

# Disruptor Taxonomy

## Coverage and Definitions



# 1. Artificial Intelligence

## Chatbots

A computer program designed to mimic human interactions, answer users' frequently asked questions or perform customer support in a manner similar to a live customer service agent.

## Machine to Machine Communication

A technology that enables automated wired or wireless communication between mechanical or electronic devices.

## Machine Learning

The use of algorithms to parse and learn from data sets, allowing software to become more accurate in predicting outcomes without being explicitly programmed.

## Image Content Recognition

The process of detecting and identifying an object or feature in a digital image.

## Video Content Recognition

The process of detecting and identifying an object or feature in a video.

## Voice/Speech Recognition

The process of extracting text transcriptions or some form of meaning from speech input with the use of Artificial Intelligence (AI).

## Natural Language Processing

The ability of a machine to handle end-to-end interactions with humans via their preferred language.

## Gesture Control

The ability to recognize specific human gestures like hand movement and use them to convey information or for device control.

## Virtual Assistants

Virtual assistant, also called AI assistant or digital assistant, is an application that understands natural language voice commands and completes tasks for the user.

## Natural Language Generation (NLG)

The ability to turn structured data into text, thereby transform data inputs into language outputs.

## Others

Other AI applications.

## 2. Blockchain

### **Blockchain**

A shared ledger technology, which provides a means to conduct transactions securely across a network of participants without requiring any central control or governance and without the need for the participants in the network to trust one another. Its primary application to date has been in supporting crypto-currencies, the most notable of which is BitCoin.

## 3. Connected Devices & IoT

### Sensors

A device that detects and responds to inputs from the physical environment which could be light, heat, motion, moisture, pressure, or any one of several other environmental factors. The output is generally a signal that is converted to human-readable display at the sensor location or transmitted electronically over an IoT network.

### Near Field Communication (NFC)

A standards-based short-range wireless connectivity technology, designed to allow smartphone users to conduct and pay for transactions, exchange content and connect devices with a touch.

### Beacons

Small wireless devices that continuously transmit a radio signal saying "I am here, this is my ID". The signal is usually picked up by mobile phones using Bluetooth Low Energy technology. When a mobile device detects the signal, it reads the beacon's ID number, calculates the distance to the beacon and triggers an action.

### Wearables

Smart electronic devices with micro-controllers that can be worn on the body as implants or accessories. Wearable applications are often used for consumer electronics such as smartwatches and activity trackers but are being incorporated into navigation systems, advanced textiles and healthcare.

### Real time monitoring

A process which provides data and information in real time to make "up to date" informed decisions and see trends as they develop with the use of IoT.

### Drones

Unmanned Aerial Vehicles (UAVs) used in a wide range of civilian roles ranging from search and rescue, surveillance, traffic monitoring, weather monitoring and firefighting. They were initially used for anti-aircraft target practice, intelligence gathering and weapons platforms.

### Telematics

Telematics in IoT perspective includes certain devices which can be installed in a vehicle to monitor and record data and information about their driving behavior, such as speed, distance driven and instances of harsh braking.

### Smart Homes

Residences, which enable owners to monitor and manage connected appliances and systems such as lighting and heating according to their preferences. Smart home technology provides homeowners security, comfort, convenience and energy efficiency by sharing consumer usage data and automating actions.

## **Security**

IoT Security includes hardware, software and services to protect the corporate perimeter, end-point devices, network connections, and data and applications from threats such as malware and data breaches that corrupt or steal confidential information.

## **Location Based Services (LBS)**

LBS use real-time location or geo-data to monitor and track devices. They process spatial data from an external source of events and analyze/manipulate this data to produce meaningful insights to end users.

## 4. Digital Businesses

### E-commerce

Buying and selling of goods and services, or transmitting funds or data, over an electronic network, primarily the Internet. These business transactions occur either as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C) or consumer-to-business (C2B).

**Sub segments of E-commerce are:**

- Marketplace
- B2B
- B2C
- C2B
- C2C

### Digital Content

Any content that resides in the form of digital data is also known as digital media. Forms of digital content include information that is digitally broadcast, streamed or contained in computer storage files.

### Social Platforms

A web-based technology that enables the development, deployment and management of social media solutions and services. It provides the ability to create social media websites and services with complete social media network functionality.

### Marketing Technology

Tools and platforms used by sales and marketing organizations to effectively complete their tasks.

**Sub segments of Marketing Technology are:**

- Display Marketing
- Programmatic Advertising
- Real-Time Marketing

## 5. Other Emerging Technologies

### Bionics

The study of certain biological functions, primarily those relating to the brain, that are applicable to the development of electronic equipment such as computer hardware to operate in a similar manner.

### Genomics

An area within genetics that is related to the sequencing and analysis of an organism's genome, defined as the study of genes and their functions, and related techniques. Genomics studies all genes and their inter relationships in an organism to identify their combined influence on its growth and development.

### 3D Printing

The manufacturing of a three-dimensional product from a computer-driven model. This process involves multiple layers from computer-aided design (CAD) drawings which are laid down one after another to create different shapes. Industries that use 3D printers include engineering, architecture, healthcare, industrial design, construction and several others.

**Sub segments of 3D printing are:**

- 3D Printing Manufacturers
- 3D Printing Services
- 3D Printing CAD Software
- 3D Printing Applications
- 3D Scanners
- 3D Printing Materials
- 3D Printing Marketplaces
- 3D Printing Communities
- 3D Printing Networks

## 4D Printing

A process in which 3D printed objects transform themselves into another form or shape due to the influence of external energy input such as heat, water, sound or vibration. 4D printing delivers the possibility of designing any transformable shape from a large variety of materials, which have several properties and a range of potential applications and use cases.

## Nanotechnology

The study and application of extremely small objects that can be used across all the other science fields, such as chemistry, healthcare, materials science and engineering.

## Enabling Solutions

### Risk management

Enablement solutions to identify potential risks in advance, analyze them and deploy precautionary solutions to reduce/curb the risk.

### Customer Relationship Management (CRM)

A software that covers a broad set of applications designed to help businesses manage multiple business processes like customer data, customer support, contacts and lead generation etc.

### Cloud Solutions

Cloud-based solutions refer to applications, services or resources made available to users on demand via the Internet from a cloud computing provider's servers.

### Application Development

Design, development and deployment of custom applications.

### Asset Management

A software that handles every aspect of running an asset intensive organization. Effective enterprise asset management software solutions include many powerful features, such as asset life-cycle management, flexible preventive maintenance scheduling, warranty management, integrated mobile wireless handheld options and portal-based software interface.

### Financial Management

A methodology and software that an organization uses to oversee and govern its income, expenses and assets to maximize profits and ensure sustainability.

### Data Management

Solutions which enable an organization to manage information and data for secure and structured access and storage.



## **Augmented & Virtual Reality**

The use of technologies that provide a direct or indirect view of the real-world, augmented with information derived from data and analytics solutions to provide users with immediate and contextual insights in a number of diverse physical environments.

## **Quantum Computing**

Development of computer technology based on the principles of quantum theory which explains the nature and behavior of energy and matter on the quantum (atomic and subatomic) level.

## **Others**

All other enabling solutions.

## **Analytics**

Analytics refers to qualitative and quantitative methods and processes of analyzing data to enable enhancement of productivity and business gains.

### **Analytical Applications**

A type of business application software used to measure and improve the performance of business operations.

### **Business Intelligence tools (BI tools)**

A technology-driven process to analyze data and present actionable information to help end users make informed business decisions.

### **Big Data**

A process of investigating large and diverse data sets to uncover hidden patterns, unknown correlations, market trends, customer likings and other useful information that can help businesses make more-informed business decisions.

### **Predictive Analytics**

A branch of the advanced analytics, which is used to make predictions about unknown future events.

### **Real-time Business Intelligence**

An approach to analytics that enables business users to get up-to-date data by directly accessing operational systems.

### **Social Analytics**

Refers to the approach of gathering data from social media sites and blogs and evaluating that data to make informed business decisions.

## 6. Payment Tech

### Point of Sale and Kiosks

Systems used for sales processing and inventory tracking. Examples include electronic cash registers, computerized check-out systems and self-serve kiosks.

### Digital Wallets

Software based system for e-commerce transactions. Digital wallets also enable consumers to purchase from their smartphones by acting as an electronic wallet, digitizing payment information with respect to credit and debit cards.

### Mobile Ticketing

Processes whereby customers can order, pay for, obtain and/or validate tickets using mobile phones or other mobile handsets.

### Crypto Currency

Digital or virtual currency that uses cryptography for security. A crypto currency is difficult to counterfeit because of its security feature. A key differentiator of a crypto currency is the fact that it is immune to government interference or manipulation.

### Contactless Payments

A secure method for consumers to purchase products or services via debit, credit or smartcards (also known as chip cards), by using RFID technology.

## 7. Robotics & Drones

### Others Robots

Includes industrial and non-industrial robots, which have applications across multiple verticals, primarily in aerospace, automotive, manufacturing, consumer and healthcare.

### Consumer Robotics

Robots, which are capable of performing and completing domestic tasks and household chores such as vacuuming, floor cleaning and pool cleaning, among others

### Industrial Robotics

A reprogrammable device designed to both manipulate and transfer parts, tools or specialized manufacturing implements through programmed motions for the performance of specific industrial activities.

### Autonomous Vehicles

Automobiles that can guide themselves without human intervention. This type of vehicles may pave the way for future systems where auto pilots take over the art of driving. They are also known driverless car, robot car and self-driving car among others.

### Drone/Aerial Vehicles

Unmanned Aerial Vehicles (UAVs) used in a wide range of civilian roles ranging from search and rescue, surveillance, traffic monitoring, weather monitoring and firefighting. They were initially used for anti-aircraft target practice, intelligence gathering and weapons platforms.

## 8. Security Tech

### Alternative verification

An alternative verification method (in addition to the alternative email address) – This could be a mobile phone number, which is capable of receiving SMS with verification codes.

### Biometrics

Biometric security devices play a critical role in verifying a person's identity by enforcing access control methods through an individual's unique biological persona.

### Encryption

A process of encoding a message or information with an algorithm in such a way that only authorized entities with a unique decryption key can get access.

### Fraud Protection Systems

Solutions that monitor commercial transactions, prevent fraudulent transactions and detect potentially fraudulent transactions and other forms of electronic financial fraud.

### Identity and Access Management

A framework for business processes that enables the supervision of electronic or digital identities.

### Intrusion Detection and Prevention

Intrusion detection is the process of observing the events occurring in an enterprise network and analyzing them for signs of possible violations or imminent threats to the organization's security policies. Intrusion prevention is the process of performing intrusion detection and then thwarting the detected incidents.

### Secure Content Management

A security software application or set of related programs that are used to secure digital content.

### Security and Vulnerability Management

A security practice specifically designed to proactively mitigate or foil the exploitation of vulnerabilities which exist in a system or organization's IT ecosystem.

### Smart Cards & Readers

A set of devices that encode and read microchip-embedded devices or tokens for the purpose of validating identity verification or secure transaction processing.

