Generative AI for sellers similarly uses product information and customer insights to generate titles, descriptions and other listing content, with over 100,000 sellers having used these tools [28]. This allows sellers to convert information about their products and consumers into more effective communication, reducing the expertise and time required to create listings.

Swiggy's DineOut Concierge demonstrates how AI can convert information into economic value through more effective matching. The system uses Generative AI to act as a virtual concierge, processing information such as ambience, kid-friendliness, valet parking, ratings and cost to guide consumers towards restaurants that fit their preferences [23]. This brings together information that would otherwise have to be individually searched and compared by the consumer, allowing Swiggy to turn the information it holds on restaurants and consumers into a more targeted recommendation. In terms of information asymmetry, this improves the consumer's ability to screen between restaurants, while also increasing the probability that restaurants are matched with consumers who value their particular characteristics. The information therefore becomes economically useful because it directly influences the matching between demand and supply, rather than simply remaining as data stored within the platform.

5. Limitations

This investigation is limited by its reliance on secondary data and the absence of primary research. Due to limited funding and resources, it was not possible to conduct surveys, interviews or controlled experiments with consumers and sellers. Therefore, the findings cannot establish the causal impact of AI on information asymmetry with complete certainty. Additionally, focusing only on Amazon and Swiggy limits the generalisability of the findings, as AI may affect information asymmetry differently across other platforms and markets. Further research could address these limitations through primary data collection, controlled experiments and a wider range of case studies. As AI continues to develop, longitudinal research could also examine whether the current informational advantage held by consumers persists or gradually shifts back towards firms as seller-facing AI becomes more sophisticated.

6. Conclusion

AI has therefore not made information asymmetry obsolete; rather, it has altered the mechanism through which the imbalance exists based on the current implementations. Traditionally, information asymmetry was largely determined by who possessed information and the costs required for the other party to obtain it. However, the integration of AI into consumer markets increasingly separates the possession of information from the ability to use it. Information may already exist within a market, but AI determines how quickly, cheaply and effectively that information can be accessed, interpreted and applied to a decision. The evidence from Amazon and Swiggy demonstrates that this transformation currently appears to favour consumers more substantially than sellers. Consumer-facing features reduce search costs, simplify complex information and allow individuals to compare alternatives that would previously have been impractical to evaluate. Seller-facing applications, meanwhile, primarily enhance the efficiency with which firms process information they already possess, improving recommendation systems, demand prediction and operational decision-making. This does not mean that AI will permanently shift informational power towards consumers. As firms gain increasingly sophisticated systems for

predicting behaviour, personalising recommendations and analysing consumer data, their capacity to act upon information may develop just as rapidly. *The relationship between AI and information asymmetry is therefore dynamic rather than one-directional*: the same technology that gives consumers greater access to information can simultaneously give firms greater capacity to interpret and exploit it. Ultimately, AI changes the central question surrounding information asymmetry from who possesses information to who can most effectively access, process and act upon it. Its significance lies not in eliminating the imbalance, but in continuously redistributing the informational advantage between market participants.

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