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REVIEW OF ADDRESS FIXED SYSTEM BASED ON LOCATION INTELLIGENCE

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Abstract

The situation on the ground kept changing rapidly and without warning. In the absence of standardized address formats, users write the same address in many different ways, which may include alternate spellings, conflicting geographical information (e.g., two unrelated localities), or missing information (e.g., forgot to write pin code).The issues drawn from the observation and the civilian's personal diary are useful in understanding the social implications of tracking and monitoring. From the information recorded during the field observation, a number of inherent technical limitations in GPS were identified which add to the complexity of such related areas. The paper points out that human factors in location intelligence are often underestimated, while a thorough consideration of their role should create additional ground for effective business intelligence as well as intelligence applications.

Keywords: location intelligence, decision making, human-centered approach, Address fix, Location Based Services

Introduction

In the 21st century artificial intelligence (AI) has become an important area of research in virtually all fields: engineering, science, education, medicine, business, accounting, finance, marketing, economics, stock market and law. Apart from the application of AI to the fields mentioned above, studies have been segregated into many areas with each of these springing up as individual fields of Knowledge.

The Scopus of this research is to identify that In the absence of standardized address formats, users write the same address in many different ways, which may include alternate spellings, conflicting geographical information (e.g., two unrelated localities), or missing information (e.g., forgot to write pin code).For this reason, we made a systematic research of the last 20 years of publications by using relevant keywords on digital scientific libraries. We identified a lack of scientific publications in the Business and Management field where we further isolated research with Business and Managerial interest. We highlight specific Grounded Theories that have not been fully exploited, in the field of LBS, since only a few researches exist that examine the adoption and success of LBS. Future researchers have the opportunity to exploit our gathered sample of research and extend the presented research models in order to provide the Academic and Business community with new knowledge.

OVERVIEW

There are numerous researches that are utilizing smart devices for the sake of technological advancements,others for the creation of a new innovative service that can revolutionize the customer experience and enhance delivery experiences (Foth et al. 2009).

Also, the managerial implications of the current research in LBS seems to be left behind compared to other relevant disciplines such as information systems-oriented research (Rinaldi 2009).

Hence Location Analytics is a new area that was merged by Business Intelligence (Rybarczyk et al. 2018). The combination of Geolocation Analytics with Location Intelligence has brought the advent of Intelligence analytics.

In the absence of standardized address formats,we find that users write the same address in many different ways, which may include alternate spellings, conflicting geographical information (e.g., two unrelated localities), or missing information (e.g., forgot to write pin code) and under such circumstances it's easy for a human to understand the address and deliver it but how does AI detect the address and correct it.For example suppose I wrote the address of SRM University ,SRM Nagar, Kattankulathur, Tamil Nadu as SRM University ,SRM Nagar, KTR, Tamil Nadu(?)Amazon,swiggy and other companies working on deliver the needs such as medicines as well certain food items with drones ,so how will a drone or any other AI based device manage to get the address if I wrote some alternative address.

Cues to action & product involvement Champion and Skinner (2008) define cues of any action as ‘anything that triggers or reminds individuals to take action’. Studies classify cues into two different types namely, internal (disease symptoms or physical changes in the body noticed by the individual) and external (media ads and publicity, posters, government interventions, public health awareness, family and peer advice; Cao et al., 2014; Carpenter, 2010; Glanz et al., 1992; Janz & Becker, 1984; Meshe et al., 2020; Rabbi et al., 2015). Studies find that cues of action can have a positive impact on health behavior

(Carpenter, 2010; Jeong & Ham, 2018; Rosenstock, 1990; Tang & Wong, 2004; Valeeva et al., 2011). During the nationwide lockdown in India, the OFDs providers launched marketing campaigns to instil in viewers the belief that they were following all safety measures and prioritizing safety at each step of the delivery process (Economic & Times, 2020; The Times of India, 2020b). These kinds of marketing campaigns and government interventions (external cues of actions) on online deliveries encouraged customers to buy food online.

A valuable part of our review and a key finding is our contribution to understanding how drones are deployed.With lower capital costs and greater capabilities, drones can capture existing data in new ways, or capture uncollected data for new analysis. Industrial users are taking advantage of the new opportunities being offered by the technology to do things in new ways, for the same or better outcome.

Drones have received literary attention for some time, primarily in legal/ethical, engineering and computer science fields. For this paper, we have focussed on management literature, given our interest in investigating drone management and related issues. Importantly, we ignore any military/defense use of drones to focus only on civilian applications.

Perhaps most interesting, and most in need of management consideration is using drones for logistics purposes. In its very early days, this use case has perhaps the most significant potential for disruption. Current discussion contemplates that their use will enhance supply chain efficiency and effectiveness (Druehl et al., 2018). Indeed, currently inside warehouses, logistics firms are using drones to manage inventories (Xu et al., 2018). Externally, drones have been used for medical supplies (Prasad et al., 2018; Tatham et al., 2017b) and organ deliveries (Balakrishnan et al., 2016) in different contexts so far, but with trials for aerial pesticide application (Zheng et al., 2019) and food deliveries currently underway, their use in broader delivery services (e.g. Drone-as-a-Service Asma et al., 2017, Kang and Jeon, 2016Shahzaad et al., 2019) may lead to substantial shifts in delivery service execution. Prospective applications also include postage/package delivery, with interest being shown by major logistics firms (Connolly, 2016) and the potential for other drone facilitated household services (e.g. dry-cleaning collection/delivery). But we are sure that this is just the tip of the iceberg of opportunity for drones in the logistics space. Indeed, the potential for personal logistics (i.e. humans) is also a goal of some operators (Lee et al., 2019) which would call for significant regulatory oversight (especially safety). Large scale industrial applications are also being investigated (Damiani et al., 2015). The list of potential uses is extensive, and the development of drones in this way is likely to be revolutionary however initial findings are suggesting that they may only be feasible in congested urban areas (Yoo and Chankov, 2018).

Methodology

Location intelligence

(LI) is another popular buzzword that covers a broad topic area and requires some level of definition. LI uses fundamental concepts and methods that have evolved in the BI domain combined with Geographic information systems (GIS) concepts and methods to develop a platform for enabling a more comprehensive location data analysis. The compound encompasses tagging and storing pieces of raw data with their specific location in time and turning these data into actionable insight using analytics.

It enables an analysis of location and external data to gain a much finer grained understanding of the phenomenon. While LI goals seem promising, raw data sensing, data storage and processing capacity and cost have relegated activities to small or localized solutions. Nevertheless, massive quantities of global sensor data are starting to be captured and made commercially available at a marginal cost.
To convert barely intelligible user generated addresses into their meaningful structured version, LI with GIS has capability of of storing raw data that can be stored in a cloud and use as an alternative for

Location Based Services (LBS)

The Location Based Services (LBS) seem to be the next revolution on small computing handheld devices in terms of location aware advertising, security alerts, news updates, disaster management, geo-fencing, buddy-findings, gaming, criminal investigations, turn-by-turn navigation and so on. In today's scenario there is an explosion of technologies to communicate with mobile, connected devices and sensors.LBS utilize sensors from smart devices and provide accurate positioning estimation for end users in indoor and outdoor environments. With Internet of Things(IoT) getting higher recognition amongst regular users a variety of daily tasks is getting depended on the efficiency of service providers and enablers in order to be executed successfully. With a market that is growing and demands better indoor and outdoor solutions for real time positioning estimation, enterprises are competing each other on technological research and development of new products and
services.

AI, ML and Big data

An expert system is computer software that can solve a narrowly defined set of problems using information and reasoning techniques normally associated with a human expert. It could also be viewed as a computer system that performs at or near the level of a human expert in a particularfield of endeavor.

Machine learning is a broad term encompassing a number of methods that allow the investigator to learn from the data. These methods may permit large real-world databases to be more rapidly translated to applications to inform patient-provider decision making.

To meet the demand of the ever changing e-commerce ecosystem,we can use AI, ML and big data to create a flexible, responsive and adaptable delivery system.For example, Without addressing standards, users are typically inconsistent, which may include alternative spellings, as well as geographic information to disambiguate unstructured addresses into an addressable form. To convert barely intelligible user generated addresses into their meaningful structured version and understand whether a particular shipment with a poorly written address belonged to a containment zone or not.Future is unpredictable and the research of 2 decades shows that the field Computer Science has a lot researches and still many areas has being untouched. As a human anyone can think and understand the address but when it comes to AI the task is big. If there are two locations with the same kind of location then it will get hard for an AI to understand the location. This is a new generation of AIML where everything can be accessed by a single click.The customers are considered as the target population in this study. The nationwide lockdown started in India on 25th March 2020 to limit the movement of the population. However, the government allowed e-commerce firms to remain operational during this period.

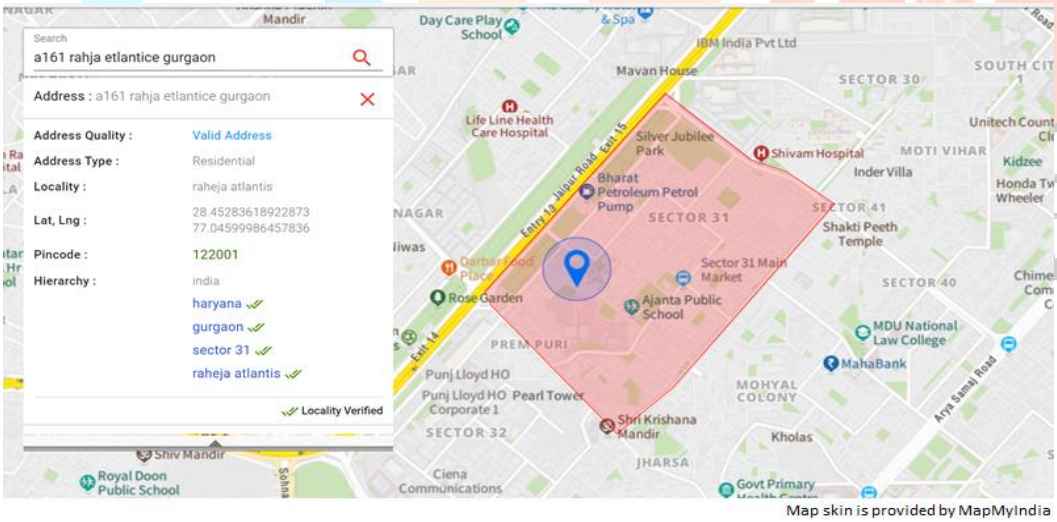

Fig 1: map location check

Measured service

As traditional services are provided during a human-to-human interaction and the quality depends on physical and behavioral attributes, digital services are provided during human-totechnology interactions and attributes of the technology become the relevant factor of the service quality. As service quality depends on characteristics of the service provision and therefore on the way of providing the service, a transformation in the way of service provision in turn changes the characteristics of service quality. This digital transformation of the service provision leads to changing requirements for the service provider to guarantee high service quality as well as for the service quality measurement models to measure the quality. The

dimensions and underlying factors that describe the quality of services had to be adapted to the digital transformation.

We need to set up new operational practices and re-purpose our core technology strengths rapidly, helping us completely refashion the way our business runs this journey of navigating a very fluid and unpredictable ground reality.

Vehicle-to-vehicle applications

An application of transport LBS that is still under development is intelligent vehicle systems (IVS), specifically focusing vehicle-to-vehicle communication (V2V). This requires the installation of equipment in the vehicle that enables communication with other vehicles on the road, essentially forming a 'network on wheels'. These mobile ad hoc networks (MANETs) form the basis of applications like collision avoidance and road obstacle warning systems. Communication between vehicles means vehicles can collect and share more information about the environment than ever before. For instance, it is now possible for vehicles to relay messages about accidents to approaching vehicles that otherwise would not have been able to slow down in time to avoid the collision.

Current Measures

The trend of attempted drone delivery began in 2013 when Amazon announced an experiment to deliver lightweight commercial products via unmanned aerial vehicles (UAVs). Since then, there have been many advancements in the drone delivery industry globally, and India has been making headlines in the market.

Amazon India said the company hopes that "this situation is rectified soon so that the urgent need of consumers is met and that there is revival of economic activity".

The distinctive characteristics of customers who did and did not order food through Online Food Delivery services (OFDs) during the COVID-19 outbreak in India. Data is collected from 462 OFDs customers. Binary logistic regression is used to examine the respondents' characteristics, such as age, patronage frequency before the lockdown, affective and instrumental beliefs, product involvement and the perceived threat, to examine the significant differences between the two categories of OFDs customers. The binary logistic regression concludes that respondents exhibiting high-perceived threat, less product involvement, less perceived benefit on OFDs and less frequency of online food orders are less likely to order food through OFDs. This study provides specific guidelines to create crisis management strategies.
In that sense, it is important to note that the use of drones in larger commercial applications is also growing (see, e.g. Bartsch et al., 2016), with their deployment in remote work leading to significant cost reductions

and capability enhancements (such as in mining, engineering and transport network management contexts and agricultural scanning). Their ability to view large areas at a low cost from altitude provides new viewing aspects and new data acquisition ability (or existing data can be sourced at a large scale at a lower cost) to make decisions and manage operations more effectively.

Remote technology and automation have been present for centuries, giving human operators safety from harm and enabling new task functionality (increasing capability of individual operations and capacity of the system).

However, there is a range of other potential uses. Experience in delivering medical supplies in remote African areas gives a potential preview of their role in urban parcel/package delivery, radically changing the way small deliveries are made in urban areas. Commercial and policymaking efforts are turning to contemplate this future and how airborne drones may need control in such uses. This may have significant impacts, not only on delivery cost but on urban congestion and traffic management issues – should they replace land-based journeys. Being in urban areas, implementation issues will arise that require consideration, given the greater risks involved.

"Two sorts of deliveries: one is picking diagnostic samples from one location(suppose the Aster RV hospital) and delivering them to another (suppose the Aster laboratories and clinics); and second, picking up the medicines from the Aster pharmacy and delivering them to the Aster RV hospital. It is an end-to-end movement that not only expedites things because Bengaluru is one of the most congested cities, but also allows them (Aster) to get a better price by exporting or conducting the reverse trip with payloads,"

The drone company began trials on May 14, and as of May 16, they had completed 35 flights in 3 days, with the goal of completing 80 test flights in total in 4 days. "During the trials, we identified landing and takeoff zones, among other things. Post the trial, we would want to develop a fixed infrastructure, which is the learning and adoption of zones with defined slots, where the drones move from A to B with less human interaction overall. So, for trials, there are many things being tested and explored to discover where the actual advantage may be obtained or where the genuine benefit is achieved,"

Skye Air is deploying a drone with a payload capacity of 5 kilos and a range of 30 kilometers on a single charge for the trials. The new collaboration will be an intra-city logistics, meaning it will operate within a 7-kilometer of JP Nagar in Bengaluru, where the Aster RV hospital is located, with an average payload of 3 to 4 kilos. "Once we finish this trial, which may be in a month or two, we will look into arranging these routes and developing the infrastructure to begin commercial deliveries on a regular basis. And then if in near future they decide on expanding to other locations, that could be either Kerala, Tamil Nadu or Dubai.

Drones can even carry food and beverages to your place in perfect time.With food deliveries, there is always a big risk of safety and contamination, whether it is just dealing with the coronavirus crisis or otherwise. People are naturally puzzled if it is actually safe to order food from outside fearing coronavirus or not.But with drones the problem is completely solved as it will pick the food from one place to another place without any human interaction.

But the key question on our minds for the remainder of this paper is the management of the significant volume of traffic that these movements will create. Increased and increasing use will be more invasive of airspace than current usage, which if not managed appropriately, and if not managed for community standards (within the license to operate), may lead to rejection of the technology and the benefits that they are purported to bring.

Conclusions

To overcome this complex challenge, several researchers have suggested software requirements extraction methods or techniques through using and integrating various ML algorithms applicable in several domains: for instance, effectively eliciting software requirements from the software requirements elicitation from the documents , and automatically classifying user requests in diverse crowd sourced requirements.Business intelligence is an umbrella term that covers transformation from data to knowledge, insight, decisions and (preferably) profitable actions conducted by people using certain technologies, tools, rules, methods, and processes.

As the market is becoming more mature and mergers acquisitions occur, the human factor has to be taken into account: only the high-usability and user-friendly solutions that follow human thinking patterns are meant to survive in the long run one of the key prerequisites for a successful implementation of such solutions would be support for the coordination of intelligence activities among the people involved, eventually leading to the creation of some kind of intelligence culture in the organization.

Currently if the idea of delivery by machines is possible then with the help of AIML and big data customers can order raw materials . The problem comes when they put the wrong address or similar address and GPS can trace your actual location but how will it locate which floor which building if the customer has some alternative spellings.

FUTURE PERSPECTIVE

This study has a few limitations that can be addressed by future researchers. Here, we have used logistics,amazon and swiggy customers as a target population, but by including other online retailers, we can better understand customer decisions towards online retailers. We have used two scenarios to measure the use to address fixes in drones and vehicles. Also for instance, if the route is long, drones could be used to ferry the medicines or food to a central location from where delivery executives can collect them.Last-mile delivery can be still challenging in India due to the absence of clear landing zones on rooftops and blockings by power lines. The test runs for drone operations have begun in controlled environments. India is gearing up for drone flights 'beyond visual line of sight' (BVLOS), which means flying the drones at distances beyond the normal visible range of the operator.AI needs to find out a safer route from one destination to another itself.

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