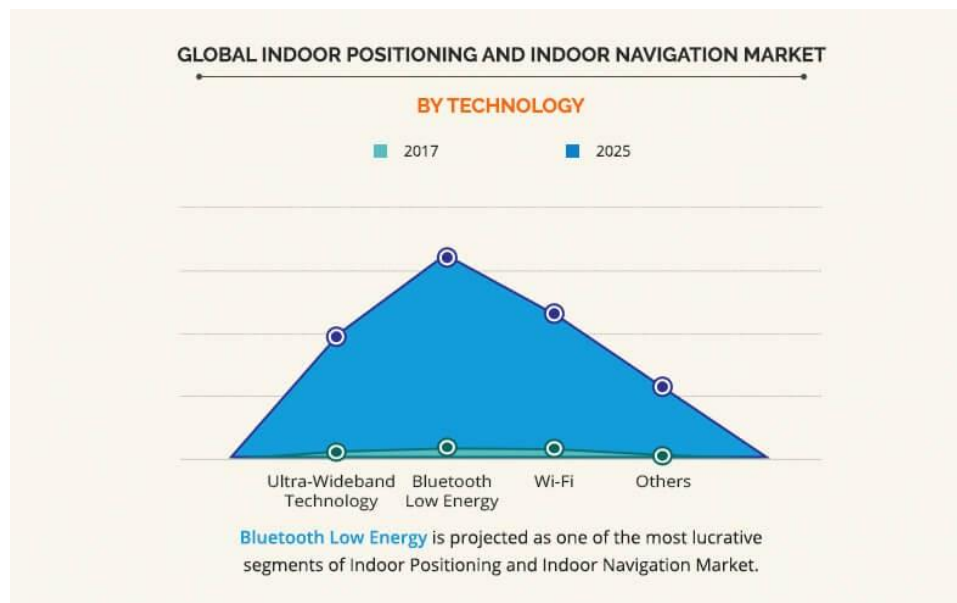


Five Forces Analysis



1) Threat of entry:

- According to the variety of technologies used in the indoor localization industry, it is evident that the threat of entry is extremely high which would affect the sustainability of the companies due to the fast dynamic changes occurring in this industry.



- However, more sustainable startups could be established based on a more segmented market which means targeting a small segment with adequate feature and compete on a local level.
- Creating a patent would also hinder the process of new entry and facilitate the acquisition of a local market share.

2) Threat of Substitute:

- The indoor positioning market is predicted to show double-digit growth rates every year.
- Substituting our product in the market could be easily done in this industry as long as it provides the same major function which is tracking and indoor localization. Accordingly, an asset tracking for example could be also used for people tracking.
- Also, on the scale of technologies, recent technologies could easily outshine other technologies. For example, rise in adoption of Bluetooth beacons,

increase in demand for proximity marketing, and surge in adoption of IoT in indoor positioning are expected to drive the market growth. However, operational challenges are expected to hamper the global indoor positioning and indoor navigation market growth during the forecast period.

3) The Bargaining Power of Suppliers:

- The raw materials used for products in Indoor positioning and indoor navigation industry are mainly electronic components and wearable materials, which are abundant in any local market suppliers. However, to achieve the desired quality for competing in the market and achieving durability would need specific supplies which are not available with Egyptian suppliers and need to be outsourced. Consequently, this strategy would affect the cost structure of the company drastically.

4) The Bargaining Power of Buyers:

- Given that this market is B2C (Business to Customer), it is believed that the customers can't negotiate prices. Accordingly, the game is all about the values provided by the company and the relatability between the customers and the company.
- However, the demand of this industry is extremely high in the Egyptian local market due to the data presented in the environmental scanning. Furthermore, this demand could easily get affected by the prices due to the macroeconomic status of Egypt.
- Accordingly, using high quality outsourced materials would harm not only the cost structure as mentioned but also the revenue stream of the company.

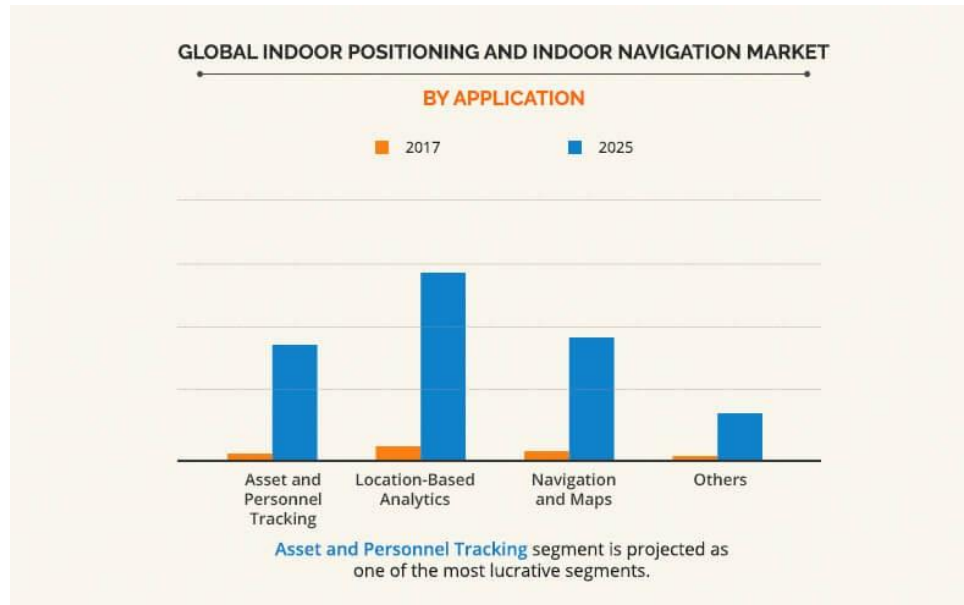
5) Rivalry Intensity:

Global Market:

- Indoor positioning and indoor navigation (IPIN) is a system that provides a central platform to detect or track the geographical location of asset and personnel through the deployment of wireless technologies, such as Bluetooth low energy, Wi-Fi, ultra-wideband, and others. It offers location analytics, navigation, mapping, wayfinding, asset tracking, and other solutions to its

end-users. In addition, it provides better connectivity, effective and quick access to precise location, indoor location-based services to deliver proximity marketing, workflow optimization through asset and personnel tracking, and enhanced indoor navigation and routing, which are expected to drive the growth of the global indoor positioning and indoor navigation market. Furthermore, rise in demand for the IPIN devices and solutions among various venues such as shopping malls, airports, hotels, university buildings, warehouses, hospitals, and other areas is anticipated to provide lucrative growth opportunities for the global market during the forecast period. The global indoor positioning and indoor navigation market was valued at \$2,642 million in 2017, and is projected to reach \$43,511 million by 2025, growing at a CAGR of 42.0% from 2018 to 2025.

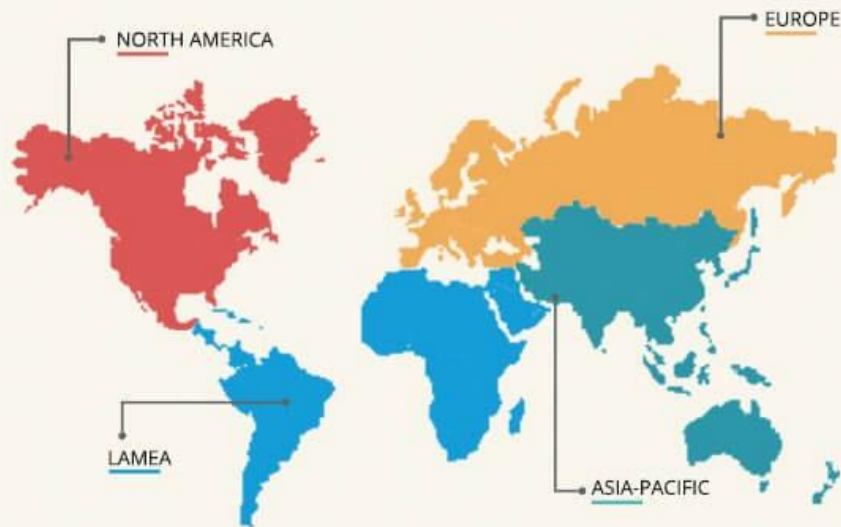
- The location-based analytics segment dominated the overall indoor positioning and indoor navigation market share in 2017 and is expected to continue this trend during the forecast period due to increase in demand from retail industry, as it allows end users to understand customers in real-time and send relevant messages related to their identity and needs. In addition, the asset and personnel tracking segment is also expected to grow at a rapid pace during the forecasted period.
- North America dominated the overall market in 2017, as the U.S. is a major contributor to the indoor positioning and indoor navigation market growth in this region. The dominance of this region is primarily due to the availability of advanced connectivity wireless technology and indoor technologies among retail, travel, hospitality, healthcare, and public spaces. In addition, Asia-Pacific is expected to witness the highest growth rate during the forecast period due to rise in penetration of indoor Location-Based Services (LBS), connected devices, and Real-Time Location Systems (RTLS) market among India and China.
- The global indoor positioning and indoor navigation market is segmented based on component, technology application, end-use industry, and region. In terms of component, the market is categorized into software, hardware, and services. Based on technology, it is divided into ultra-wideband technology, Bluetooth low energy, Wi-Fi, and others.
- In terms of application, the market is segmented into asset & personnel tracking, location-based analytics, navigation & maps, and others. On the basis of end-use industry, the market is segmented into healthcare, retail, manufacturing, travel & hospitality, office spaces, public spaces, logistics & warehouses, and others.



- The key players operating in the global indoor positioning and indoor navigation market analysis include HERE Technologies, Nextome, IndoorAtlas, Senion AB, Sensewhere, SPREO, Steerpath, indoo.rs, Pointr, and AirFinder.
- Increase in awareness of proximity marketing is witnessed in the retail sector due to the advancement of promotional strategies followed by major key players in the retail sector. Beacon technology provides a new micro-location level of promotion to reach the target audience where proximity is key. Through promotional offers and notifications, dealers and store owners intend to keep shoppers engaged every time, which in turn results in higher sales. In addition, the major strength of proximity marketing is its ability to deliver the right message to the right user at the right time, which is the major factor driving the growth of the indoor positioning and indoor navigation market. Also, such contextual approach of proximity marketing has made it 16 times more effective than Google Ads. Moreover, among all other industry verticals which have invested in proximity marketing, the retail industry is witnessing the rapid adoption, which is expected to provide lucrative opportunities for the growth of the IPIN market.

GLOBAL INDOOR POSITIONING AND INDOOR NAVIGATION MARKET

BY REGION



North America region lead the market in 2017 however, **Asia-Pacific** region is expected to register highest growth during the forecast period.

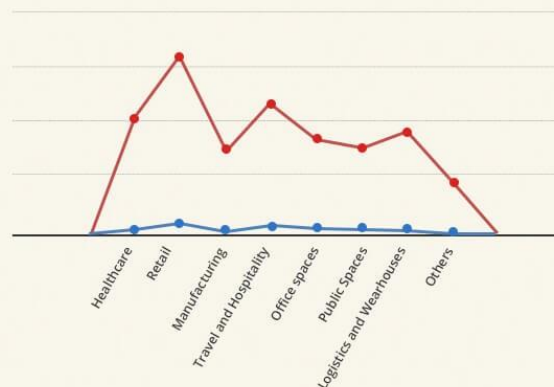
Local Market:

- The local market in Egypt is still building and the rivalry intensity is relatively low. However, the data concerning the local market is not available.

GLOBAL INDOOR POSITIONING AND INDOOR NAVIGATION MARKET

BY END-USE INDUSTRY

■ 2017 ■ 2025



Retail lead the market in 2017 however, **Healthcare and Manufacturing** are expected to register highest growth during the forecast period.

6) Conclusion:

✚ Judging from the five forces analysis presented, some observations and insights are considered for efficiently entering the industry of Indoor Localization:

- A sophisticated market research should be considered to collect sufficient data regarding the local market in Egypt.
- A more segmented strategy is recommended to sustain a long-term competition.
- Tailored features in our product should be considered.
- Construct a well-studied cost structure is a must.
- Provide value-oriented campaigns to relate to our Egyptian community.
- Consider the prices and validate the prototypes to achieve product/market fit.