How Japanese Automotives Cope with the European Standards?
Comparative analysis between European and Japanese consortium in Automotive Embedded Systems

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The rapid progress of standardized interfaces relevant to the automotive embedded system accelerates the architectural innovation (from integral to modular) in the automotive industry. And most of the standards are developed by European consortia (e.g. AUTOSAR for Basic Software, FlexRay Consortium and MOST for LAN, HIS for Software development process, etc.), which entails recently a disadvantageous positioning in the sector for Japanese manufacturers (OEM, Tier1, semiconductors, software and tool vendors, etc). How to meet the European standardized interfaces is one of the critical themes for them to keep up with their competitive edge in the automotive industry.

My presentation will illustrate the way Japanese car manufactures cope with this situation by showing the result of participation observation at the Japanese consortium. For this purpose, my research focuses on a comparative analysis between the European-based consortium (=FlexRay Consortium) and the Japan-based one (=JasPar: Japan Automotive Software Platform and Architecture) in drafting the CTSs (Conformance Test Specifications) of the standardized protocol (=FlexRay ©). The reason why the CTSs are featured in my research is that not only the strategy of each consortium, but also the "nature of the standardized interfaces" is most closely revealed by seeing the different characteristics of them. The existence of the CTSs are indifferent to the previous studies (standardization studies, product architecture studies, evolutionary capability school etc), they take the standardized interfaces as given, treat them homogeneously, and pay little attention to the "nature of the standardized interfaces".

Based on this comparison, it appears that even the targets of standardization (FlexRay ©) are the same, the characteristics of their CTSs are sharply contrasted, because the organizational capabilities of European and Japanese consortia are totally different from each other. Namely the European consortium, which is relatively good at managing the horizontal collaboration amongst firms, drafted so called "wide and loose" type CTSs that help boost the quick dissemination of the standards, while the capability of the Japanese consortium, which is relatively good at managing the vertical collaboration amongst firms, drafted so called "narrow and tight" type CTSs that ensure the standards' reliability.