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INDIAN PASSENGER VEHICLE INDUSTRY

Analysing growth potential for automatic transmission in domestic PV industry

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Automatic transmission in India – An overview

Automatic transmission still perceived as a luxury feature amongst Indian car buyers, though perception is changing gradually

Car transmission can be broadly classified as manual transmission (MT) and automatic transmission (AT). With the Indian market being highly price conscious, it has primarily relied on manual transmission owing to lower cost (both upfront as well as over lifecycle towards maintenance) whereas automatic transmission was generally restricted to premium vehicle catering to a select audience.

Worsening traffic situation in cities is one of the major motivating factors for acceptance of the automatic vehicle, as it considerably reduces the fatigue level of the driver during bumper to bumper traffic movement. Also, the declining cost differential between manual and automatic gearbox, owing to maturity in technology, has resulted in the rising trend of automatic transmission in models offered by OEMs. AT has significantly high penetration (90%+) in the luxury segment (>Rs 30 lakh) but their penetration in the mass segment is quite low. AT vehicles constitute less than 5% in domestic new vehicle sales during FY2016 but their share is likely to cross the 15% level in the medium term.

AT is still considered a luxury feature amongst Indian car buyers, though rising awareness and usage of AT in entry level cars is slowly resulting in improving acceptance/penetration of AT in the domestic PV market. Today, the automatic transmission option is available in entry level cars like Nano and Alto K10, catering to a much wider car audience as compared to the AT option available few years back in the Rs 7 Lakh+ price bracket.

Exhibit 1: Pros & Cons of various automatic transmission technologies

Automatic Manual Transmission (AMT)	<p>Pros: Cheapest option in AT; low maintenance cost</p> <p>Cons: Jerky gearshifts</p>
Torque Converter (TC)	<p>Pros: Provide high torque at low revs, resulting in excellent acceleration</p> <p>Cons: Low fuel efficiency; costlier as compared to AMT</p>
Continuous Variable Transmission (CVT)	<p>Pros: Better fuel efficiency, sometime even better than manual variants</p> <p>Cons: Costly to maintain; acceleration is lethargic</p>
Dual Clutch Transmission (DCT)	<p>Pros: Smoothest gear transition, excellent acceleration and fuel efficient</p> <p>Cons: Costly to own as well as maintain</p>

Today, Tata Nano, which is the cheapest car option available for Indian buyers also has automatic transmission option

AMT finds preference in entry-level cars

AMT is widely accepted in the entry level segment whereas luxury cars primarily rely on DCT

Pricing premium of AT variant over manual transmission could vary between Rs 40,000 – Rs 200,000

Honda and M&M manufacture automatic transmission in-house

Exhibit 2: OEM-wise and model-wise automatic transmission available in India

	AMT	TC	CVT	DCT
MSIL	Celerio, Alto-K10, Wagon R Dzire Diesel, Swift	Ciaz, Ertiga, Ritz, Dzire Petrol	Baleno	
Hyundai		Grand i10, Xcent, Creta, i20		
Honda		Brio	Amaze, Jazz, City, Accord	
M&M	TUV 300, KUV 100	Scorpio, XUV 500		
TML	Nano, Zest, Tiago			
Renault-Nissan	Kwid, Redi-go		Scala, Sunny	
VW				All Models
Ford				All Models
Toyota		Innova Crysta, Fortuner	Altis	

Source: ICRA research; model highlighted in red are expected to launch automatic variants in next 12 month; MSIL: Maruti Suzuki India Limited; TML: Tata Motors Limited; VW: Volkswagen India Private Limited; M&M: Mahindra & Mahindra Limited

Transmission type usage depends on the segment (entry level, UV or premium) as well as the marketing policy of OEMs. The Torque converter-based transmission is preferred in utility vehicles, whereas premium cars rely on CVT or DCT. Some OEMs like the VW Group as well as Ford provide automatic options under DCT only whereas some others like MSIL or Toyota provide the transmission type depending on the automotive segment (TC is preferred in UVs as compared to CVTs) or the target customer segment (AMT is preferred in entry segment due to lower cost).

Earlier, the Indian AT market largely relied on CVT and TC transmissions; however, the acceptance level has improved substantially post launch of MSIL's Celerio in Feb 2014, which uses AMT. While AMT is not a very smooth transmission mechanism, it addresses the primary concern of fuel efficiency as well as the maintenance cost of the price-conscious Indian buyers. An AMT vehicle will cost ~Rs 40,000 – Rs 50,000 over a similar variant with manual transmission; whereas other types of AT transmission will have a price difference of about Rs 100,000 in case of TC/CVT to up to Rs 200,000 for DCT transmission. Maintenance cost of AMT vehicle is also comparable with that of the manual transmission variant. Consequently, AMT has gained wide acceptance in the Indian PV market, especially in the entry segment; though premium cars are also coming out with other transmission types like TC, CVT or DCT.

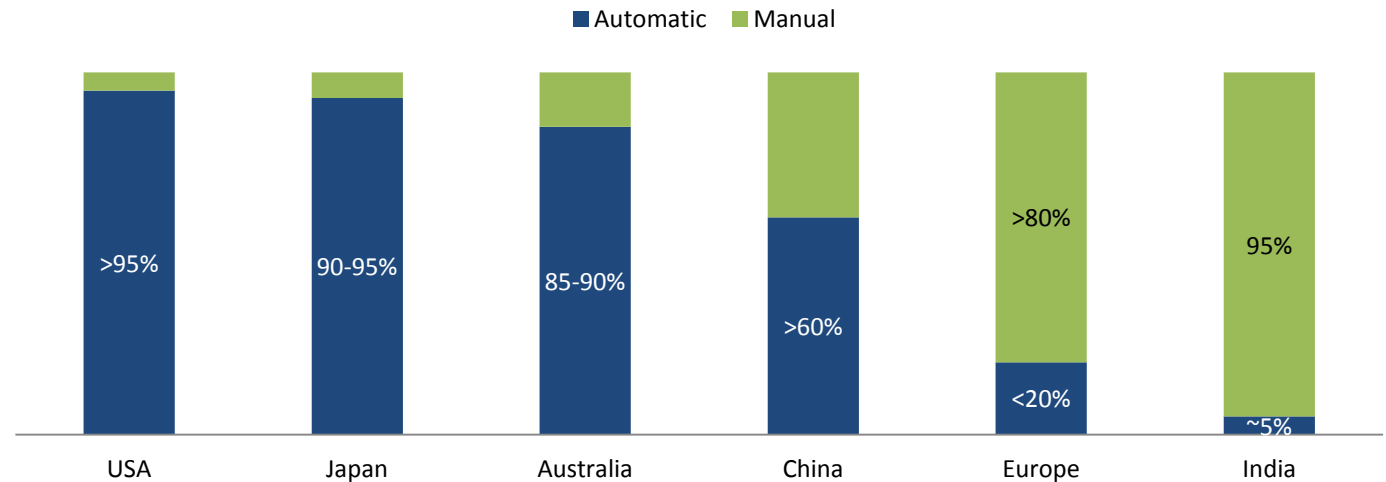
In India, Magneti Marelli is a major supplier of AMT for OEMs like MSIL, TML and Renault Nissan; whereas M&M is manufacturing AMT in-house. Honda and M&M manufacture all automatic gearboxes in-house. Regarding DCT gearboxes, VW relies on imports from its parent entity whereas Ford sources it from Getrag. Going forward, some of the major automatic variants of existing cars like Kwid, Redi-go, KUV 100, Swift Diesel and Tiago will be offered in AMT whereas i10 is expected to launch with the TC transmission system.

Automatic transmission penetration – India vis-à-vis global PV market

Automatic car penetration is less than 20% in Europe

About 15% of total new PV sales by FY2020 will come from vehicles having automatic transmission; majority of that will be from AMT

Exhibit 3: Automatic car penetration in India vis-à-vis other geographies



Source: ICRA research

It is generally perceived that developed economies have much higher share of automatic cars whereas the emerging markets usually favour manual cars, due to cost economics. While it is true to certain extent in geographies like Japan and the US, where automatic cars accounted for over 90% of the total PVs sold; however, the scenario is completely reversed in Europe wherein manual cars are preferred – even in the luxury segment. The reason for low automatic transmission penetration in the European market can be attributed to licensing requirement wherein people holding licenses to drive manual cars can also drive automatic cars, but not vice versa. Manual transmission is linked with sporty character and is also preferred in the hilly terrains of Europe. Also, the fuel cost as well as the tax rate has historically been much higher in Europe as compared to the US, which also resulted in higher cost of car ownership for European car owners as compared to their US counterparts.

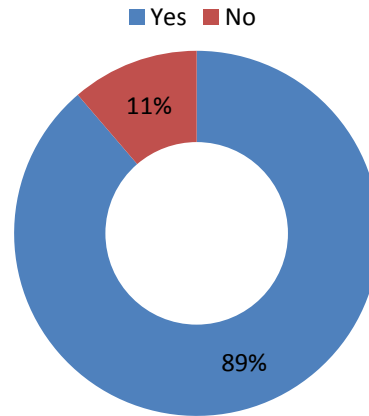
China, which is the world’s largest market for luxury car, has seen an increasing penetration level of automatic cars. The share of the automatic car segment is also improving in India, and has especially gained strong momentum, post launch of the AMT-based transmission in MSIL’s Celerio in February 2014. Automatic transmission contributed less than 1% of the total domestic PV sales during FY2013 and it was largely concentrated on premium sedans and the luxury segment. Considering increasing penetration of AMT in the entry level segment as well as improving awareness regarding automatic cars, it is expected that automatic car transmission will account for over 15% share (excluding luxury cars, which already has 90%+ penetration of AT) by FY2020. The utility vehicle segment, which currently has relatively lower AT penetration, will also witness an up-shift with some of the recent launches in the compact UV segment like Creta, BRV, TUV 300 as well as large UVs like Innova Crysta, Ford Endeavour, which are already available with AT variant and the acceptance level is also encouraging.

Automatic transmission penetration – Consumer insight

We did a study based on inputs from 62 respondents, to understand the shifting preferences towards AT among existing as well as prospective car owners, primarily residing in metro and tier I cities as these areas would be the first to adopt AT due to traffic-related issues. Subsequent sections provide a brief snapshot of the outcome from our primary survey.

Manual transmission still account for major chunk of existing car population ...

Exhibit 4: 89% of our respondents owns a car ...



Source: ICRA research

Exhibit 5: ... but, only 9% of those at present own a car with AT

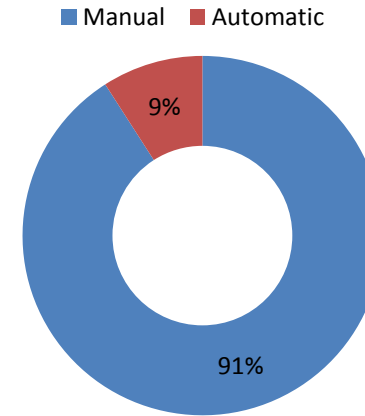
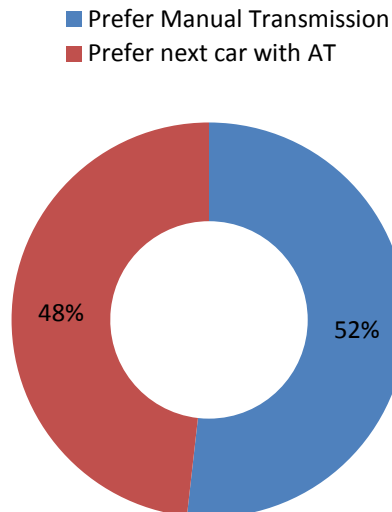
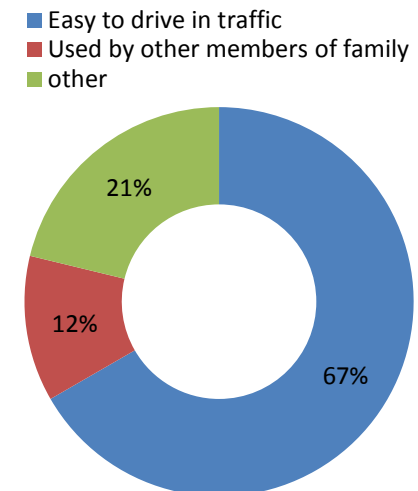


Exhibit 6: About 48% of respondents prefer their next car with AT...



Source: ICRA research

Exhibit 7:primarily because of traffic woes



... but, increasing traffic woes is one of the key reasons for customers to opt for AT in their next car

Automatic transmission penetration – Consumer insight

Customers are not aware that with advancement in modern technology, fuel efficiency of some AT is even better than their manual counterparts

AMT will gain further prominence, as it will address concerns related to low fuel efficiency as well as total cost of ownership

Exhibit 8: Fuel efficiency related concerns remain major deterrent, for customer shift towards AT

■ Low Fuel Efficiency ■ Costly to Own
■ Preference for Manual ■ Other

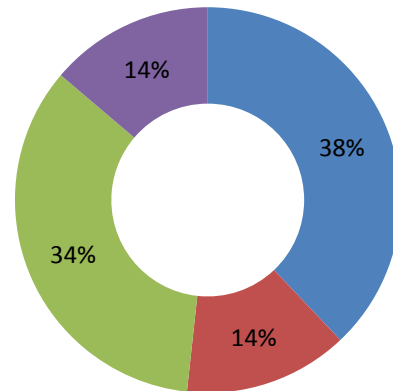
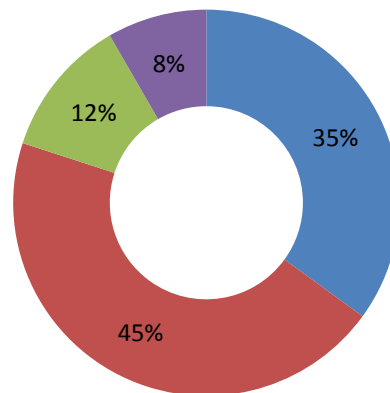


Exhibit 10: 80% of respondents willing to shell out less than Rs 50,000 for AT variant

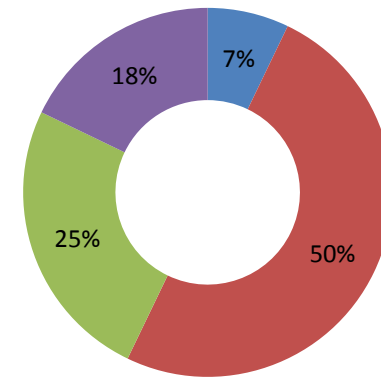
■ <Rs 25,000 ■ Rs 25,000 - Rs 50,000
■ Rs 50,000 - Rs 100,000 ■ > Rs 100,000



Source: ICRA research

Exhibit 9: Even if fuel efficiency of AT and MT become similar, large populations will continue to prefer MT because of the cost difference

■ Obviously, Yes ■ Yes, if price also same
■ No, maintenance cost is high ■ No, I prefer Manual



Conclusion

Concerns related to low fuel efficiency in AT are already addressed by the present technology in AT, with some models with CVT, DCT or even AMT reporting relatively better fuel efficiency than manual transmission variants. However, OEMs have to invest towards consumer awareness to allay these concerns.

Considering that a majority of our respondents prefer to give less than Rs 50,000 premium for AT over MT, AMT is the best possible solution for the price conscious Indian car buyers. AMT penetration is likely to increase further; it addresses both concerns of fuel efficiency as well as ownership cost.

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