APPENDIX

QUESTIONNAIRE AND INTERVIEW

AX.1 Instruments- questionnaires employed

The purpose this appendix is to incorporate the specific details, tools, instruments that are used in this investigation. This comprised of shared decision making using structured tools like drug-metabolite-ratio and shared decision making impact in drug –prescribing behaviour for late entrant new antihypertensive ARB drugs. Additionally this section includes the details of publications related to technology adoption by firms in developing formulations and regulatory adoption providing direct marketing licenses of generic branded drug. Moreover, this thesis incorporates technology management, touching the decision making aspect of healthcare supply chain and publication details are enlisted. Further this appendix includes the chapters of conference proceedings presented at international management forum.

Appendix A: Questionnaire for late –entrant ARB drug adoption

This questionnaire is based on revealing the communication role in healthcare decision making. The hospitals in Delhi and National Capital region of India has been visited and questionnaire administered to general practitioners and specialist (cardiologist) having experience in prescribing drugs treating hypertension. This questionnaire was developed for the pilot study with 73 physicians after referring to literature and consulting to medical experts and academic dignitaries in management field. For the refined model, questionnaire was based on 15 items, out of which 10 items were retained as completed and usable samples were 151. Five categories of available antihypertensive drugs are given as choices to physicians to measure prescribing intentions of late entrant –drugs. These antihypertensive drugs are Diuretics (DIU), beta blockers (BB), calcium channel blockers (CCB), acetylcholine esterase inhibitor (ACE-I), angiotensin receptor- blocker (ARB). The intention of usage as noted from this survey and actual ARB prescribed from these pharmacies were calculated as percentage
of late-entrant-ARB prescribed drug. A part of this study is presented in conference (Goswami, ECRM-2011) and also published in research article (Goswami, 2014). Therefore questionnaire design is given below.

Generic questionnaires to measure prescribing behaviour of physicians for drug adoption that were administered mainlining research ethics, has been delineated

**AX.1 Questionnaire design for developing drug adoption instrument**

Physician’s name  ------------------------ Specialist (Discipline) / General Physicians
Age              ------------ years; Hospital ----------------------------- ;
Sex               Male---    Female--------
Observer id:     dip0710@gmail.com
Contact No:      +091-9953495149

Most encounters about health problems lead to decisions of one sort or another. These questions ask about the idea of being or feeling involved in decisions, for example, having an opinion or deciding whether to take medication, and if so which one, or what to do next. Answer the questions from your point of view by putting a tick in one box for each question and further it is assured that confidentially will strictly maintained.

Please answer every question.

<table>
<thead>
<tr>
<th>Rater Name</th>
<th>Clinician code</th>
</tr>
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<tbody>
<tr>
<td>Date of rating  -----/-----/--2012</td>
<td>Consultation duration  -------</td>
</tr>
<tr>
<td>minutes</td>
<td></td>
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</table>

New Consultation

Review Consultation
Note: This is for research purpose and the participant identity will be anonymous.
Request you to have an honest approach while sharing your personal experience and feedback. Research data will be shared for minimizing the hurdles of drug treatment failures.

Item-Item stem

1= The behaviour is not observed  
2 = A minimal attempt is made to exhibit the behaviour  
3= The behaviour is observed and a minimum skill level achieved  
4= The behaviour is exhibited to a good standard  
5= The behaviour is exhibited to a very high standard

MARKETING COMMUNICATION

1. The clinician indicates the need for medical representatives to visit frequently so that drug efficacy is remembered and prescribed.

2. The firm’s supply of free drugs to physicians to use in their clinical trial induces drug adoption.
3. The firm’s advertisement of their product to physicians in form of literature, pamphlets, posters, CDs aids in drug acceptance.

4. The medical representative’s detailing on low cost equally potent drug will lead to faster drug acceptance.

5. The firm’s initiative to sponsor physicians in educational program, seminar or symposium will lead to higher acceptance of drug.

6. The firm’s initiative to control adverse drug reactions and providing support to physicians and patients in using firm’s medicine leads to higher drug acceptance.

SOCIAL CONTAGION / COMMUNICATION

1. The clinician will accept firm’s drug if senior colleague in his institution discuss merit of drug.

2. The clinician relational communication of his colleague physician will lead to higher drug acceptance.

3. The clinician participating in seminar, symposium interacts with other physicians lead to higher drug acceptance.
4. The clinician participating in seminar, symposium interacts with other physicians lead to higher drug acceptance.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Team work is preferred within short radial distance to induce drug acceptance among physicians.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

6. Physicians do not discuss with any other clinicians before drug adoption / prescription.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Measurement of Drug Adoption

1. Physicians re-prescribe medicine when they adopt drug treatment.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. Physicians recommend to their patients the medicine when they adopt drug treatment.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. Physician shares positive feedback to firm representatives when they adopt drug treatment.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Physician positions drug firmly in their entire course of treatment to claim drug adoption.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Physician communicates to re-purchase the drug they adopted.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Measurement of Control Variable

6. Physician show interest to know market share of their adopted drug.

☐ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5

7. Physician show interest if chemist is providing their prescribed medicines to all his patients.

☐ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5

8. Physician decision of drug adoption is dependent on CMO’s approval.

☐ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5

9. Physician decision of drug adoption is dependent on hospital code of conduct / hospital management direction.

☐ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5

10. Physician decision of drug adoption is dependent on firm size and firm’s market value

☐ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5

11. What your colleague physician considers before prescribing medicinal brand promoted by marketing company?

☐ Financial benefit    ☐ Personal relations    ☐ Patient’s compliance

☐ Personal satisfaction

Firm’s Communication Building Trust

1. Firm’s communication on drug safety sharing clinical trial results induces drug adoption.

☐ 1    ☐ 2    ☐ 3    ☐ 4    ☐ 5

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2. Firm’s communication on patient care system in post administration of drug is positively associated with drug adoption.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. Firm’s communication on other physicians’ live opinion or recorded interview improves physician’s confidence to boost drug prescription.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Firm’s communication on other physicians’ brand preference or high prescription volume of nearby institutions in same location induces better drug acceptance.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Firm’s communication to support physicians monitoring adverse reaction of patient’s induces better drug acceptance.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

6. What percentage of the samples given by the marketing company is utilized by ultimate customer (patients)?

☐ 0% ☐ 25% ☐ 50% ☐ 75% ☐ 100%

7. On what basis do you find your colleague physician prescribe company’s branded drug?

- Personal financial benefit ☐
- Effectiveness of Brand ☐
- Cost factor ☐
- Company’s image / standard ☐

**Firm’s Communication on Developing Awareness**

1. Firm’s communication on scope of medication treatment success or failure will increase drug adoption.
2. Firm’s communication on adverse effect and its course to solution will induce higher drug acceptance.

3. Firm’s communication on all possible treatment outcomes will develop more confidence for physicians’ drug acceptance.

4. Firm’s communication on product and company’s history in treating patient will lead to higher drug acceptance.

5. Firm’s communication for drug awareness will induce higher drug adoption.

AX.2 Open ended qualitative phenomenological study

Here, researcher uses the exact words of the interviewee to form the names for these codes or categories, similar to grounded theory research approach.

Me: “thank you so much for agreeing to participate in the interview. I want to ask you that you know very well 7-8 pharmaceutical companies. Please write in note book their names for those whose medical representatives visit you for their product (prescription drugs).”

Physicians: They showed reluctant to write names but told “Can remember distinctly 6-7 companies because of familiarity of product / medicines I prescribe.”

Me: Now I gave 8 cards – A, B, C, D, E, F and G which represents pharmaceutical companies. I asked “What is common in A and B, which is not there in others?”
Physicians: A and B have built their brand. What we prescribe if available with A or B, we select as first option. Indian Pharmaceutical companies who are brand leaders as a company are preferred.

Me: I asked “What is in common for A, B and C which is not there in others?”

Physicians: A, B and C are reputed companies and have manufactured good quality of medicines. There isn’t any complain regarding their product.

Me: Now D card is brought in. “What is in common for C and D which is not there in others?”

Physicians: Both their medicines I prescribe frequently.

Me: “What is the difference between C and D pharmaceutical companies?”

Physicians: Product (medicine) range is fewer for D as compared to C company.

Me: “Is there no difference in pricewise for C and D company manufactured medicines?”

Physicians: Price nowadays is competitive. For example a quality medicine costs Rs 80 to 100 which my patients can afford mostly. Hence cost is not a factor and neither to have I remembered so vividly.”

Me: “What is the similarity between D and E Company’s product?”

Physicians: “Both of their medicine I prescribe. Though E is medium scaled company yet their (medical representative’s frequent visits make me to remember their brand name and prescribe.”

Me: “Please comment on chance of E’s product getting prescribed against D or C manufactured medicines?”

Physicians: “It happens that brand name gets stuck in my memory for example while prescribing. For example while treating osteoporosis patient, osteocalcium or shelcal medicine is stuck in my mind.” Hence E has a fair chance to get prescribed if their product gets detailed so frequently that product information is embossed.

Me: “In what way E is different from D, C, B or A?”

Physicians: “Company turnover is less for E. You can say medium scaled as compared to large scale industries like A, B and C. Though D is medium scaled
like E yet particular product that falls under my purview has achieved market reputation for D but yet to achieve confidence for E.”

Me: “In what way E and F are similar?”

- Physicians: Frankly speaking E and F has to put a lot of effort so that physicians remember their product names. Even arranging seminars and inviting physicians to attend can make their entry.

Me: “In what way E and F are dissimilar to A, B, C / D?”

- Physicians: We are not easily convinced as both E and F don’t have previous track record. Moreover remembering their brand is an issue. Company has to be very proactive to gain the confidence on product”.

Me: “In what way F and G are similar?”

- Physicians: “Usually we will not prefer to prescribe. As manufacturer from A-D usually produce the medicines that E, F or G might produce.”

Me: “In what way F and G are dissimilar?”

- Physicians: “G is new entrant, or new company. F is medium to small scaled industry, but has a presence at least for 1 or 2 prescription drugs.”

Me: “In what way F and G are dissimilar to A-E, please elaborate?”

- Physicians: Chuckled and replied “Unless there is personal interest G/F are not prescribed.” I don’t prescribe. But G company survives either because physician might outweigh personal interest to professional goals.

- One lady doctor (gynecologist) replied “I can experiment i.e. try new medicine or new company. No harm in trying once. If it works /suits fine, no issue with F/G company product”.

The focus group interview was moderated by qualified pharmacist so that insights provided on construction of reality remains unbiased and interpretations become valuable resource for future research.