

國立清華大學命題紙

99 學年度 服務科學研究所乙組(服務系統組) 碩士班入學考試

科目 管理資訊系統 科目代碼 5002 共 2 頁，第 1 頁

*請在【答案卷卡】作答

1. Please comment the following IT trends (20 points):
 - (a). Green IT
 - (b). Servitization of IT (IT 服務化)
 - (c). Standardization of Services(服務標準化)
 - (d). the linkage between the two(上列二者關係)

2. Please explain
 - (a). Network Externality (5 points)
 - (b). Switching Costs (5 points)
 - (c). Path Dependency (5 points)
 - (d). Please list some pros and cons of cloud computing (5 points)
 - (e). If you are a CIO of a firm, how will you combine the above four perspectives to evaluate whether your firm should adopt cloud computing or not? (5 points)
 - (f). Are there any MIS theories that may explain the adoption of cloud computing in firms? (5 points)
 - (g).

3. Service science is an inter-disciplinary study of service. In general, it extracted themes from existing disciplines, such as management, engineering, social science, and design. Thus, service science is also called SSMED (Service Science, Management, Engineering, and Design). The other emphasis of service is the value co-creation between service providers and customers. With various approaches to identify customers' needs, service providers can fulfill the needs with necessary technologies, business processes, and people. Sometimes, it also require tightly connected value networks in order to effectively and efficiently deliver the value to target customers. In the perspectives of information systems, please answer the following questions:
 - (a). Please define the relations between the disciplines of information systems and SSMED. You may also elaborate your viewpoints with examples. (10 points)
 - (b). Please specify one existing internet-based service which demonstrates the inter-disciplinary efforts on creating the value to customers. Please also identify the involved disciplines and their corresponding knowledge. (10 points)
 - (c). Based on the existing internet-based service you identified in (b), could you draw and describe the service system which may consist of organizations, people, technology, and information. Then, in the service system, please specify key technological components with information flow. (10 points)

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4. Please plan the data mining task based on the following description. One of the major telecom companies, called XYZ, wants to innovate its IPTV service in a region. You may notice that IPTV is a collection of services via internet which can be accessed via TV set. XYZ has hired a survey team to conduct telephone interview on those households installing its existing MOD (Multimedia On Demand) service. MOD can be viewed as a type of IPTV service. In the survey, the interviewers asked one of the household members with questions about the households' members, including their relations (稱謂), ages, educational backgrounds, and occupations. Moreover, they also asked the time ratios of watching broadcasting channels, paid channels, and playing video games given the total time spent with TV. Then, they asked the household incomes and living quality in terms of size of the living space, which was bought or rented. In total, there are 3824 households accepted the interviews, and data from 3400 households are valid for analysis. In XYZ MOD service platform, the history of each IP in using MOD service was logged, which can be used for usage analysis in bringing necessary information for reference while XYZ is aiming at innovating potential IPTV service.
- (a). Please formulate a data mining task using classification or clustering techniques. In fulfill this task, please specify the attribute set potentially useful for the one data mining task you selected. Based on the expected data mining results, please anticipate its contributions on service innovation. That is, what kind of services can be launched based on the expected data mining results. (10 points)
- (b). Given the new services you proposed in answering (a), please identify the value networks which deliver the value to IPTV users in households. You may draw the value networks and describe the legitimacy of these stakeholders to form the service networks. You may adopt a proper theory to support your viewpoints; that is, you should answer why you suggest these partners to form the service network in delivering the services you proposed. Which theory do you adopt to justify your suggestions? (10 points)