Challenges in Adoption of Business Analytics by Small Retailers:
An Empirical Study in the Indian Context

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ABSTRACT

Business analytics are transforming every industry in modern times, and the retail sector is not an exception to this. However, the adoption of analytics among small and medium enterprises is quite limited. There is a decent amount of research that has been done in the recent past on identifying the barriers of digitalization for small and medium enterprises. But any such work is missing in the case of analytics. Also, the small retailer, in particular, has been left untouched by the existing research studies when it comes to identifying what prohibits him from the use of analytics for making business decisions. Using a scientific way of data collection from small and mid-sized retailers and from retail industry experts, this study explores why the local retailers are reluctant to use analytics in their work and what can be done to make them more comfortable with the use of analytics. The study also proposes a novel framework for adoption of data analytics and titles it "SPEFSERT Framework."

KEYWORDS

Analytics Disruption, Business Analytics, Computational Intelligence, Retail, Ubiquitous Computing

1. INTRODUCTION

Small and medium businesses play an important role in the World economy since they contribute to more than 50% of the businesses and employ more than 90% of the workforce globally (IFC, 2012). These are also an important part of the social fabric given the size of manpower they employ. Therefore, they need to be competitive. To survive and grow in the tough markets, they need to utilize their limited resources such as manpower, inventories, capital, etc. most optimally and effectively (Raj et al. 2016).

But it has been observed in most sectors that SMEs (Small and Medium Enterprises) are quite vulnerable and lack the strength to combat the competition from global and large players (Ngah et al. 2015; Rozak and Fachrunnisa, 2021). The retail industry accounts for a big chunk of these small and medium enterprises globally. Although the retail markets have been growing, the local retail outlets are undergoing survival challenges with the declining market shares in the overall retail pie. Even the revenues have been dipping in absolute numbers.

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This can be attributed to multiple reasons. First, in recent times, consumer buying habits have changed from offline shopping to online shopping. Second, the bigger retail chains which have digitalized their business models and have economies of scale, make it difficult for the small retailers to compete on price or quality of service (Yasynska et al. 2020). Third, the retail chains that used to have an only online presence at one point in time, have now started having their physical spaces in the cities and enjoy a higher recall value for the consumer (Zhang et al. 2020). Fourth, the advent of the omni-channel phenomenon into the existing businesses that require them to provide a seamless experience to the customers across the diverse touchpoints on different platforms has also made the survival of small businesses (Cai and Lo, 2020; Wang et al. 2020; Jocevski, 2020; Serkan Akturk et al. 2022).

Therefore, it is not unusual to see small shops being closed down, showrooms becoming empty, or a falling product assortment range at the stores. It is very challenging for small retailers to survive this type of digital disruption. These small businesses need to re-shape their business models and adopt the digital chord to stay relevant (Koprivnjak and Peterka, 2020).

While digital disruption would be clear as a term to most of us, "analytics disruption" is a term that has been defined by the authors of this study to convey the disruptive or breakthrough change in business models with the advent of data analytics. The benefits of data analytics in businesses have been proven (Chen et al., 2012). Data analytics is a source of competitive advantage in today's World and has been enabling the organization to make more robust business decisions (Chaudhuri et al, 2011; Shabbir and Gardezi, 2020). It can be definitely profitable for them to learn customer behavior such as how many households, what particular segment is buying what & when and what motivates buyers etc. Retail analytics can also be used to improve customer satisfaction and retention rate by providing easier channels to exchange goods and feedback on how happy they are with the products purchased.

While the larger retail chains have the muscle, i.e. capital, skilled and IT savvy manpower, bandwidth, process excellence, and the IT architecture needed to use the analytics as their competitive advantage; the small and medium businesses seem to be at a disadvantage. Local retailers have limited financial strength as well as employee bandwidth and capability to be able to use analytics (Khattak and Shah, 2020). The constrained IT resources also mandate the small retailers to depend upon external expertise for embarking on IT projects. Also, the perceived usefulness of analytics for a small retailer is lesser due to the lack of awareness of how analytics can benefit the business. Much of their time and energy goes into the core business operations and daily chaos so that not much room is left for them to think of how business decisions can be made more systematic and processes can be digitized.

Therefore, this study explores why local retailers are reluctant to use analytics in their work. And what can be done to make them more comfortable with the use of analytics? Thus, two research questions are going to be addressed by this study. The first research question (RQ1) is "What prohibits the use of analytics among small retailers". While the second research question (RQ2) is "How can the small retailers start using analytics". The answer to the second research question is derived from that of the first question.

2. LITERATURE REVIEW

Many studies in the existing literature are a testimony to the fact that data analytics techniques offer tremendous potential to the retail businesses to improve the quality of business decision making (Makkar et al. 2021; Dastidar et al. 2021; Acquila-Natale and Iglesias-Pradas, 2021). This potential exists across the board whether it may be related to pricing, inventory, assortment planning, product design, demand forecasting, spends optimization, consumer insights generation, etc. In an age when customers are highly inter-connected through social media, their behavior on online connectivity platforms such as Instagram can be analysed to generate many insights (Chen et al. 2022). Such insights can be used to improve the reputation, satisfaction and trust which are very important success factors in retail industry.

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