

## Compiled problem statements

### Mind to Market (M2M) Toy Innovation Challenge

#### Problem statement-1

Challenge Title ( Must be one liner)	:	Product range & Variety
Challenge Description with context (At least one Paragraph)	:	<p>Electronic toys &amp; games and battery operated toys are missing from the product range of Indian toys manufacturers that are being imported primarily from China &amp; constitute almost 50% of the total market of toys in India.</p> <p>The Indian toys manufacturers are unable to provide a wide variety of toys on a regular basis &amp; launch new products due to lower scale of operations, high investments in moulds and small size of the Domestic market.</p>
What Exact Problem is being Solved?	:	Providing battery operated/electronic toys manufactured in India with cost effective and variety as features.
Critical Parameters to be considered	:	Automatic/battery operated toys
Users	:	Children 2-14 years
Expected Outcomes	:	End result would be products which can replace china toy range in battery operated toys.

Impact	:	Variety and range in battery operated toys.
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## Problem statement-2

Challenge Title ( Must be one liner)	:	Product conceptualization and Design
Challenge Description with context (At least one Paragraph)	:	<p>Merely 12% of MSME Toys Manufacturers have their own full fledged in house Design studio &amp; team of trained designers for product conceptualization, prototype development and R&amp;D on design with proper setup of CAD/CAM tools &amp; other software.</p> <p>About 73% have their own ideas/ product concepts but utilize the design services available from other design studios/ freelance designers that poses a great threat of copying of their product designs by others.</p> <p>About 15% of the balance MSMEs Toys Manufacturers just copy the designs of other domestic manufacturers &amp; Chinese toys available in the Indian market.</p>
What Exact Problem is being Solved?	:	The toys manufacturers are in a great need of outside professional design support for designing new types of toys but are unable to afford the Design services provided by institutes like IITs, NID etc on an individual level as they are quite expensive for them.
Critical Parameters to be considered		Design/Conceptualization
Users	:	Children 2-14 years
Expected Outcomes	:	Directly from classrooms students will be able to contact industries and design commercial toys being interns/executives. Channel is still missing in India.
Impact	:	Employment to design/technology students and providing toy industries with better toy design and concept.

### Problem Statement-3

<p>Challenge Title ( Must be one liner)</p>	:	<p>Procurement of critical Raw materials</p>
<p>Challenge Description with context (At least one Paragraph)</p>	:	<p><b>Cardboard and wood based raw material:</b></p> <p>Prominent plastic raw materials including HDPE, LDPE , PP etc are easily available in India in the open market in small quantities from traders as per desired quality but the prices are higher than China by approximately 25% ( Rs 120/kg in India vs Rs 90/kg in China open market for HDPE/LDPE/PP) that leads to higher cost of production of plastic toys.</p> <p>There are a hand full of manufacturers of plastic raw materials including RIL, GAIL etc hence they control the prices &amp; there is a lot of price fluctuation on a regular basis that adversely affects the performance of the toys manufacturers.</p> <p><b>Rubber Raw Materials-</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Availability of rubber latex, the main raw material, of good quality and at appropriate prices is a huge problem. With domestic rubber latex the thickness of rubber toys is difficult to maintain.</li> <li><input type="checkbox"/> Kerala, the main supplier of rubber latex, has a monopoly and price fluctuations are as high as 40 percent increase that upsets cost of production of toys units.</li> </ul> <p><b>Soft toys raw materials-</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Major raw materials such as Fur fabric &amp; synthetic fabric for manufacturing of soft toys are not being manufactured in India &amp; have to be imported from China that takes long delivery time of 45-60 days , delays the production &amp; launch of new products. In addition, soft toys manufacturers also loose on export orders/opportunities.</li> </ul>
<p>What Exact Problem is being Solved?</p>	:	<p>Raw material costing</p>

Critical Parameters to be considered		Government norms.
Users	:	Children 2-14 years
Expected Outcomes	:	Toy manufacturers will be able to procure raw material at lower cost.
Impact	:	Low cost toys with range and variety.

#### Problem Statement-4

Challenge Title ( Must be one liner)	:	Skilled manpower
Challenge Description with context (At least one Paragraph)	:	<p>In India it is extremely difficult to find skilled &amp; trained manpower for the toys industry including product designers; machine operators and mould designers &amp; manufacturers, thus the toys manufacturers hire 12<sup>th</sup> grade workers and provide them in house on the job training.</p> <p>After few months of experience, the expectations of the workers rise &amp; they expect higher salaries and retaining them is a big challenge for MSMEs.</p>
What Exact Problem is being Solved?	:	Skilled manpower will be supplied to manufacturers if this problem is solved.
Critical Parameters to be considered		Courses on making toys like ITI. Only NID is providing PG diploma in toy design.

Users	:	Children 2-14 years
Expected Outcomes	:	Experienced or skilled toy manpower generator at college level.
Impact	:	Manufacturers can have more vibrant manpower which can directly help them to produce viable toys.

### Problem Statement-5

Challenge Title ( Must be one liner)	:	Manufacturing of plastic toys
Challenge Description with context (At least one Paragraph)	:	Majority of the Indian plastic toys manufacturers (about 88%) have deployed manual & semi automatic injection moulding & blow moulding machines of lower tonnage that result in lower productivity, higher wastage and enhanced cost of manufacture and also limit the size of the part that could be moulded. In moulding, usually multi cavity moulds up to say about 5 cavities are being used by toy manufacturers (vis-à-vis upto 64 cavities in China) that lowers the productivity.
What Exact Problem is being Solved?	:	Cheaper, more productive and timely dies supply for better production
Critical Parameters to be considered	:	Time, money and production for manufacturing toys
Users	:	Children 2-14 years

Expected Outcomes	:	Companies can then sell their toys at faster rate, with low prices and timely delivery to retailers and wholesalers.
Impact	:	Faster, Cheaper toys in market competing directly with China products.

### Problem Statement-6

Challenge Title ( Must be one liner)	:	<b>Manufacturing of cardboard &amp; wooden games</b>
Challenge Description with context (At least one Paragraph)	:	<input type="checkbox"/> Majority of the cardboard & wooden games manufacturers in India have deployed manual punching machines, grinders , cutters & hand held tools for operations that are conventional in nature & inefficient , whereas in Chinese manufacturers have deployed auto feed cutting machines , CNC grinders, Semi automatic screen printers for high end print quality in large volumes
What Exact Problem is being Solved?	:	Toy manufacturing CNC machines in India. Automatic, semi automatic setup.
Critical Parameters to be considered	:	Time, money and production for manufacturing toys
Users	:	Children 2-14 years

Expected Outcomes	:	Companies can then sell their toys at faster rate, with low prices and timely delivery to retailers and wholesalers.
Impact	:	Faster, Cheaper toys in market competing directly with China products.

### Problem Statement-7

Challenge Title ( Must be one liner)	:	Testing, QC, certification of Toys
Challenge Description with context (At least one Paragraph)	:	Although BIS has laid down National product quality standard for toys ie IS 9873 (Part I-III) that is equivalent to International quality standard for toys e.g. EN71 (Part I-III), this standard has not been adopted by Indian toys manufacturers for testing & certification of their products for Domestic market as it is presently not mandatory. This may lead to manufacture & sale of inferior/unsafe toys in the Indian market and adversely affect the children. For Export of toys, testing & International certification as per EN 71 (Part I-III) is very expensive to obtain for MSME toy manufacturers (charges about Rs 15000 per sample) that is acceptable to foreign buyers only from accredited and approved International testing labs i.e. SGS, UL, B & V etc. Thus the toys manufacturers can take this certification for only selected products out of their entire range (say 30 percent of products) that in turn limits export opportunities for them.
What Exact Problem is being Solved?	:	Setting up collaborative QC labs especially for toys will enable safe products for children.
Critical Parameters	:	Qc lab setup, cheaper tools and equipment for the same.

to be considered		
Users	:	Children 2-14 years
Expected Outcomes	:	Safe products can be sold to the audience.
Impact	:	No adverse effect on children.

### Problem Statement-8

Challenge Title ( Must be one liner)	:	Product marketing strategies
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<p>Challenge Description with context (At least one Paragraph)</p>	<p>: Participation in International Toy fairs /Exhibitions is quite expensive &amp; unaffordable for MSE toys manufacturers, hence majority of them (almost 95 percent) do not participate in such events there by leading to dismal export of toys from India.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MSME toys manufacturers are interested in exporting their products but lack knowledge wrt export procedures &amp; documentation needed for various countries and need guidance for the same.</li> <li><input type="checkbox"/> Various schemes of Ministry of Micro, Small and Medium Enterprises; Ministry of Commerce-GOI for facilitating participation of MSMEs in International fairs/exhibitions &amp; subsidizing the same have not been propagated well among MSME toy manufacturers; they lack awareness and hence unable to reap the benefits.</li> <li><input type="checkbox"/> Latest trends in marketing i.e. E-Commerce i.e. online marketing through own website or other web portals are still to be adopted by toys manufacturers in a big way, that has been a prominent avenue of marketing adopted in China.</li> <li><input type="checkbox"/> In India lesser Number of Exhibitions/ fairs focusing on toys industry are held each year (may be 2 Nos), whereas in China, on an average 4 such International level toy fairs are held every year that helps manufactures in promoting their products.</li> </ul>
<p>What Exact Problem is being Solved?</p>	<p>: Setting up proper market place for both buyers and sellers.</p>
<p>Critical Parameters to be considered</p>	<p>Procut market space, e commerce adaptability by MSMEs</p>
<p>Users</p>	<p>: Children 2-14 years</p>
<p>Expected Outcomes</p>	<p>: More footfalls leading to more income generation and hence encouraging MSMEs to manufacture and grow more.</p>
<p>Impact</p>	<p>: Growth of toy industry overall.</p>

## Problem Statement-9

Challenge Title ( Must be one liner)	:	Infra structure support from government to industry
Challenge Description with context (At least one Paragraph)	:	<ul style="list-style-type: none"> <li><input type="checkbox"/> In china working sheds are provided by the Government to the industry in proper industrial areas on rent at concessional rates i.e. the cost of rentals is only 2% Per annum viz-a viz in India which is 16-17% Pa.</li> <li><input type="checkbox"/> In China, it is easy to set up a manufacturing enterprise and a new factory can get all clearances in about 1 month where as in India it takes more than 6 months.</li> <li><input type="checkbox"/> In China the labor laws are quite liberal whereas in India they are stringent.</li> <li><input type="checkbox"/> Chinese Govt is encouraging export of toys &amp; is providing 14% duty drawback as compared to 7% provided by Indian government.</li> <li><input type="checkbox"/> The industrial areas in India lack facilities of proper connectivity; transportation; adequate power supply that affect the smooth functioning of manufacturing enterprises unlike China that has excellent support infrastructure for major manufacturing hubs including good connectivity with ports to boost exports.</li> </ul>
What Exact Problem is being Solved?	:	Setup cost, subsidy, government handholding will encourage more people to have their toy setup facility.
Critical Parameters to be considered		Physical, monetary support
Users	:	Children 2-14 years

Expected Outcomes	:	More individuals will be encouraged to setup new manufacturing units. Older units will also get benefits under loans.
Impact	:	Growth of toy industry overall.

### Problem Statement-10

Challenge Title ( Must be one liner)	:	Import of toys
Challenge Description with context (At least one Paragraph)	:	<p>As per law, all toys being imported into India need to be tested &amp; certified as per any of the product quality standards including ASTM F 963; ISO 8124; EN 71 or IS 9873 but this has not been strictly implemented by Indian customs, there by un-inspected Chinese toys of inferior quality without proper certification are being imported in the country.</p> <p><input type="checkbox"/> There is a heavy under invoicing of Chinese toys (by almost 50 percent of actual value) that has created non-level playing field for Indian MSME toy manufacturers and also results</p>
What Exact Problem is being Solved?	:	Proper testing of imported toys and encouraging local toy manufacturers.
Critical Parameters to be considered	:	Import testings of toy- law
Users	:	Children 2-14 years

Expected Outcomes	:	China's toy will be then filtered out in terms of costing, quality and hence Indian toys will get market share automatically.
Impact	:	Growth of Indian toy industry overall.

### **Problem Statement-11**

Challenge Title ( Must be one liner)	:	HIGHER TAXATION & GST.
Challenge Description with context (At least one Paragraph)	:	CURRENTLY IN INDIA GST IS MORE ON TOYS FOR IMPORT DUTIES HENCE ULTIMATELY FINAL COST OF INCREASES.
What Exact Problem is being Solved?	:	BY LOWERING % OF GST & OTHER TAXES WILL HELP TO GROW UP INDUSTRY.

Critical Parameters to be considered		○ <b>GST SHOULD BE REDUCED</b>
Users	:	TOY MANUFACTURERS
Expected Outcomes	:	Reduced cost of production and Improved profitability.
Impact	:	FINAL COST OF TOY WILL BE REDUCED

### **Problem Statement-12**

Challenge Title ( Must be one liner)	:	IMPORTS OF ELECTRONIC CIRCUITS AND COMPONENTS FOR TOYS
Challenge Description with context (At least one Paragraph)	:	CURRENTLY IN INDA MANY PARTS AND COMPONENTS ARE NOT AVAILABLE OR ARE MORE EXPENSIVE  WHICH MAKES IT IMPOSSIBLE FOR MAKING CERTAIN ITEMS LIKE ELECTRONIC TOYS WHICH IS A MAJOR CONTRIBUTOR TO THE TOY SALES.

What Exact Problem is being Solved?	:	IT WILL ENABLE LOCAL MANUFACTURERS TO MAKE ELECTRONIC TOYS
Critical Parameters to be considered	:	<ul style="list-style-type: none"> <li>○ <b>ALLOWING SMOOTH IMPORT OF TOY PARTS.</b></li> <li>○</li> </ul>
Users	:	TOY MANUFACTURERS
Expected Outcomes	:	Reduced cost of production and Improved profitability.
Impact	:	No dependence on Imports for electronic toys

### Problem Statement-13

Challenge Title ( Must be one liner)	:	IMPORTS OF RAW MATERIAL FOR TOYS.
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Challenge Description with context (At least one Paragraph)	:	CURRENTLY IN INDA RAW MATERIAL IS NOT AVAILABLE ABUNDENTLY.  WHICH MAKES IT DEPENDANT ON IMPORT FROM CHINA, WHICH IS A MAJOR CONTRIBUTOR TO THE TOY MANUFACTURING.
What Exact Problem is being Solved?	:	TO MAKE AVAILABLE RAW MATERIAL AT LOW COST IN INDIA.
Critical Parameters to be considered	:	○ <b>PROMOTING MANUFACTURING OF RAW MATERIAL FOR SMOOTH FUNCTIONING.</b>
Users	:	TOY MANUFACTURERS
Expected Outcomes	:	REDUCED COST OF PRODUCTION AND IMPROVED PROFITABILITY.
Impact	:	NO DEPENDENCE ON IMPORTS FOR RAW MATERIAL

### Problem Statement-14

Challenge Title ( Must be one liner)	:	DUPLICATION OF BRAND TOYS (FIRST COPY)
Challenge Description with context (At least one Paragraph)	:	CURRENTLY IN INDA DURING IMPORT NO IDENTIFICATION OF BRAND AND NON-BRANDED TOYS DONE.  PEOPLE GETS CHEATED BY DUPLICATE TOYS.
What Exact Problem is being Solved?	:	AT THE TIME OF IMPORT TOYS SHOULD BE CATEGORIES IN BRAND AND NON-BRAND BY AGENCY.
Critical Parameters to be considered	:	○ <b>SOME SOP SHOULD BE PREPARED FOR IMPORTED TOYS.</b>
Users	:	TOY MANUFACTURERS
Expected Outcomes	:	CUSTOMERS GET ORIGINAL OR BRANDED TOYS

Impact	:	USERS SHOULD GET QUALITY TOYS WHICH VALUED FOR MONEY
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### Problem Statement-15

Challenge Title ( Must be one liner)	:	Quality of raw material not available
Challenge Description with context (At least one Paragraph)	:	Currently the material available for making toys are not as good as compare to other country so Manufacturer are not able to make toy with ease of good.
What Exact Problem is being Solved?	:	It will enable local manufacturer to make good quality of toys with long durability.
Critical Parameters to be considered		Availability of raw materials and cost of materials.
Users		Toys Manufacturer
Expected Outcomes	:	Manufacturer will make good quality of toys with hygiene material which does not harmful to kids.
Impact	:	No dependency on imports from other country

### Problem Statement-16

Challenge Title ( Must be one liner)	:	Quality of Dye and colour not up to the mark as compare to other country
Challenge Description with context (At least one Paragraph)	:	As we observed that toys from other countries have better appearance than toys manufactured in India. Because of quality and combination of colour and dye they used in their toys are far better than us. Same time if we import from other country is cost effective.
What Exact Problem is being Solved?	:	If we get good quality of dye colour and mixing and combination of it. So we can make toys of same quality from other country
Critical Parameters to be considered		Availability of raw materials and cost of materials.
Users		Toys Manufacturer
Expected Outcomes	:	Manufacturer will make good quality of toys with better appearance and long lasting effect.
Impact	:	No dependency on imports from other country.

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### Problem Statement-17

Challenge Title ( Must be one liner)	:	Good toys with Electronic circuit with long life.
Challenge Description with context (At least one Paragraph)	:	As we observed that Electronic circuit toys from other countries have better life and performance than toys manufactured in India. Because of Innovation in design and quality of electronic circuit. They used in their toys are far better than us. Same time if we import from other country is cost effective.
What Exact Problem is being Solved?	:	If we can make good quality of Electronic circuit with new innovative design so we can make toys of same quality as it made by other country.
Critical Parameters to be considered		Lack of innovation in design and Availability of raw materials and cost of materials.
Users		Toys Manufacturer
Expected Outcomes	:	Manufacturer will make good quality of toys with better design and good performance with long lasting effect.
Impact	:	No dependency on imports from other country.

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### Problem Statement-18

Challenge Title ( Must be one liner)	:	Various type of Pattern of toys.
Challenge Description with context (At least one Paragraph)	:	As we observed that manufacturer from our country have very less amount of variation in the form of pattern, design and appearance of toys if we have good variations so overall performance and selling can have good growth.
What Exact Problem is being Solved?	:	If we can make different pattern, appearance and variety of toys with new innovative design so we can make toys of same quality as it made by other country.
Critical Parameters to be considered		Lack of innovation in pattern and appearance of toys.
Users		Toys Manufacturer
Expected Outcomes	:	Manufacturer will make good pattern and variety of toys with better design and good performance with long lasting effect.

Impact	:	No dependency on imports from other country.

### Problem Statement-19

Challenge Title ( Must be one liner)	:	Few lab for testing under IS 9873
Challenge Description with context (At least one Paragraph)	:	As per Government rule all the toys whether imported or made in India has to undergo IS9873 by the Bureau of India (BIS) for testing of compliance and safety purpose. But all over India very few labs are available which are certified to carry out the procedure moreover the process can be expensive as well. With very few lab exist countrywide it will be hard to carry out the progression. Additionally, if the cost of test conducting on the same will be higher, then the product prices are expected to be more.
What Exact Problem is being Solved?	:	By establishing more labs countrywide can make the process smoother and cheaper.
Critical Parameters to be considered		Allowing the smoother process for testing
Users	:	Toy Industries, Toy Makers

Expected Outcomes	:	The more products can be tested at the given time as per Indian standard and will be cheaper as well as the cost of testing will get less.
Impact	:	Cheaper and safest toy for Kids

### Problem Statement-20

Challenge Title ( Must be one liner)	:	COST REDUCTION OF LOCAL TOYS COMPARE TO IMPORTED TOYS
Challenge Description with context (At least one Paragraph)	:	THE LOCAL TOYS ARE HAVING HIGHER COST COMPARE TO IMPORTED TOYS.  THE MATERIAL, ASSEMBLING AND TAXES ALL TOGETHER COLLECTIVELY HAVE MADE COST HIGHER THAN IMPORTED TOYS.
What Exact Problem is being Solved?	:	COST OF TOYS WILL BE REDUCED
Critical Parameters to be considered	:	RAW MATERIAL ASSEMBLING COST GOVERNMENT TAX
Users	:	TOY MAKERS

Expected Outcomes	:	COST REDUCTION COMPARE TO IMPORTED TOYS
Impact	:	LOCAL MARKET WILL GROW  MAY BEGIN WITH EXPORTS