

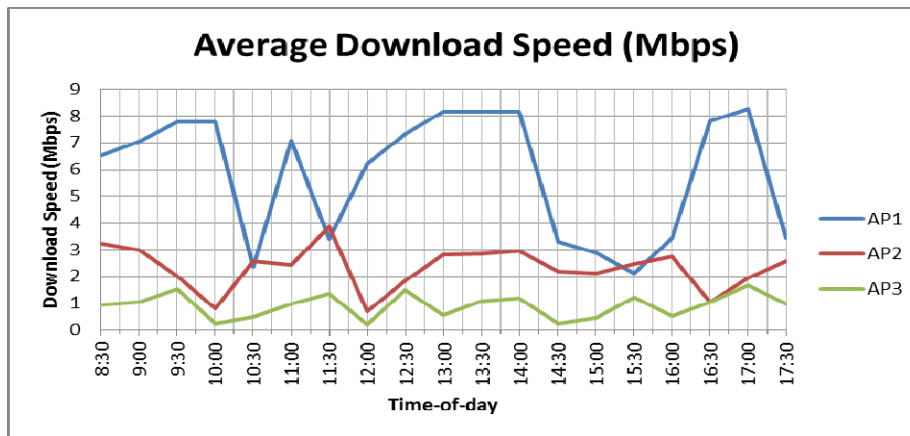
## Performance Analysis of Cognitive Selection Mechanism for Wireless LAN system

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This paper presents the performance analysis of two proposed cognitive selection mechanisms namely successive and comparative selection for real wireless LAN environments. The objective of this study is to investigate and identify the wireless network characteristics and behavior that will influence the performance of the selection mechanisms among user terminals and access points located in the office area as depicted in the Fig. 1 below.



**Figure 1: Average download speed for several access points (AP) for an office**

Received Signal Strength of the public access point is examined and the internet connection speed of the access point from end user's perspective is scrutinized. Correlation of an access point performance solely based on its received signal strength is under evaluation. Such notion has been criticized and likely to be refuted based on the findings. Having high received signal strength alone does not warrant a good internet connection speed since there are other influencing factors and parameters involved. Since classifying the behavior of an access point is not always straightforward, this study extends the monitoring of IEEE 802.11 Wireless Local Area Network behaviors from the perspective of access point users. It was found that, having such cognitive selection mechanism not only improve the user internet connectivity quality but also offers a way to offload users from any congested access points with minimal complexity.