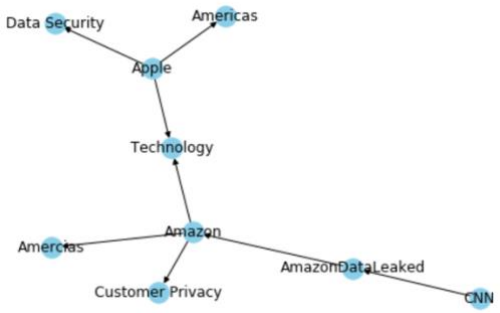
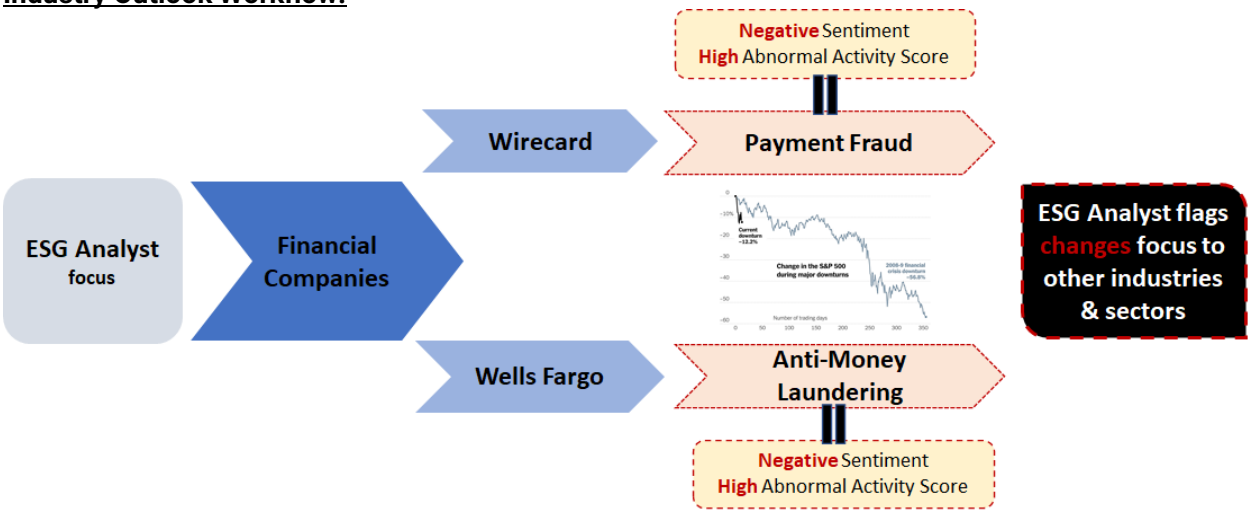
The below document details the Knowledge Graph application for an ESG Analyst.

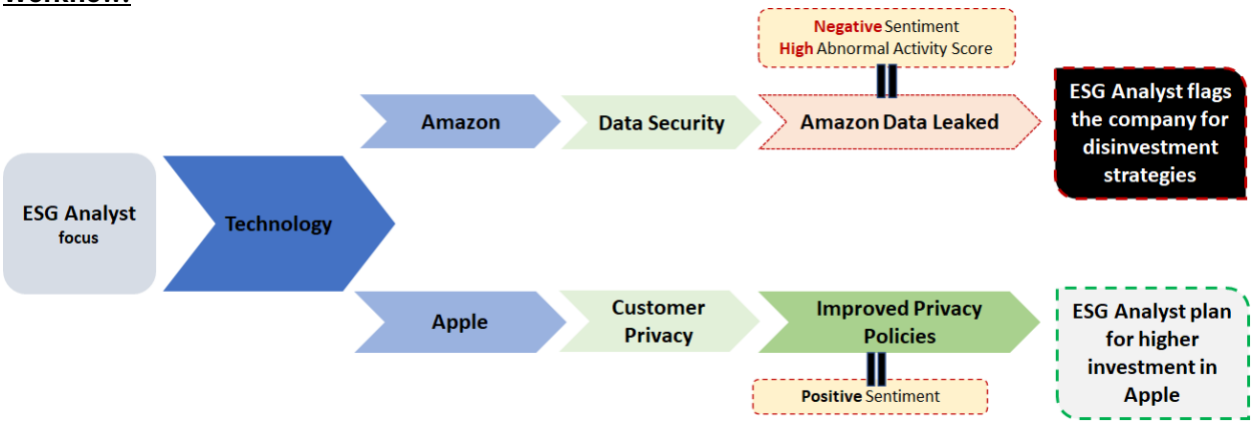
Target Persona / Process & Identifying Pain Points
Target Persona: ESG Analyst
Industry: Asset Management

Industry Outlook	In-depth Company Details	Comparisons between Companies
ESG analysts look at the "**big picture**" for an investment idea or selection of stocks. Our KG would help ESG Analysts to view companies on a **high-level industry** and **sector** basis. KG could help in finding industry leaders using sector-specific filters based on regions, sectors, events, abnormality or sentiments to better understand the industry.	Using the KG, an ESG analyst would be given the ability to quickly identify and analyze **significant events** for a company in any given time and invest accordingly. The KG would act as a **one-stop summary visualization** to show the events with positive or negative sentiment related to a company. KG can help in performing **root-cause analysis** for specific changes in a company's ESG performance	The KG can be utilized to **compare** multiple companies on the basis of common events or regions. A company's stocks can be identified as profitable from **a company's ESG trends** and aid in making a final investment decision. 

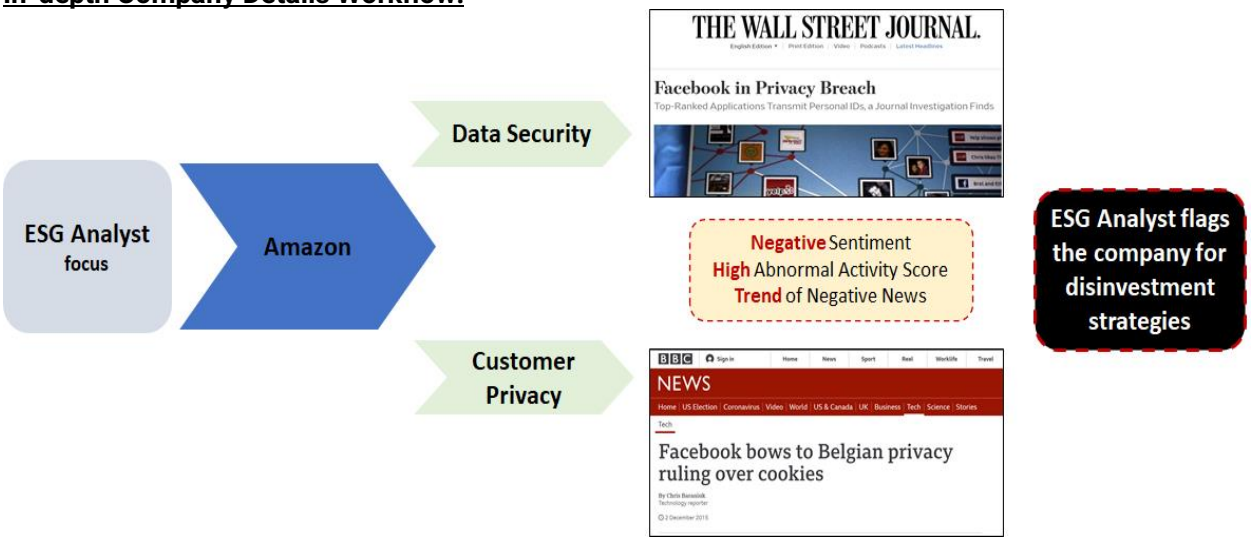
Industry Outlook Workflow:



Comparisons between Companies Workflow:



In-depth Company Details Workflow:



As-Is Scenario & Mapping to the Pain Points

Pain Points	"As Is" Scenario
Questionable Data Reliability	• Too much of the available ESG information is of **poor quality**; • Suboptimal **timeliness**; • Mixed & unassessed **relevance**.
Lack of Scoring Rubrics	• Include but are not limited to judgments concerning degrees of positivity/ negativity/ relevance, presence of neutrality etc.
Tunnel Vision	• Missed opportunities for failing to grasp the "bigger picture" when analyst is hyper focused on specifics • E.g. data privacy issue in Amazon vs. technology industry

Missed Relationships	• Caused by **insufficient analyses**;
	• E.g. hard to see indirect relationships between non-adjacent items in tables
	  ○ <CNN, Wrote, AmazonDataLeaked>
	  ○ <AmazonDataLeaked, DocumentAbout,Amazon>

Inefficient Workflow	• "Data swamp" • Unintuitive and difficult to navigate when comparisons are not straightforward and data management is bad
Low Reusability & Scalability	• EDA done for specific projects might be subject to 'one time only' and is hard to scale
Low Explain-ability	• Difficult to explain to (non-tech) third party (e.g. shareholders)

To-Be Scenario & Addressing the Pain Points

Pain Points	"To Be" Scenario
Lack of Scoring Rubrics	• With the sentiment and relevance score acting as a numeric indicator, it's easier for the analyst to comprehend the characteristics of the nodes relationship

Tunnel Vision & Missed opportunities	• **Polymorphic characteristics of KG allows:**
	  • Efficiently finding data interlinks between nodes
	  • Ability to see relationships from top-down level, seeing the big picture
	  • Navigating intuitively across concepts, relationships, and fields
	• **Filters:** the feature allows the users to analyze the Knowledge Graph from multiple views, depending on their priorities and needs
	<u>Primary:</u>
	  • By industry/sector
	  • By event/group
	  • By entity name
	  • By region
	  • By entity type
	
	<u>Secondary:</u> relevance and sentiment range

Inefficient Workflow	• Quickly extract insights and easily share among stakeholders • Improve decision-making process and workflow's speed and accuracy with the straightforward relationship between nodes
Low Reusability & Scalability	• The Knowledge Graph can be reused with new dataset, ideally providing real-time insights to target users in future models
Low Explainability	• Visual cues make it easier for users to understand and explain the Knowledge Graph